

# WETLAND FEASIBILITY REPORT

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Port Gamble Trail Feasibility
Port Gamble, Washington

Prepared for

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# TABLE OF CONTENTS

| Introduction                                                 | 1        |
|--------------------------------------------------------------|----------|
| METHODOLOGY                                                  | 1        |
| STUDY AREA DESCRIPTION                                       | 2        |
| NORTH SEGMENT                                                | 2        |
| CENTRAL SEGMENT                                              |          |
| SOUTH SEGMENT                                                | 3        |
| VEGETATION                                                   | 3        |
| Soils                                                        | 4        |
| Hydrology                                                    | 5        |
| NATIONAL WETLAND INVENTORY                                   | 5        |
| KITSAP COUNTY CRITICAL AREAS                                 | 5        |
| CONCLUSIONS                                                  | 5        |
| WETLAND CATEGORIZATION                                       | 5        |
| CRITICAL AREA REGULATIONS                                    | 6        |
| FEASIBILITY DISCUSSION                                       | 7        |
| PREFERRED ALIGNMENT AND CONSTRUCTION METHODS                 | 7        |
| IMPACT ASSESSMENT                                            |          |
| Potential Wetland and Buffer Impacts and Mitigation Measures | <i>7</i> |
| Potential Stream and Buffer Impacts and Mitigation Measures  |          |
| Mitigation Options and Cost Overview                         | 9        |
| REGULATORY AGENCIES WETLAND AND BUFFER PERMITS               | 9        |
| LIMITATIONS                                                  | 10       |
| References                                                   | 12       |

i

# FIGURES & PHOTOPLATES

| Figure 1        | Vicinity Map                                    |
|-----------------|-------------------------------------------------|
| Figure 2        | Site Map Overview                               |
| Figure 3        | North Segment Site Map                          |
| Figure 4        | Central Segment Site Map                        |
| Figure 5        | South Segment Site Map                          |
| Figure 6        | NRCS Map                                        |
| Figure 7        | NWI Map                                         |
| Figure 8        | Kitsap County Critical Areas Map                |
| Figure 9        | Wetland Rating Map-150' Wetlands A and B        |
| Figure 10       | Wetland Rating Map-150' Wetlands C, D, E, and F |
| Figure 11       | Wetland Rating Map-150' Wetlands G and H        |
| Figure 12       | Wetland Rating Map-150' Wetlands I and J        |
| Figure 13       | Wetland Rating Map-150' Wetlands K and L        |
| Figure 14       | Wetland Rating Map-150' Wetlands M, N, O, and P |
| Figure 15       | Wetland Rating Map-1KM Wetlands A-H             |
| Figure 16       | Wetland Rating Map-1KM Wetlands I-P             |
| Figure 17       | 303(d) and TDML                                 |
| Photoplates 1-3 | North Segment Trail Photos                      |
| Photoplates 4-5 | Central Segment Trail Photos                    |
| Photoplates 6-8 | South Segment Trail Photos                      |

# SIGNATURE PAGE

The information and data in this report were compiled and prepared under the supervision and direction of the undersigned.

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# **INTRODUCTION**

Ecological Land Services, Inc. (ELS) is part of the consulting team with Fischer Bouma Partnership (FBP) and Map Limited, Inc. (Map) that was contracted by Kitsap County Department of Public Works (KCPW) to conduct a feasibility report for the Port Gamble Trail between the Town of Port Gamble and Stottlemeyer Road NE in North Kitsap County. The trail is proposed by KCPW and Olympic Property Group (OPG) and crosses both County and OPG property. The project covers approximately 6 miles in Sections 7, 13, 18, 19, 24, 25, 30, 31, and 36, Township 27 North, Ranges 1 and 2 East of the Willamette Meridian, in the Port Gamble area of Kitsap County, Washington (Figure 1). This feasibility report summarizes findings of the wetland delineation conducted along the path in accordance with the *Kitsap County Code (KCC), Chapter 19.200 Wetlands* and for delineation methodology, wetland categorization, and mitigation requirements. It also provides estimates for wetland and buffer mitigation areas and costs.

## **METHODOLOGY**

The wetland delineation followed the Routine Determination Method according to the U.S. Army Corps of Engineers, Wetland Delineation Manual (Environmental Laboratory 1987) and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys and Coast Region, Version 2.0 (U.S. Army Engineer Research and Development Center, 2010).

The Routine Determination Method examines three parameters—vegetation, soils, and hydrology—to determine if wetlands exist in a given area. Hydrology is critical in determining what is wetland, but is often difficult to assess because hydrologic conditions can change periodically (hourly, daily, or seasonally). Consequently, it is necessary to determine if hydrophytic vegetation and hydric soils are present, which would indicate that water is present for long enough duration to support a wetland plant community. By definition, wetlands are those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands are regulated as "Waters of the United States" by the U.S. Army Corps of Engineers (USACE), as "Waters of the State" by the Washington Department of Ecology (Ecology), and locally by Kitsap County.

Kitsap County and OPG jointly identified the initial route across the park and forestland between Stottlemeyer Road and the Town of Port Gamble. The trail route was walked by ELS biologists to identify the presence of wetlands across or near the proposed trail route from south to north. The wetlands were delineated where they crossed the original route or were in proximity to the trail. As a result of early identification visits, the trail route was realigned to avoid steep slopes and minimize wetland impacts, which necessitated additional site visits to identify wetlands along alternate trail route. The final route is based on the combined decision of Kitsap County and OPG based on recommendations made by the Fischer Bouma team. In general, the final route decision was based on presence of steep slopes along the existing roads that exceed the maximum slope percentages allowed by federal trail standards. The delineated wetland boundaries were located using a hand-held Trimble Global Positioning System unit (GPS) to provide a general location of the wetlands and their boundaries along or adjacent to the trail alignment. The delineation of the

wetland boundaries was determined through breaks in topography, changes in vegetation, and presence of hydrologic indicators. Vegetation, hydrology, and soil data was collected at 29 test plots to verify the wetland boundary mapping and data forms are not included with this report. A general discussion of the data collected in the wetland and upland areas is included. The mapped wetland boundaries are shown on Figures 2 through 4. In addition, ELS biologists identified and mapped culvert crossings along the existing roads in order to determine potential wetland and stream impacts.

# STUDY AREA DESCRIPTION

The trail route examined in this feasibility study is part of a greater effort to connect regions of Kitsap County with non-motorized trails and for the continuation of the Sound to Olympics Trail. The scope of this feasibility encompasses a section about 6 miles long extending between Port Gamble at the north end and Stottlemeyer Road NE at the south end (Figure 2). It passes primarily through the Port Gamble Heritage Park and undeveloped timberland owned by OPG; most of which is woven with interlacing logging roads due to historic and current logging practices. OPG has a past policy of allowing public access to their timberlands that are not being actively logged. As a result, a large system of trails utilized by walkers, bikers, and equestrians will utilize existing logging road and well used paths. Only short segments of the proposed trail will be entirely new. Two potential options were identified by the work group. The Lower Option parallels State Highway 104 and is lower in the watershed than the Upper Option, which primarily follows the ridge. As a result, the Lower Option has greater topographical and critical areas challenges. The Upper Option is west of the Lower Option and occurs along the boundary of several watersheds. The Upper Option represents relatively level topography and fewer critical areas challenges. The length of the proposed trail and the conditions observed during field assessments necessitated dividing the project into three segments defined by regional proximity. The segments are described separately with regard to their position along the trail route, the critical areas observed, and vegetative conditions. In an effort to create trail complexity, two potential connections between the two options were also investigated. Both potential trail options are proposed to begin along State Highway 104 in Port Gamble. The segments are described from north to south beginning at South Teekalet Avenue and ending at the trailhead on the north side of Stottlemeyer Road in Poulsbo (Figures 3 through 5).

### **NORTH SEGMENT**

The north segment begins at the town of Port Gamble and extends south for about a mile and half (Figure 3). This area is composed of undulating terrain from the low north end to the high ridge at the south end. This segment is composed of a relatively level upland forest ridge and logging schedules have left most of the areas vegetated with mature stands of Douglas fir (Photoplates 1 through 3). Wetlands are absent along most of the Upper Option, but there are several well-established beaver pond wetlands at the north end. These wetlands were delineated by consultants for OPG prior to initiation of the feasibility. The boundaries as provided by OPG are provided on the ELS figures. Many culverts convey surface water beneath the logging roads that makes up the Upper Option. The trail follows the ridge's high topography southward into the next segment. The Lower Option passes by many wetland systems as well as stream culverts (Photoplates 1 through 3). Wetlands A through H are all sloping systems located along either side of the Lower Option. A

connecting trail along existing logging roads between the Lower to Upper Option is proposed in this segment to allow a combination of the options to be used and optimization of the final alignment. Several culverts cross the proposed connection, but no wetlands were located.

#### CENTRAL SEGMENT

The central segment begins south of the connecting trail and continues south for about a mile and half. The area is characterized by very level terrain on the Upper Option, and highly variable topography along the Lower Option (Figure 4). Several ravines carve deep into the slope perpendicular to the trail, creating topographical and critical areas challenges. Selective logging and thinning was being conducted in the northern portion of the Lower Option during several of the field visits. Some areas of this segment are very dense with tree cover and are staged for commercial thinning. A second potential connecting trail was investigated in this segment to connect the Upper and Lower Options. The connecting trail would be completely new trail to accommodate the grade requirements, and four wetlands were found in the vicinity of the proposed trail. Wetlands M, N, O and P are depressional forested wetlands and their buffers would potentially have been impacted by the new trail (Photoplate 4), so the potential connection was abandoned in favor of the existing trail in the North Segment. Wetlands K and L are located on either side of the Upper Option just north of forest road 1000, which is oriented west to east (Photoplates 5).

#### **SOUTH SEGMENT**

On the Lower Option, the south segment begins on a trail a couple hundred feet south of the Service Roads 1000 and 1200 intersection (Figure 5). This section of trail is generally at a grade steeper than 5%, and is crossed by several streams (Photoplate 6). Wetlands I and J are located adjacent to the trail in this segment. The Lower Option continues south on both existing roads and trails to Stottlemeyer Road. The south segment of the Upper Option starts on Service Road 1800 a couple hundred feet south of Service Roads 1700 and 1800 intersection. The Upper Option continues south on Service Road 1800 until the road turns east. In the southern end of the Upper Option's South Segment, there are numerous existing trails that extend south from Service Road 1800 that could provide access to the Stottlemeyer Road NE Trailhead. No wetlands were found on the south segment of the Upper Option, and one stream was mapped in the area (Photoplates 7 and 8)

#### VEGETATION

The areas of wetland identified along the trail alignment consisted of forested vegetation communities. The most common plant species in the wetlands include: red alder (*Alnus rubra*, FAC), salmonberry (*Rubus spectabilis*, FAC), youth-on-age (*Tolmeia menziesii*, FAC), lady fern (*Athyrium cyclosorum*, FAC), water parsley (*Oenanthe sarmentosa*, OBL), stinging nettle (*Urtica diocia*, FAC), red canarygrass (*Phalaris arundinacea*, FACW), slough sedge (*Carex obnupta*, OBL), soft rush (*Juncus effusus*, FACW), and creeping buttercup (*Ranunculus repens*, FAC).

The majority of the study area is maintained as timberland planted with Douglas fir (*Pseudotsuga menziesii*, FACU) and western red cedar (*Thuja plicata*, FAC), additional plant species include: red alder, salmonberry, red elderberry (*Sambucus racemosa*, FACU), snowberry (*Symphoricarpos* 

albus, FACU), English holly (*Ilex aquilinum*, FACU), salal (*Gaultheria shallon*, FACU), trailing blackberry (*Rubus ursinus*, FACU), sword fern, and youth-on-age, common horsetail (*Equisetum arvense*, FAC), velvet grass (*Holcus lanatus*, FAC), lady fern, reed canarygrass, and hedge nettle (*Stachys chamissonis spp. cooleyae*, FAC).

The dominant vegetation found onsite is recorded on the attached wetland determination data forms (Appendix A). The indicator status, following the common and scientific names, indicates how likely a species is to be found in wetlands. Listed from most likely to least likely to be found in wetlands, the indicator status categories are:

- **OBL** (obligate wetland) Almost always occur in wetlands.
- **FACW** (facultative wetland) Usually occur in wetlands, but may occur in non-wetlands.
- **FAC** (facultative) Occur in wetlands and non-wetlands.
- **FACU** (facultative upland) Usually occur in non-wetlands, but may occur in wetlands.
- **UPL** (obligate upland) Almost never occur in wetlands.
- NI (no indicator) Status not yet determined.

### Soils

As referenced on the U.S.D.A. Natural Resources Conservation Service (NRCS 2015) website, the following soil types are mapped (Table 1) along the preferred trail alignment (Figure 6). Of the mapped soil units, McKenna soils is the only soil that is classified as hydric and the other soil types mapped along the trail are not classified as hydric, although many have hydric inclusions (NRCS 2017. Areas mapped as hydric soil do not necessarily mean that an area is or is not a wetland—hydrology, hydrophytic vegetation, and hydric soils must all be present to classify an area as a wetland. Table 1 provides the list of soil types found within each segment along the preferred alignment of the trail and identifies whether they are considered hydric soil types.

Table 1: Soil Map Units

| Soil Map Units                                        | Hydric?    |
|-------------------------------------------------------|------------|
| 22 Kapowsin gravelly ashy loam, 0 to 6% slopes        | No         |
| 23 Kapowsin gravelly ashy loam, 6 to 15% slopes       | No         |
| 32 McKenna gravelly loam                              | Yes        |
| 39 Poulsbo gravelly sandy loam, 0 to 6% slopes        | Inclusions |
| 40 Poulsbo gravelly sandy loam, 6 to 15% slopes       | Inclusions |
| 41 Poulsbo gravelly sandy loam, 15 to 30% slopes      | No         |
| 42 Poulsbo-Ragnar complex, 0 to 6% slopes             | Inclusions |
| 43 Poulsbo-Ragnar complex, 6 to 15% slopes            | Inclusions |
| 44 Ragnar fine sandy loam, 0 to 6% slopes             | No         |
| 45 Ragnar fine sandy loam, 6 to 15% slopes            | No         |
| 46 Ragnar fine sandy loam, 15 to 30 % slopes          | No         |
| 59 Sinclair very gravelly sandy loam, 2 to 8% slopes  | Inclusions |
| 60 Sinclair very gravelly sandy loam, 8 to 15% slopes | Inclusions |

The field visits revealed that the soil map units do not accurately reflect wetland and upland conditions along the preferred trail alignment. Hydric mineral soils (low matrix chromas with redoximorphic features) were identified in the wetlands in areas where hydric soils were not mapped. Wetlands A and C through P were identified and delineated in non-hydric soil map units and Wetland B was identified within the McKenna map unit. The soil test holes conducted in these wetlands revealed low matrix chroma, mineral soil conditions. These soil map units are well drained and do not have hydric soil inclusions, however, they either have depressions or form shallow sloping troughs where wetlands can develop as a result of groundwater discharging from the sloping terrain. Upland test plots revealed high soil matrix colors with no indicators of hydric soils present.

## **HYDROLOGY**

Hydrology was present in the delineated wetland areas during each of the late winter and early-spring field visits. A high water table was observed in many of the wetland test holes. Saturated soil conditions were also observed across many of the segments. Permanently flooded, seasonally flooded, or saturated only areas and seasonally flowing streams were observed in wetland areas identified in the trail segments. The sources of hydrology include seepage from slopes (Wetlands A-J), seasonally perched water tables (Wetlands B, K-P), surface water runoff (all wetlands), and stream flooding (areas of Wetland B). Direct precipitation also contributes water to all the wetlands.

# NATIONAL WETLAND INVENTORY

The National Wetlands Inventory (NWI) maps the presence of two palustrine, scrub shrub seasonally flooded wetlands (PSSC) in the North segment, in the vicinity of the preferred alignment (Figure 7). Wetland B was located in this area and was found to be larger than the mapped wetland and is primarily forested. No wetlands were mapped on or within 300 feet of the preferred alignment in the Central and South Segments. The ELS delineation does not agree with the NWI mapping because additional wetlands were identified and delineated in all three segments (Figure 2). The NWI maps should be used with discretion because they are used to gather general wetland information about a regional area and therefore are limited in accuracy for smaller areas because of their large scale.

## KITSAP COUNTY CRITICAL AREAS

The Kitsap County Critical Areas map (KC 2017) identifies wetland in the same orientation as the NWI and identifies potential wetlands in the same orientation as the NRCS (Figure 8). The ELS delineation revealed wetlands along each of the trail segments that are not mapped.

#### CONCLUSIONS

### WETLAND CATEGORIZATION

The wetlands identified and delineated along the trail alignment were categorized according to Washington State Wetlands Rating System for Western Washington,-2014 Update (Rating System)

(Hruby 2014). The wetlands were rated using separate rating forms to determine the appropriate category (Appendix B) and the ratings are summarized in Table 2.

Table 2: Wetland Ratings

| Wetland      | HGM Class    | Vegetation<br>Class     | 2014 Wetland Rating System |            |         |       | Wetland<br>Category |
|--------------|--------------|-------------------------|----------------------------|------------|---------|-------|---------------------|
|              |              | 2 3300                  | Water<br>Quality           | Hydrologic | Habitat | Total | <b>6J</b>           |
| A            | Slope        | Forested                | 5                          | 4          | 5       | 14    | IV                  |
| В            | Depressional | Forested w/ 3 layers    | 6                          | 6          | 6       | 18    | III                 |
| C            | Slope        | Forested w/ 3 layers    | 5                          | 4          | 5       | 14    | IV                  |
| D            | Slope        | Forested w/ 3 layers    | 5                          | 4          | 5       | 14    | IV                  |
| $\mathbf{E}$ | Slope        | Forested w/<br>3 layers | 5                          | 4          | 5       | 14    | IV                  |
| F            | Slope        | Forested w/ 3 layers    | 5                          | 4          | 5       | 14    | IV                  |
| $\mathbf{G}$ | Slope        | Forested                | 6                          | 4          | 5       | 15    | IV                  |
| H            | Slope        | Forested                | 5                          | 4          | 5       | 14    | IV                  |
| Ι            | Slope        | Forested                | 5                          | 4          | 5       | 14    | IV                  |
| J            | Slope        | Forested w/ 3 layers    | 5                          | 4          | 5       | 14    | IV                  |
| K            | Depressional | Forested w/ 3 layers    | 6                          | 5          | 4       | 15    | IV                  |
| L            | Depressional | Forested w/ 3 layers    | 6                          | 5          | 4       | 15    | IV                  |
| M            | Depressional | Forested w/<br>3 layers | 5                          | 6          | 4       | 15    | IV                  |
| $\mathbf{N}$ | Depressional | Forested                | 5                          | 6          | 4       | 15    | IV                  |
| O            | Depressional | Forested                | 5                          | 6          | 4       | 15    | IV                  |
| P            | Depressional | Forested                | 5                          | 6          | 4       | 15    | IV                  |

### **CRITICAL AREA REGULATIONS**

The *KCC Chapter 19.200* specifies buffers based on wetland category, scores for habitat functions on the rating form, and the intensity of the proposed land uses in accordance with the 2014 wetland rating system. High intensity land use buffer are assigned to this project because the trail will be paved and will have high use by local residents. Required buffers are summarized in Table 3.

Table 3: Wetland Buffers

| Wetlands | Category | <b>Habitat Value Score</b> | <b>Buffer Width (feet)</b> |
|----------|----------|----------------------------|----------------------------|
| В        | III      | 5/6 (moderate)             | 150                        |
| A,C-J    | IV       | 5/6 (moderate)             | 50                         |
| K-P      | IV       | 4 (low)                    | 25                         |

The KCC Chapter 19.300 specifies buffers for streams based on the Washington Department of Natural Resources (DNR) Water Typing System. The stream flowing through culvert number 27 in the South Segment of the study area is not mapped or typed by the DNR's Forest Practices Map, but meets the criteria of a fish-bearing (Type F) stream; the stream has an average bank full width of greater than 36 inches and grade less than 16% (Photoplates 7 and 8). Type F streams require a buffer of 150 feet and building or impervious surface setback of 15 feet.

## FEASIBILITY DISCUSSION

#### PREFERRED ALIGNMENT AND CONSTRUCTION METHODS

The preferred trail alignment begins at State Highway 104 in Port Gamble, and runs south along the Lower Option. The alignment then follows the northern connecting trail to transition to the Upper Option, and then continues south on the Upper Option until Service Road 1800 turns east. Here, to accommodate grade requirements, the alignment leaves the existing road and trail system and cuts southeast, crossing several existing trails before continuing east and ending at Stottlemeyer Road (Figure 5). The trail will be 10 to 14 feet wide and use the existing road base where possible. The active trail area will be constructed of asphalt paving to accommodate pedestrians and bicyclists.

The final trail alignment and widths were determined during the early phases of the feasibility process based on the federal requirements for multi-use trails and the physical constraints identified along the alignment. The physical constraints include steep slopes where the trail width and features required alteration because these sections could not meet the federal slope requirements and identification of wetlands in certain segments of the trail project. Although the preferred alignment has been identified and presented in the feasibility report, the final alignment may vary if significant trees and other vegetation are identified. The trail will only be revised if the new route can avoid or minimize impact to the wetland and significant vegetation.

#### **IMPACT ASSESSMENT**

No wetland fill is proposed for this project. The potential impacts and mitigation measures focus on the construction methods and potential direct wetland, streams, and buffer impacts for which permits are required from the local, state, and federal agencies. No indirect impacts are discussed in this feasibility report but may be included in future mitigation reports and permit documents.

## **Potential Wetland and Buffer Impacts and Mitigation Measures**

In general, there will be no direct impacts to wetlands because the preferred alignment lies along existing roads used for maintenance and logging operations by OPG. The configuration results in

minimal impacts to the identified wetland areas but in some areas will result in temporary vegetation impacts in buffers to accommodate construction in the 10 to 14 foot wide work areas.

Buffer impacts will result from construction of the paved surfaces and removal of vegetation where they extend beyond the existing roadways. However, in some instances, the route is composed of existing roads that lay within the buffers so represents an existing interruption of the buffer and mitigation will not be required unless the construction activities result in additional buffer impacts.

The paved surfaces will also introduce runoff issues into the wetland buffer areas, which could alter the route of water in some areas and result in less discharge of groundwater in others. One area of concern is in the Central Segment of the Upper Option, between Wetlands K and L, where water currently floods over the existing road between the two wetlands. Here, a culvert will need to be placed under the trail to allow the continuation of water flow. Stormwater features constructed along the trail will prevent potential adverse impacts to water quality and quantity on the wetland areas. Permanent vegetation removal will reduce the protection for the wetland areas but once the trail is constructed, areas of the buffer outside the trail area can be enhanced to compensate for the permanent loss of vegetation. The proposed temporary vegetation impact areas will be mitigated once construction is completed. Mitigation measures will include removal of invasive plant species and replanting with native buffer species in the wetland and buffer areas along the trail.

# **Potential Stream and Buffer Impacts and Mitigation Measures**

For most of the alignment there will be no direct impacts to streams or their buffers because the proposed route lies along existing roads used for maintenance and logging operations by OPG. Twenty-seven culverts currently exist along the preferred alignment and new culverts will be installed where needed to allow the continuation of water flow. The culverts observed during the field assessment appear to have been recently replaced and are at least 18 inches in diameter with some culverts 24 inches in diameter where larger flows of water along existing streams are present. Based on these observations, the culverts will likely not require full replacement unless deemed necessary by the local tribes and WDFW.

One new stream crossing is proposed in the South Segment, where the preferred alignment leaves Service Road 1800 and continues southeast (Figure ). Stream and buffer impacts will result from construction of a new crossing and removal of vegetation. An alternative, to avoid and minimize stream impacts, is to reroute the alignment further east to follow Service Road 1800 where there is culvert under the road. This will greatly reduce the impact to the stream and its buffers and reduce permitting and mitigation costs.

The paved surfaces will also introduce runoff issues into the stream buffer areas, which could alter the route of water in some areas and result in less discharge of groundwater in others. Stormwater features constructed along the trail will prevent potential adverse impacts to water quality and quantity on the stream. Permanent vegetation removal will reduce the protection for the stream but once the trail is constructed, areas of the buffer outside the trail area can be enhanced to compensate for the permanent loss of vegetation. The proposed temporary vegetation impact areas will be restored to replace plants once construction is completed. Mitigation measures will include removal of invasive plant species and replanting with native buffer species in the stream and buffer areas along the trail.

## **Mitigation Options and Cost Overview**

This trail project has selected an alignment that basically avoids most impacts to the identified critical areas and buffers because it utilizes the existing road and trail system on the OPG and Port Gamble Heritage Park properties. Since there will be no loss of acreage or function to the wetlands along the preferred alignment, mitigation will focus mostly on compensation for permanent and temporary vegetation removal within both wetland and buffer areas, as needed. The method of compensation for permanent wetland and buffer vegetation impacts will likely be enhancement of wetlands and buffers. In areas where vegetation removal is temporary, the replanting plan will simply restore vegetation in areas that will remain wetland or buffer. Permanent wetland vegetation impacts will be mitigated at the appropriate enhancement ratios for the different wetland categories, which are: Category I - 24:1, Category II - 12:1, Category II - 8:1, and Category IV - 6:1. Permanent buffer impacts are mitigated at a 1:1 ratio. Restoration of wetland and buffer areas where temporary vegetation impacts occur will be at the 1:1 ratio required for buffer impacts. Onsite mitigation is proposed around the existing wetlands where there is invasive plant cover and where disturbance of vegetation has occurred previously.

Enhancement and restoration of vegetation impacts typically has the lowest costs for mitigation because it involves installation of plants in wetland and buffer areas and does not require grading/excavation costs associated with the creation, reestablishment, and rehabilitation mitigation options. The overall cost depends on the number of plants needed to enhance and restore the vegetation areas, which is dependent on the acreage of impact and the mitigation area available for enhancement. Based on the areas of impact and the mitigation ratios, the approximate costs for wetland enhancement will range between \$325,000 and \$350,000 and between \$12,000 and \$15,000 for buffer mitigation. The estimates provided represent the worst case with regard to mitigation ratio, mitigation area required, and the approximate costs for enhancement of wetlands as mitigation, which is based on the cost per plant and installation by professional landscapers. The overall costs for mitigation could change based on final trail alignment, mitigation approach, and plant costs. The costs also assume that enhancement will take place along the trail and in the impacted wetlands once construction is completed.

### REGULATORY AGENCIES WETLAND AND BUFFER PERMITS

The permits needed for construction of the trail through wetlands and buffers vary depending on the level of impact on the wetlands, streams and buffers. Wetland impacts are regulated by the U.S. Army Corps of Engineers (Corps), Washington Department of Ecology (Ecology), and Kitsap County, when proposing filling, ditching, and/or dredging. Hydraulic Project Approvals (HPA) will be required from the Washington Department of Fish and Wildlife for stream crossings that require installation of culverts. Wetland impacts are mitigated to achieve a no net loss of wetland acreage and/or function to compensate for the loss of acreage and function in the impacted wetland. Buffer impacts do not result in direct impacts to wetland areas so are usually regulated only by local agencies.

• **Kitsap County**-Impacts to wetlands and buffers are regulated by Kitsap County and require submittal of Site Development Activity Permit (SDAP). A State Environmental Policy Act (SEPA) checklist must be submitted along with the SDAP permit package. Wetland delineation and wetland/buffer mitigation plan reports are required as part of the SDAP

permit. No individual critical area or wetland permits are required by Kitsap County. Mitigation for wetland impacts are varied and depend on the category of wetland and the method of mitigation (creation/reestablishment, rehabilitation, and/or enhancement). The lowest ratio for mitigation is 1.5:1 for wetland impacts to Category IV wetlands and the highest are 4:1 for Category I wetland impacts when proposing creation/reestablishment. The highest range of ratios is required when enhancement is proposed as compensation for wetland impacts because it does not result in a no-net-loss of wetland acreage. Kitsap County will usually defer to the Corps and Ecology for mitigation of wetland impacts but require submittal mitigation and delineation reports. Buffer impacts are mitigated at a ratio of 1:1.

- U.S. Army Corps of Engineers-The Corps regulates direct impacts to wetland through Section 401 of the Clean Water Act, Nationwide Permit (NWP) process, which requires submittal of wetland delineation and mitigation plan reports along with the Joint Aquatic Resources Permit Application (JARPA). The list of possible NWPs for which a project can apply is extensive and the NWP for a specific project dependent on the type of activity and project proposed. This trail project will likely meet the criteria for NWP 14-Linear Transportation Project or NWP 18-Minor Discharges depending on the extent of impact and whether it meets all of the criteria. As part of the Corps process, cultural resources and biological assessment reports may be required if features of cultural importance are identified in the project area and if there will be impacts to endangered or threatened wildlife species, respectively. The Corps determine if these additional reports will be required. Consultation with the U.S. Fish and Wildlife Service (USFWS) and NOAA Fisheries (NOAA) will be necessary if a biological assessment is required to concur with the results of the assessment.
- Washington Department of Ecology (Ecology)-Ecology regulates direct wetland impacts through the Water Quality Certification (WQC) process. The WQC is issued following issuance of the NWP and is sometimes issued as part of the NWP by the Corps who determines if the project meets the criteria of the WQC. The delineation and mitigation reports submitted to the Corps are also submitted to Ecology during the permitting process.
- Washington Department of Fish and Wildlife (WDFW)-The WDFW issues Hydraulic Project Approval (HPA) for projects proposing to cross or otherwise disturb streams below the Ordinary High Water Mark (OHWM) or critical habitat. An HPA will be required for the culvert crossings of state regulated streams to ensure that the crossings will not have adverse impacts on the stream and habitat areas.

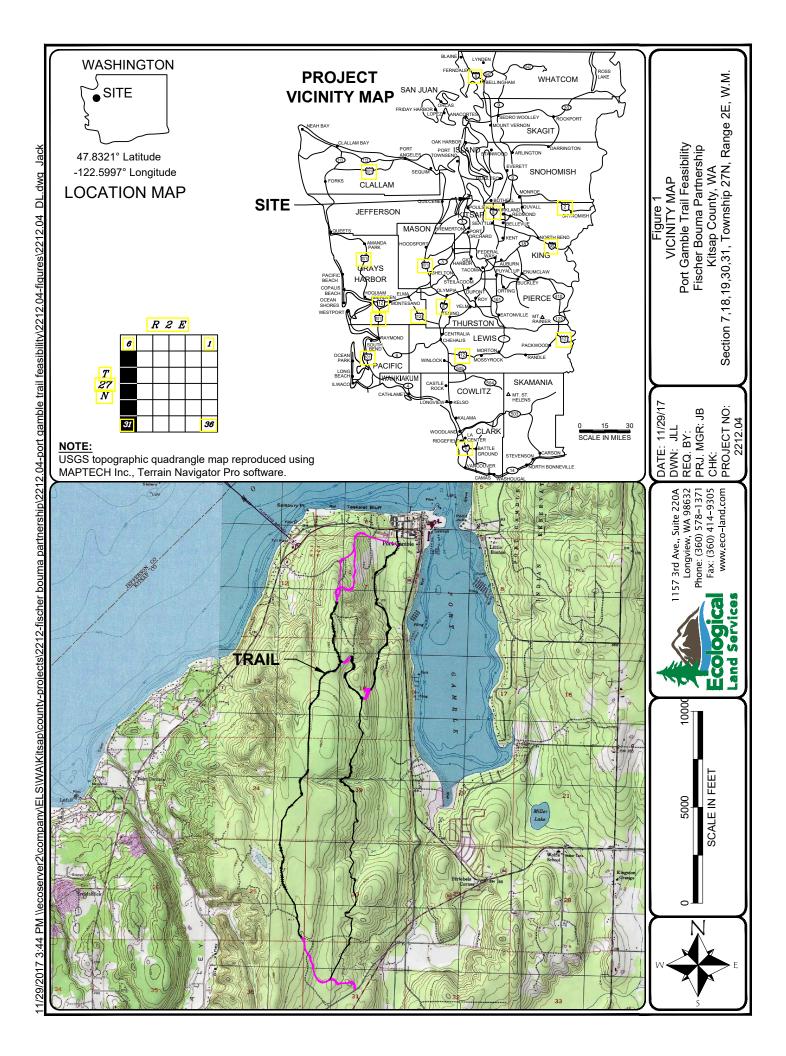
# **LIMITATIONS**

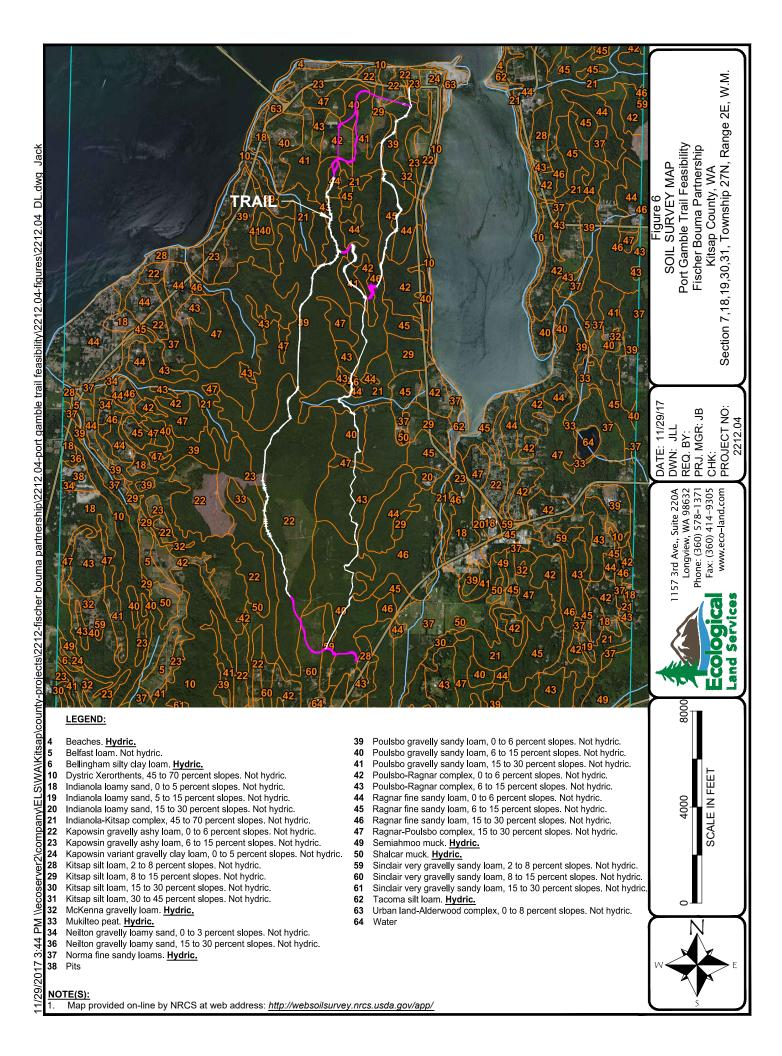
The services described in this report were performed consistent with generally accepted professional consulting principles and practices. There are no other warranties, express or implied. The services preformed were consistent with our agreement with our client. This report is prepared solely for the use of our client and may not be used or relied upon by a third party for any purpose. Any such use or reliance will be at such party's risk.

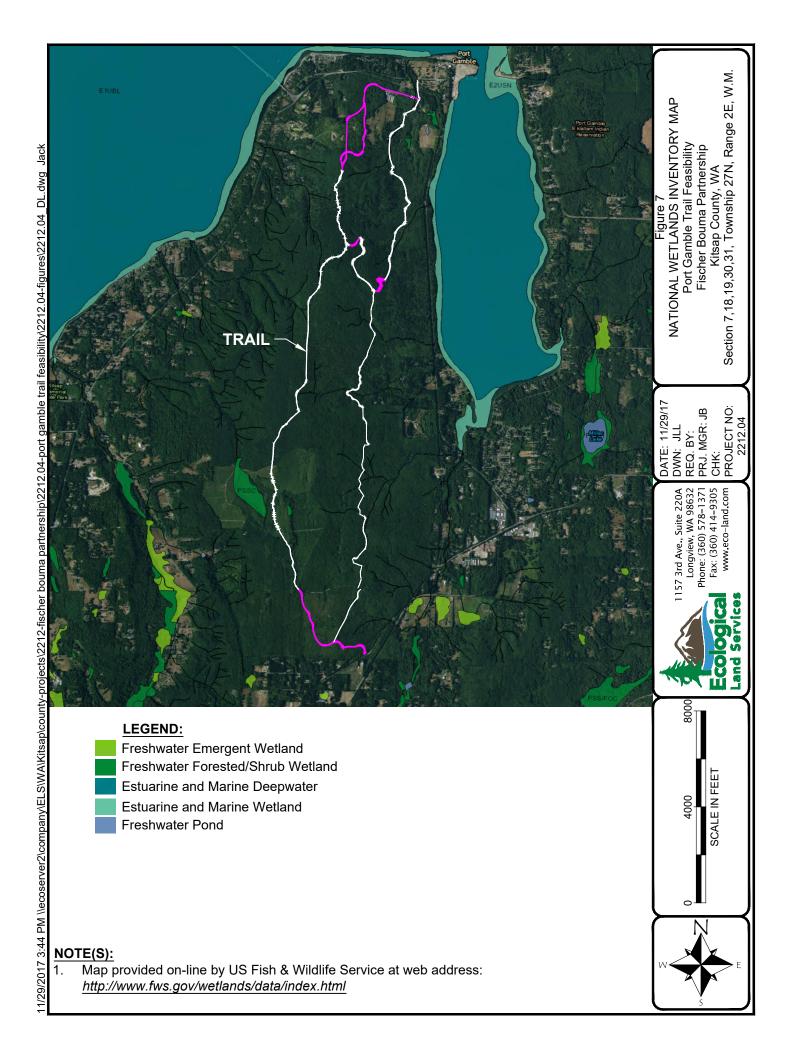
The opinions and recommendations contained in this report apply to conditions existing when services were performed. ELS is not responsible for the impacts of any changes in environmental standards, practices, or regulations after the date of this report. ELS does not warrant the accuracy of supplemental information incorporated in this report that was supplied by others.

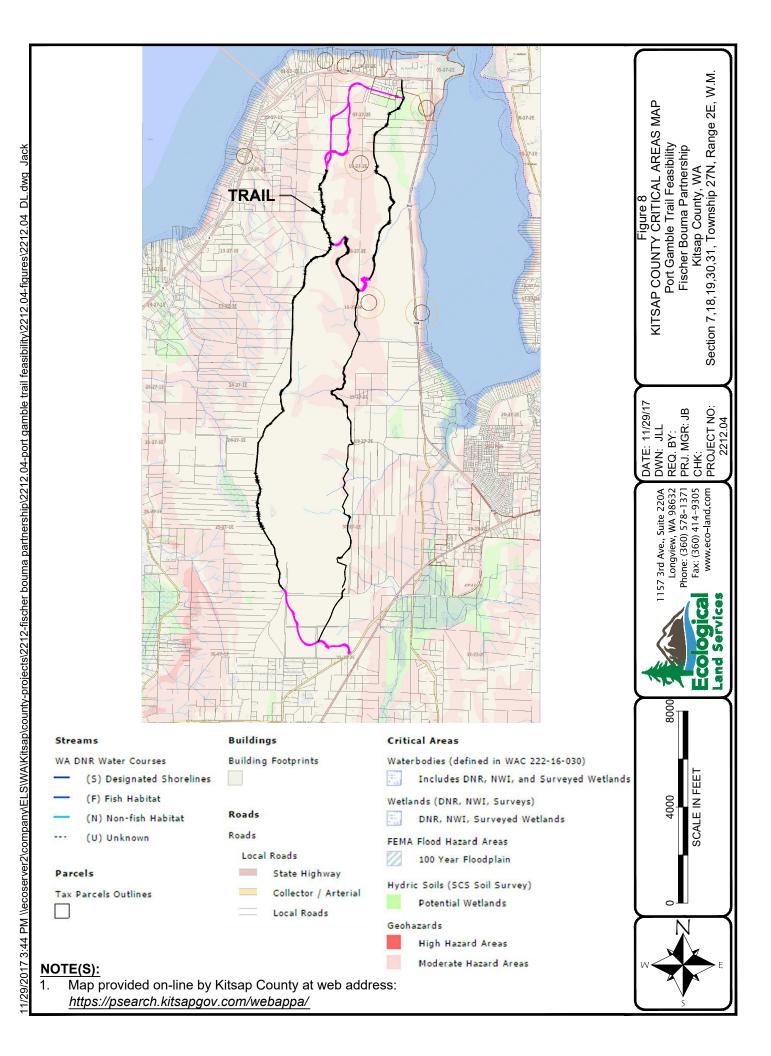
# REFERENCES

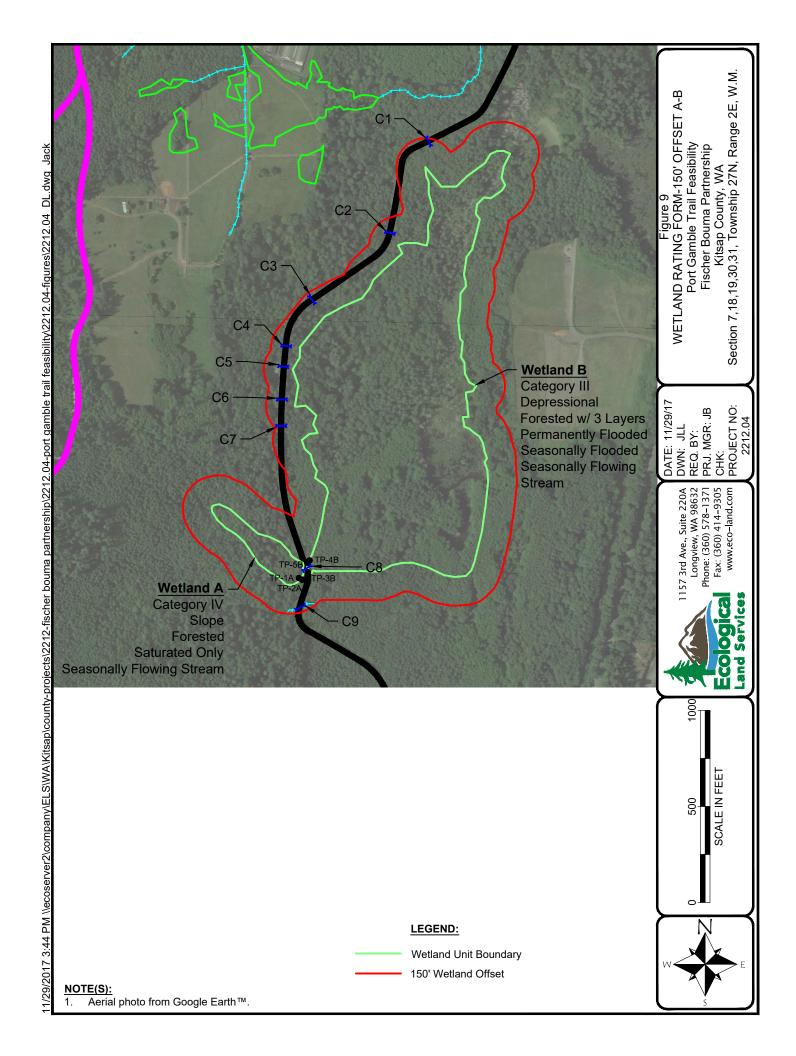
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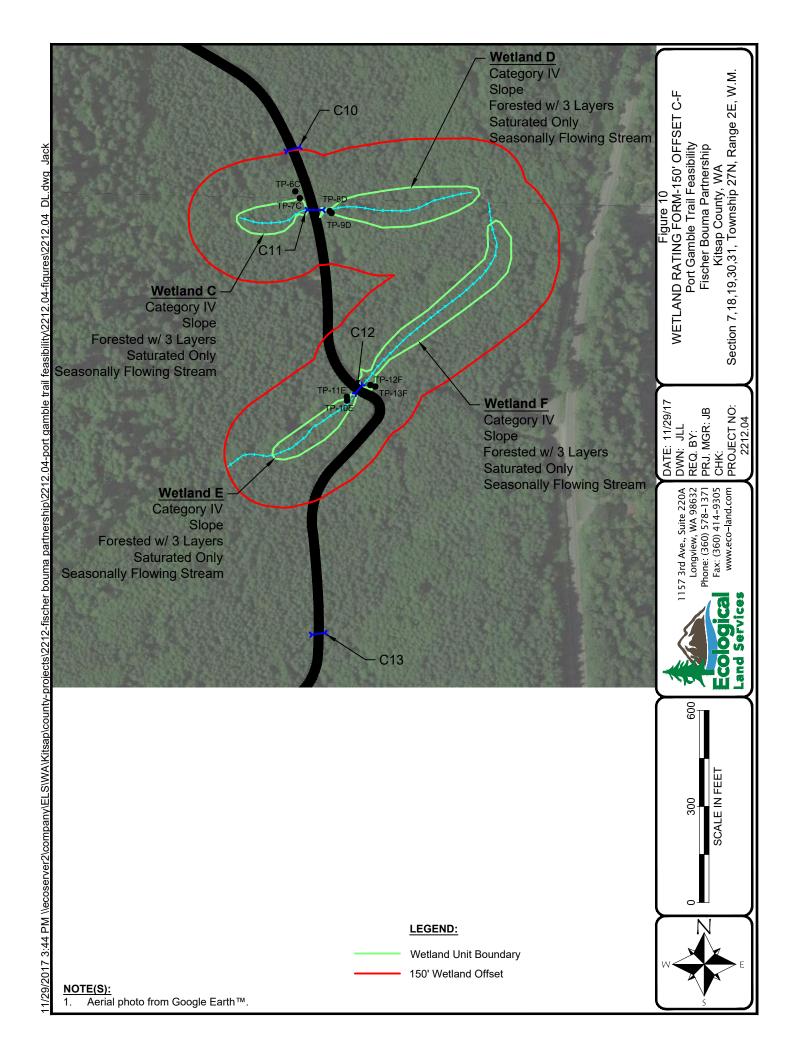


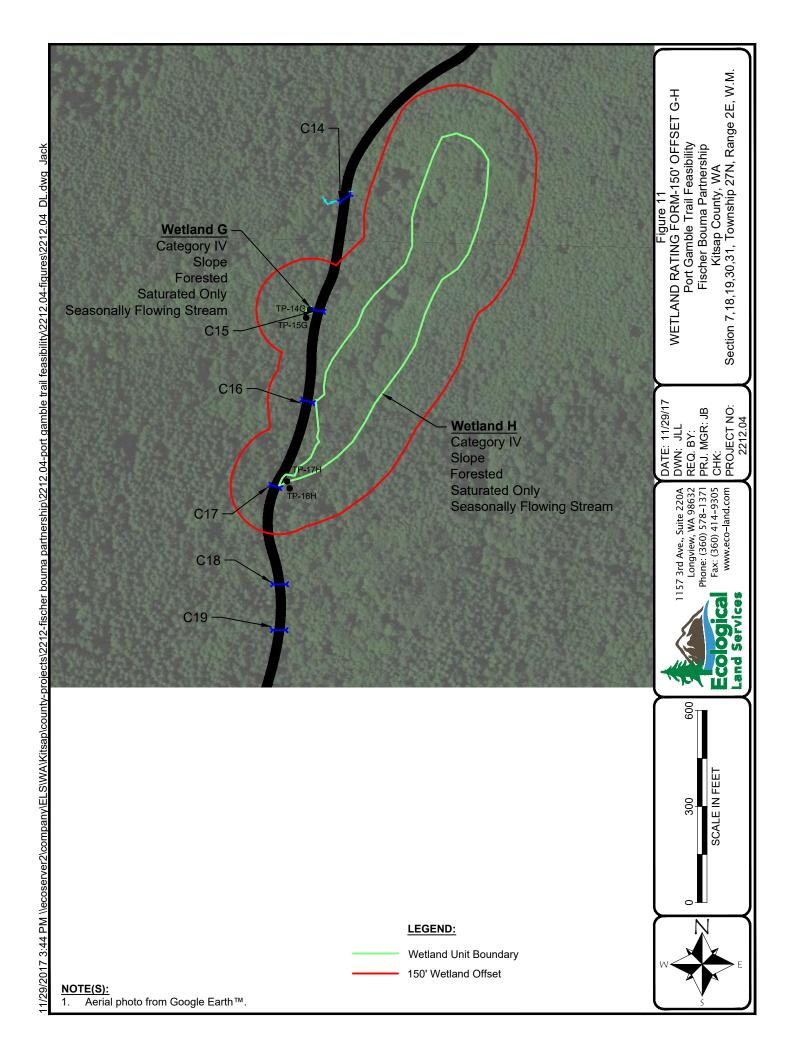


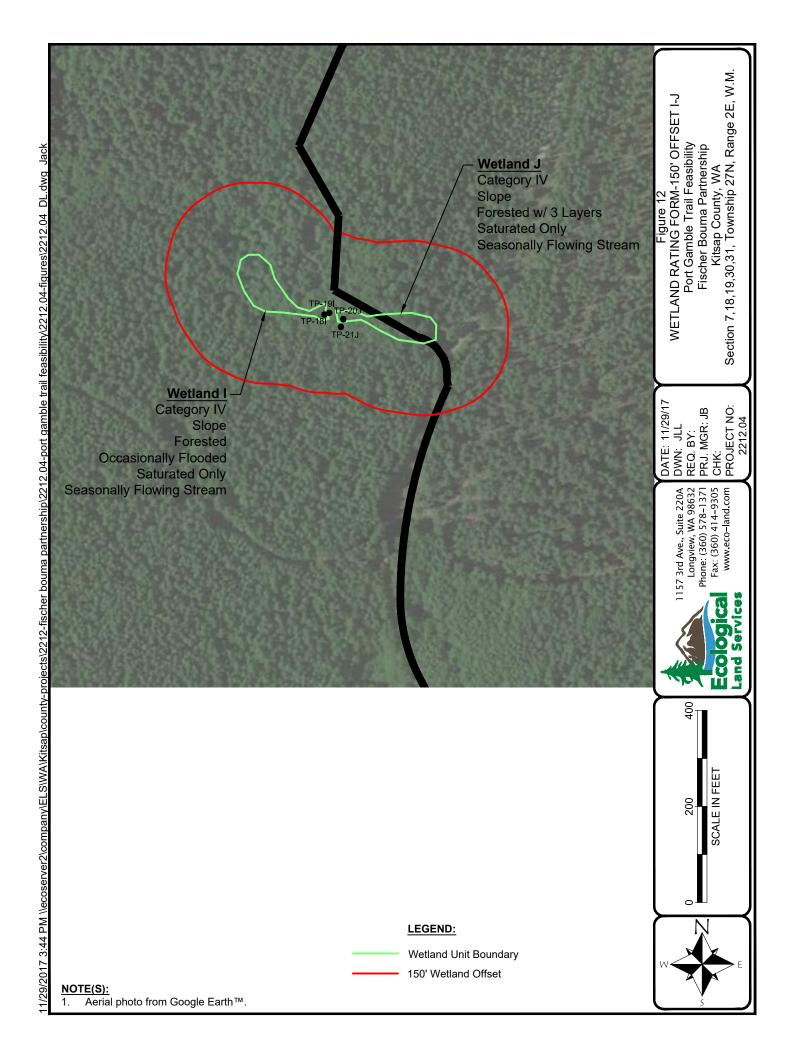


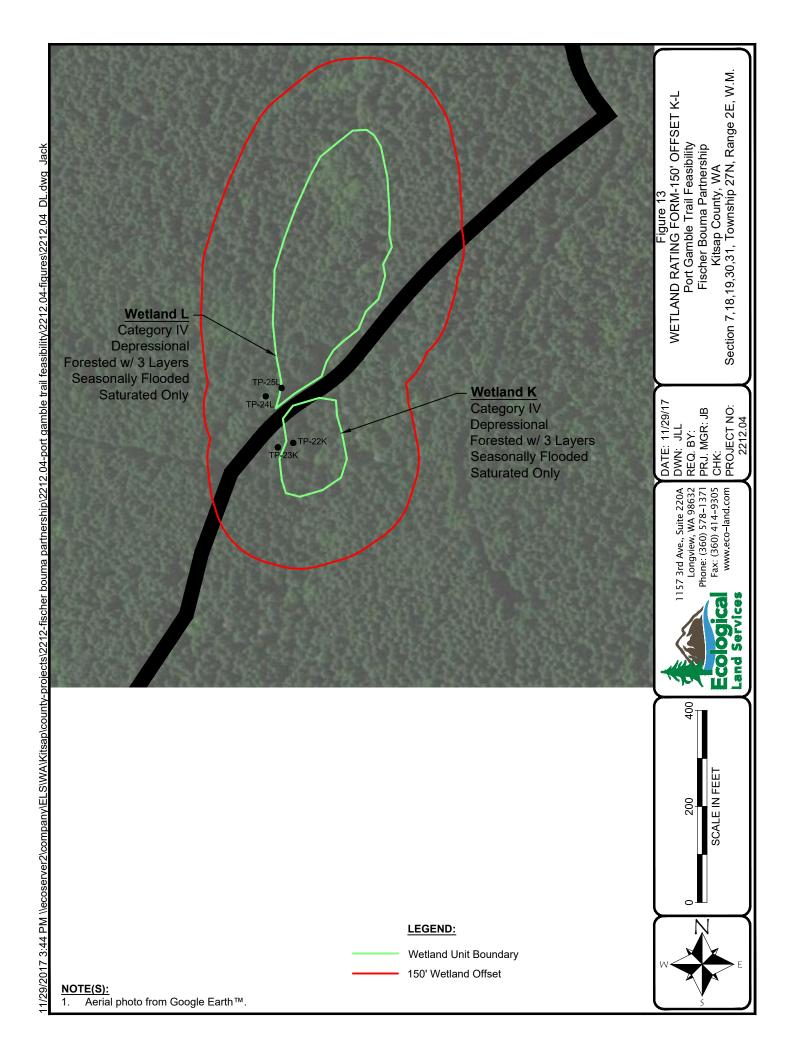


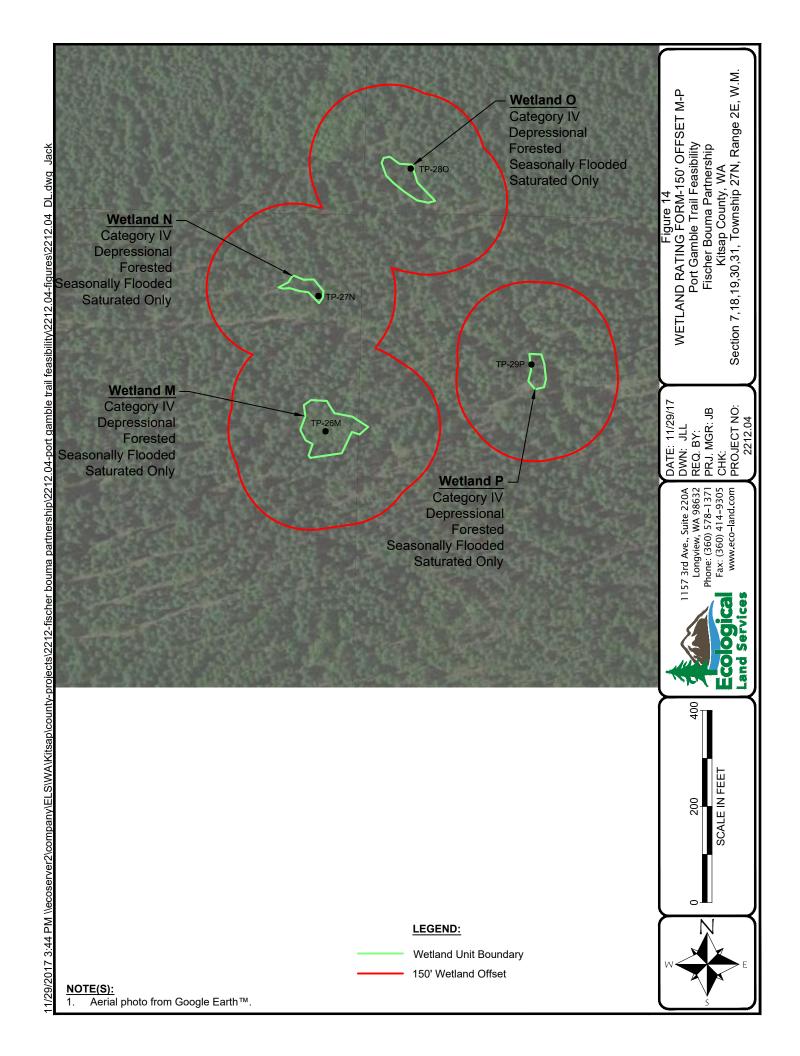


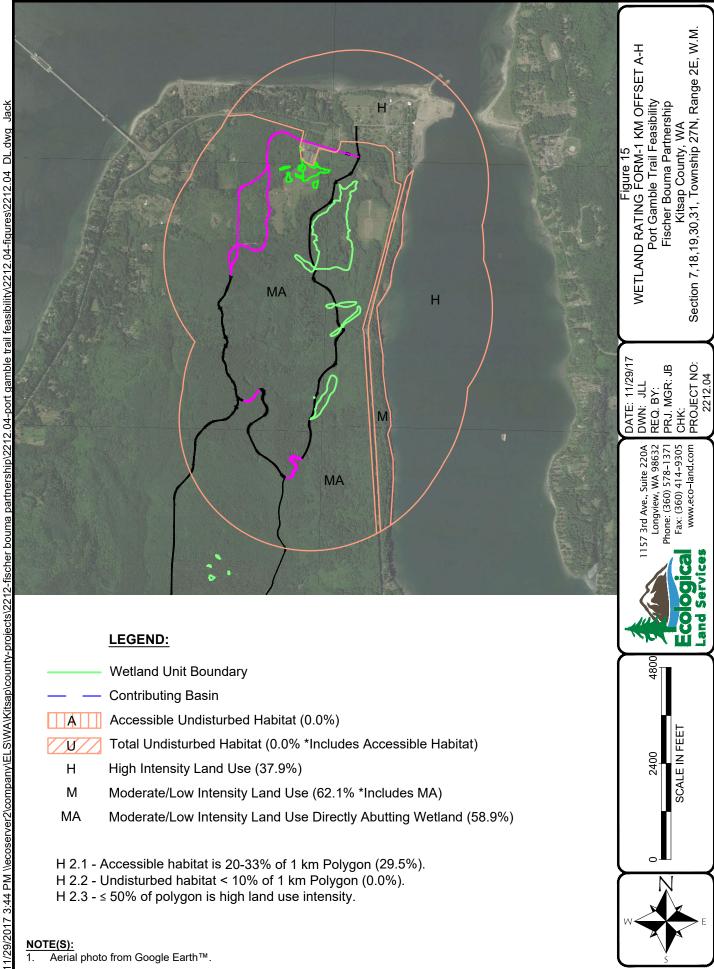












2400

Total Undisturbed Habitat (0.0% \*Includes Accessible Habitat)

Н High Intensity Land Use (37.9%)

Μ Moderate/Low Intensity Land Use (62.1% \*Includes MA)

MA Moderate/Low Intensity Land Use Directly Abutting Wetland (58.9%)

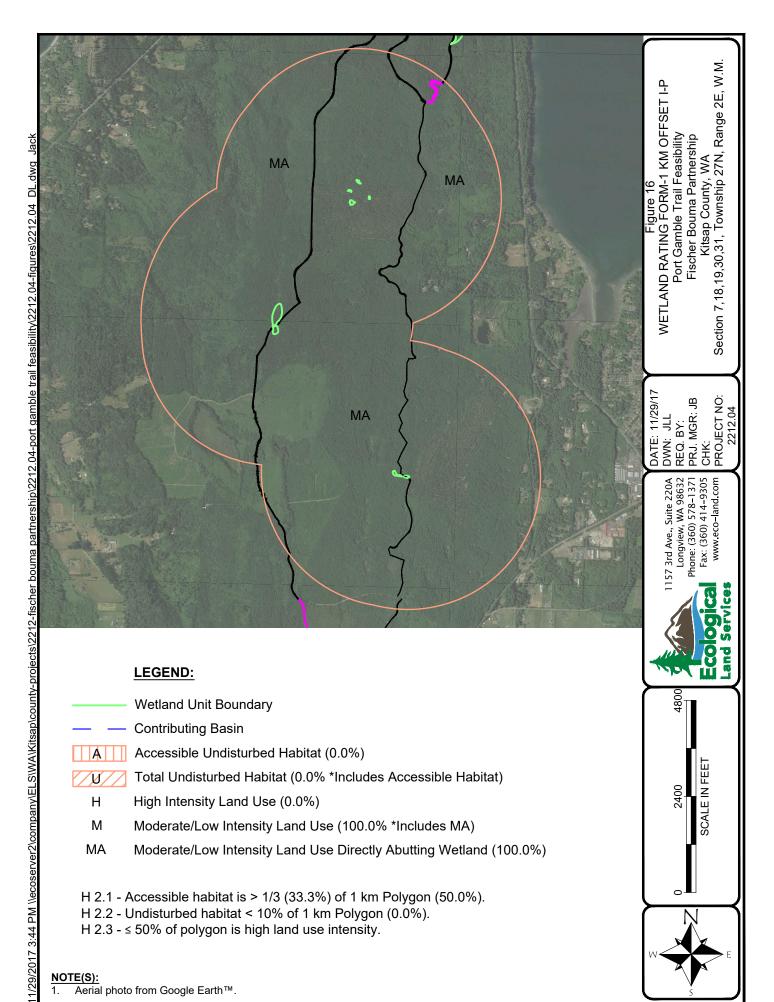
H 2.1 - Accessible habitat is 20-33% of 1 km Polygon (29.5%).

H 2.2 - Undisturbed habitat < 10% of 1 km Polygon (0.0%).

H 2.3 -  $\leq$  50% of polygon is high land use intensity.

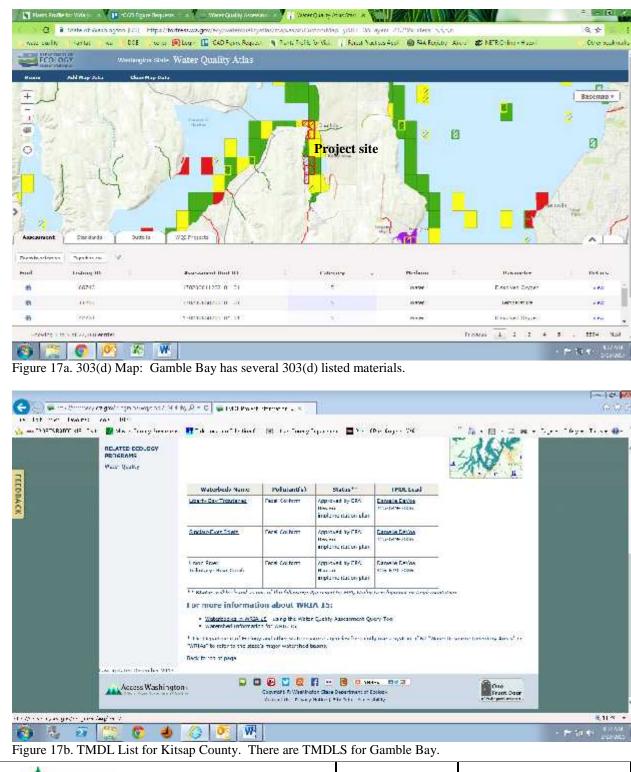
## NOTE(S):

Aerial photo from Google Earth™.



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Fax: (360) 414-9305

DATE: 1/18/17 DWN: KB PRJ. MGR JB PROJ.#: 2212.04

## Figure 17- Wetland Rating Form-303(d)/TMDL

Project Name: Port Gamble Trail Feasibility Client: Fischer Bouma Partnership Kitsap County, Washington



Photo 1 was taken at the north end of the North Segment, at the entrance gate near the start of the Lower Option, looking south. The North Terminus of the Preferred Alignment is just north of here and the trail here will be 10 feet wide and use the existing road base.



**Photo 2** was taken south of the gate in Photo 1 and shows one of the many culverts along the Lower Option. This culvert is where the beaver pond crosses the existing road.



**Photo 3** was taken from the culvert in Photo 2, looking east, into Wetland B. Wetland B is a depressional beaver pond wetland and was forested prior to the impacts of the beaver activity.



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DATE: 11/8/17 DWN: KB PRJ. MGR JB PROJ.#: 2212.04 Photoplate 1
Project Name: Port Gamble
Trail Feasibility
Client: Fischer Bouma
Partnership
Kitsap County, Washington



Photo 4 was taken in the North Segment of the Lower Option, near the south end of Wetland B and shows the location of the culvert where water flows from Wetland A on the left to Wetland B on the right.



**Photo 5** was taken from the edge of the road along the Lower Option, looking west into Wetland A, a sloping forested wetland.



**Photo 6** was taken from the road and shows where the culvert outlets into Wetland B.



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DATE: 11/8/17 DWN: KB PRJ. MGR JB PROJ.#: 2212.04 Photoplate 2
Project Name: Port Gamble
Trail Feasibility
Client: Fischer Bouma
Partnership
Kitsap County, Washington



Photo 7 was taken in the North Segment of the Lower Option, south of Wetlands A and B, looking east into Wetland C and shows the typical vegetation of Wetlands C and D: alder trees and salmonberry.



Photo 8 was taken south of Wetlands C and D and shows the Lower Option as it continues south. Wetland E is shown on the left and Wetland F is on the right. The new trail will be 14 feet wide in this section and use the existing logging road as a base.



**Photo 9** was taken further south along the Lower Option, looking southwest and shows the flooded area of Wetland G draining into the culvert.



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DATE: 11/8/17 DWN: KB PRJ. MGR JB PROJ.#: 2212.04 Photoplate 3
Project Name: Port Gamble
Trail Feasibility
Client: Fischer Bouma
Partnership
Kitsap County, Washington



Photo 10 shows Wetland M, a depressional wetland identified in the vicinity of the potential Connection 2 Trail between the Lower and Upper Options. Four wetlands were located in the vicinity of the potential trail alignment, which runs south of the Downhill Trail.



Photo 11 was taken in the same area as Photo 28, and shows Wetland N, another depressional wetland in the vicinity of the potential Connector 2 Trail.



**Photo 12** was taken along the Upper Option, south of the potential Connector 2 Trail. The alignment will be 14 feet wide in this section and use the existing road as a base.



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DATE: 11/8/17 DWN: KB PRJ. MGR JB PROJ.#: 2212.04 Photoplate 4
Project Name: Port Gamble
Trail Feasibility
Client: Fischer Bouma
Partnership
Kitsap County, Washington



Photo 13 was taken along the Upper Option, in the Center Segment. Wetland L is along the left side of the road and Wetland K is on the right side.



Photo 14 shows the area of overflow between Wetlands L and K. A new culvert will be needed in this area to avoid flooding of the future trail. The culvert connects the two wetlands and does not represent a stream channel.



**Photo 15** was taken south of Wetlands L and K on the Upper Option in the Center Segment.



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DATE: 11/8/17 DWN: KB PRJ. MGR JB PROJ.#: 2212.04 Photoplate 5
Project Name: Port Gamble
Trail Feasibility
Client: Fischer Bouma
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Kitsap County, Washington



Photo 16 was taken in the South Segment of the Lower Option and shows the narrow footpath crossing between Wetland I on the right and Wetland J on the left. Construction of the alignment in this area would have direct impacts to both of these wetlands.



**Photo 17** was taken along the South Segment of the Lower Option and shows one of the two streams that the trail crosses.



Photo 18 was taken from part of the South Segment of the Lower Option called Bobsled Trail. No wetlands were found along this area, but the trail is narrow and the topography is highly variable.



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DATE: 11/8/17 DWN: KB PRJ. MGR JB PROJ.#: 2212.04 Photoplate 6
Project Name: Port Gamble
Trail Feasibility
Client: Fischer Bouma
Partnership
Kitsap County, Washington



Photo 19 shows part of the Upper Option in the South Segment, as it passes through a younger stand of Douglas fir trees. From here the Preferred Alignment continues south to Service Road 1810.



Photo 20 was taken along Service Road 1810 and shows where a stream crosses through Culvert 27. It is recommended to use this existing road and culvert to cross the stream before continuing the new trail south.



**Photo 21** shows where the stream exits Culvert 27 and flows south.



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DATE: 11/8/17 DWN: KB PRJ. MGR JB PROJ.#: 2212.04 Photoplate 7
Project Name: Port Gamble
Trail Feasibility
Client: Fischer Bouma
Partnership
Kitsap County, Washington



Photo 22 was taken in the South Segment, and shows the stream that flows south from the culvert in Photo 21. The 150 foot stream buffer will be impacted by the new trail in this area and require mitigation.



**Photo 23** was taken from the Ridgetrail, looking south east and shows where the new trail will be constructed as part of the preferred alignment. No wetlands were found in this area.



Photo 24 was taken from the Flash Trail, looking south east and shows the area where the preferred alignment will be constructed. From here, the trail will continue south east to Stottlemeyer Road.



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DATE: 11/8/17 DWN: KB PRJ. MGR JB PROJ.#: 2212.04 Photoplate 8
Project Name: Port Gamble
Trail Feasibility
Client: Fischer Bouma
Partnership
Kitsap County, Washington

| Project Site: Port Gamble Trail Feasibility                                                                                                                                             |                                   |                                | City/Coun                    | ty: Port Gamble/Kitsap                                                          | Sampling Date:                     | 2/22/17            |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|--------------------------------|------------------------------|---------------------------------------------------------------------------------|------------------------------------|--------------------|
| Applicant/Owner: <u>Fischer Bouma Partnership</u>                                                                                                                                       |                                   |                                |                              | State: WA                                                                       | Sampling Point:                    | Bobsled TP         |
| Investigator(s): <u>J. Bartlett, L. Westervelt, K. Boa</u>                                                                                                                              |                                   |                                |                              | Section, Township, Rang                                                         | ge: <u>S7 T27N R2E</u>             |                    |
| Landform (hillslope, terrace, etc.): <u>hillslope</u>                                                                                                                                   |                                   | Loca                           | I relief (conc               | ave, convex, none): <u>convex</u>                                               | Slop                               | e (%): <u>6-15</u> |
| Subregion (LRR): MLRA 2                                                                                                                                                                 | Lat:                              | _                              |                              | Long:                                                                           | Datum:                             | <u>Trimble</u>     |
| Soil Map Unit Name: Poulsbo gravelly sandy loam 6                                                                                                                                       | to 15 percent                     | t slopes                       |                              | NWI clas                                                                        | sification:                        |                    |
| Are climatic / hydrologic conditions on the site typical fo                                                                                                                             | this time of y                    | ear? Y                         | es 🛛                         | No                                                                              | n Remarks.)                        |                    |
| Are Vegetation ☐, Soil ☐, or Hydrology                                                                                                                                                  | ☐, signific                       | antly disturbed                | ? Are "                      | Normal Circumstances" present?                                                  | ? Yes                              | ⊠ No □             |
| Are Vegetation □, Soil □, or Hydrology                                                                                                                                                  | □, natural                        | ly problematic?                | ? (If ne                     | eded, explain any answers in Re                                                 | marks.)                            |                    |
| SUMMARY OF FINDINGS – Attach site map s                                                                                                                                                 | nowing san                        | nnling noint                   | locations                    | transects important featu                                                       | res etc                            |                    |
| Hydrophytic Vegetation Present?                                                                                                                                                         | Yes 🗆                             | No 🛛                           | rooutiono,                   | transocio, important routa                                                      | 100, 0101                          |                    |
| Hydric Soil Present?                                                                                                                                                                    | Yes 🗆                             | No 🖾                           | Is the Samp                  |                                                                                 | Yes                                | □ No ⊠             |
| Wetland Hydrology Present?                                                                                                                                                              | Yes 🗆                             |                                | within a We                  | tland?                                                                          |                                    |                    |
|                                                                                                                                                                                         |                                   |                                | ovtonding he                 | stugen Bert Comble at the north                                                 | and and Stattlamayor               | Pood NE at the     |
| Remarks: The scope of this feasibility encompasses a south end. It passes primarily through und current logging practices, and a large syste is located along a trail named Bobsled nea | eveloped timb<br>m of trails util | erland owned<br>ized by walker | by OPG; mo<br>s, bikers, and | st of which is woven with interlac                                              | cing logging roads due             | to historic and    |
| VEGETATION – Use scientific names of plant                                                                                                                                              |                                   |                                | ,                            |                                                                                 |                                    |                    |
| <u>Tree Stratum</u> (Plot size: <u>30' diameter</u> )                                                                                                                                   | Absolute<br>% Cover               | Dominant Species?              | Indicator<br>Status          | Dominance Test Worksheet:                                                       |                                    |                    |
| 1. Pseudotsuga menziesii                                                                                                                                                                | <u>15</u>                         | <u>yes</u>                     | FACU                         | Number of Dominant Species                                                      | 0                                  | (4)                |
| 2                                                                                                                                                                                       |                                   |                                |                              | That Are OBL, FACW, or FAC:                                                     | <u>0</u>                           | (A)                |
| 3                                                                                                                                                                                       |                                   |                                |                              | Total Number of Dominant                                                        | 1                                  | (B)                |
| 4                                                                                                                                                                                       |                                   |                                |                              | Species Across All Strata:                                                      | <u>1</u>                           | (6)                |
| 50% = <u>7.5</u> , 20% = <u>3</u>                                                                                                                                                       | <u>15</u>                         | = Total Cover                  | Ī                            | Percent of Dominant Species                                                     | <u>0</u>                           | (A/B)              |
| Sapling/Shrub Stratum (Plot size: 30' diameter)                                                                                                                                         |                                   |                                |                              | That Are OBL, FACW, or FAC:                                                     | <u> </u>                           | (,,,,,             |
| 1                                                                                                                                                                                       |                                   |                                |                              | Prevalence Index worksheet:                                                     | :                                  |                    |
| 2                                                                                                                                                                                       |                                   |                                |                              | Total % Cover of:                                                               | <u>Multip</u>                      | oly by:            |
| 3                                                                                                                                                                                       |                                   |                                |                              | OBL species                                                                     | x1 =                               |                    |
| 4                                                                                                                                                                                       |                                   |                                |                              | FACW species                                                                    | x2 =                               |                    |
| 5                                                                                                                                                                                       |                                   |                                |                              | FAC species                                                                     | x3 =                               |                    |
| 50% =, 20% =                                                                                                                                                                            |                                   | = Total Cover                  | •                            | FACU species                                                                    | x4 =                               |                    |
| Herb Stratum (Plot size: 15' diameter)                                                                                                                                                  |                                   |                                |                              | UPL species                                                                     | x5 =                               |                    |
| 1                                                                                                                                                                                       |                                   |                                |                              | Column Totals:                                                                  | (A)                                | (B)                |
| 2                                                                                                                                                                                       |                                   |                                |                              | Prevalence                                                                      | Index = B/A =                      |                    |
| 3                                                                                                                                                                                       |                                   |                                |                              | Hydrophytic Vegetation India                                                    | cators:                            |                    |
| 4                                                                                                                                                                                       |                                   |                                |                              | ☐ 1 – Rapid Test for Hydro                                                      | phytic Vegetation                  |                    |
| 5                                                                                                                                                                                       |                                   |                                |                              | ☐ 2 - Dominance Test is >5                                                      | 50%                                |                    |
| 6                                                                                                                                                                                       |                                   |                                |                              | ☐ 3 - Prevalence Index is ≤                                                     | :3.0 <sup>1</sup>                  |                    |
| 7                                                                                                                                                                                       |                                   |                                |                              | 4 - Morphological Adapta                                                        | ations <sup>1</sup> (Provide suppo | orting             |
| 8                                                                                                                                                                                       |                                   |                                |                              | data in Remarks or or                                                           | n a separate sheet)                |                    |
| 9                                                                                                                                                                                       |                                   |                                |                              | ☐ 5 - Wetland Non-Vascula                                                       | ır Plants <sup>1</sup>             |                    |
| 10                                                                                                                                                                                      |                                   |                                |                              | ☐ Problematic Hydrophytic                                                       | Vegetation <sup>1</sup> (Explain)  |                    |
| 11                                                                                                                                                                                      |                                   |                                |                              | 1                                                                               |                                    |                    |
| 50% =, 20% =                                                                                                                                                                            |                                   | = Total Cover                  | r                            | <sup>1</sup> Indicators of hydric soil and w<br>be present, unless disturbed or |                                    | i                  |
| Woody Vine Stratum (Plot size: 15' diameter)                                                                                                                                            |                                   |                                |                              | . ,                                                                             | ·                                  |                    |
| 1                                                                                                                                                                                       |                                   |                                |                              |                                                                                 |                                    |                    |
| 2                                                                                                                                                                                       |                                   |                                |                              | Hydrophytic<br>Vegetation Y                                                     | es 🗆                               | No 🛛               |
| 50% =, 20% =                                                                                                                                                                            |                                   | = Total Cover                  | •                            | Present?                                                                        |                                    |                    |
| % Bare Ground in Herb Stratum 100                                                                                                                                                       |                                   | <u> </u>                       |                              |                                                                                 |                                    |                    |
| Remarks: The hydrophytic vegetation criterion                                                                                                                                           | on is not met b                   | because there                  | is not greate                | r than 50% dominance by FAC, I                                                  | FACW, or OBL specie                | S.                 |
|                                                                                                                                                                                         |                                   |                                |                              |                                                                                 |                                    |                    |
|                                                                                                                                                                                         |                                   |                                |                              |                                                                                 |                                    |                    |

| SOIL                                |                    |           |          |          |             |                  |           |                   |                    |                   |                  | Sampling F                           | oint: <u>Bol</u> | osled TP  |                  |             |   |
|-------------------------------------|--------------------|-----------|----------|----------|-------------|------------------|-----------|-------------------|--------------------|-------------------|------------------|--------------------------------------|------------------|-----------|------------------|-------------|---|
| Profile Desc                        | ription: (Descri   | be to th  | e depth  | need     | ed to d     | ocument the i    | ndicato   | r or con          | firm the abs       | ence of           | indica           | tors.)                               |                  |           |                  |             |   |
| Depth                               | Mat                | rix       |          |          |             | Red              | ox Feat   | ures              |                    |                   |                  |                                      |                  |           |                  |             | · |
| (inches)                            | Color (moist)      |           | %        | Co       | olor (mc    | ist) %           |           | Type <sup>1</sup> | Loc <sup>2</sup>   | 2                 | Textur           | е                                    |                  | Remarks   | 3                |             |   |
| <u>0-12</u>                         | 10YR 2/2           |           | 100      |          |             |                  |           |                   |                    |                   | sa l             | no redox                             | imorphic         | concent   | rations          |             |   |
| <u>12-16</u>                        | 10YR 3/4           |           | 100      |          |             |                  | _         |                   |                    | =.                | sa l             | no redox                             | imorphic         | concent   | rations          |             |   |
|                                     |                    | _         |          |          |             |                  | _         |                   |                    | =                 |                  |                                      |                  |           |                  |             |   |
|                                     |                    | _         |          |          |             |                  | _         |                   |                    | _                 |                  | sa - sano                            | <u>1</u>         |           |                  |             |   |
|                                     |                    | _         |          |          |             |                  | _         |                   |                    | =                 |                  | lo - loam                            |                  |           |                  |             |   |
|                                     |                    | _         |          |          |             |                  | _         |                   |                    | =                 |                  |                                      |                  |           |                  |             |   |
|                                     |                    | _         |          |          |             |                  | _         |                   |                    | =                 |                  |                                      |                  |           |                  |             |   |
|                                     |                    | _         |          |          |             |                  | _         |                   |                    | _                 |                  |                                      |                  |           |                  |             |   |
| <sup>1</sup> Type: C= Co            | oncentration, D=[  | Depletio  | n, RM=l  | Reduc    | ed Matr     | ix, CS=Covere    | d or Coa  | ated San          | nd Grains.         | <sup>2</sup> Loca | tion: Pl         | =Pore Lining, M=                     | =Matrix, F       | RC=Root   | Channe           | I           |   |
| Hydric Soil                         | Indicators: (App   | licable   | to all L | RRs, ι   | ınless      | otherwise note   | ∍d.)      |                   |                    |                   | Ind              | icators for Prob                     | lematic I        | Hydric S  | oils³:           |             |   |
| ☐ Histose                           | ol (A1)            |           |          |          |             | Sandy Redox      | (S5)      |                   |                    |                   |                  | 2 cm Muck (A                         | <b>\10</b> )     |           |                  |             |   |
| ☐ Histic I                          | Epipedon (A2)      |           |          |          |             | Stripped Mat     | rix (S6)  |                   |                    |                   |                  | Red Parent N                         | /laterial (      | TF2)      |                  |             |   |
| ☐ Black I                           | Histic (A3)        |           |          |          |             | Loamy Muck       | y Minera  | al (F1) <b>(e</b> | except MLRA        | <b>\ 1</b> )      |                  | Very Shallow                         | Dark Su          | rface (TF | <del>-</del> 12) |             |   |
| ☐ Hydrog                            | gen Sulfide (A4)   |           |          |          |             | Loamy Gleye      | d Matrix  | (F2)              |                    |                   |                  | Other (Explai                        | n in Rem         | arks)     |                  |             |   |
| ☐ Deplet                            | ed Below Dark S    | urface (  | (A11)    |          |             | Depleted Ma      | trix (F3) |                   |                    |                   |                  |                                      |                  | •         |                  |             |   |
| I `                                 | Dark Surface (A1:  |           | ,        |          |             | Redox Dark       |           |                   |                    |                   |                  |                                      |                  |           |                  |             |   |
|                                     | Mucky Mineral (    | •         |          |          |             | Depleted Dai     |           |                   |                    |                   | <sup>3</sup> Inc | dicators of hydrop                   | hytic veg        | etation a | and              |             |   |
| _                                   | Gleyed Matrix (S   | -         |          |          |             | Redox Depre      |           |                   |                    |                   |                  | wetland hydrolog<br>unless disturbed |                  |           | t,               |             |   |
|                                     | _ayer (if present  |           |          |          |             |                  |           | 7                 |                    |                   |                  | uriless disturbed                    | or proble        | mano.     |                  |             |   |
| Type:                               | , , ,              | ,         |          |          |             |                  |           |                   |                    |                   |                  |                                      |                  |           |                  |             |   |
| Depth (inche                        | s):                |           |          |          |             |                  |           |                   | Hydric Sc          | oils Pres         | ent?             |                                      | Yes              |           | No               | $\boxtimes$ | 3 |
| Remarks:                            | -                  | oil laver | s meet t | the def  | inition o   | of a depleted m  | atrix so  | this soil         |                    |                   |                  | t none of the hyd                    | ric soil in      | dicators  |                  |             |   |
|                                     |                    |           |          |          |             |                  |           |                   |                    |                   |                  |                                      |                  |           |                  |             |   |
| HYDROLO                             |                    |           |          |          |             |                  |           |                   |                    |                   |                  |                                      |                  |           |                  |             |   |
|                                     | drology Indicato   |           |          |          |             |                  |           |                   |                    |                   | •                |                                      | <b>10</b>        |           |                  |             |   |
|                                     | cators (minimum    | of one r  | equired; | ; check  |             |                  |           |                   |                    |                   |                  | ndary Indicators                     | •                | · · · · · | ed)              |             |   |
| _                                   | ce Water (A1)      |           |          |          |             | Water-Staine     |           |                   |                    |                   |                  | Water-Stained L                      | -                | •         |                  |             |   |
|                                     | Vater Table (A2)   |           |          |          | _           | (except MLR      |           | 4A, and           | 4B)                |                   | _                | (MLRA 1, 2, 4A                       |                  | )         |                  |             |   |
|                                     | ation (A3)         |           |          |          |             | Salt Crust (B    | ,         |                   |                    |                   |                  | Drainage Patter                      | , ,              |           |                  |             |   |
| ☐ Water                             | Marks (B1)         |           |          |          |             | Aquatic Inver    | tebrates  | s (B13)           |                    |                   |                  | Dry-Season Wa                        | ter Table        | (C2)      |                  |             |   |
| ☐ Sedim                             | ent Deposits (B2   | 2)        |          |          |             | Hydrogen Su      | lfide Od  | lor (C1)          |                    |                   |                  | Saturation Visible                   | e on Aer         | ial Image | ery (C9)         |             |   |
| ☐ Drift D                           | eposits (B3)       |           |          |          |             | Oxidized Rhi     | -         | _                 | -                  | s (C3)            |                  | Geomorphic Pos                       | sition (D2       | 2)        |                  |             |   |
| ☐ Algal I                           | Mat or Crust (B4)  |           |          |          |             | Presence of      | Reduce    | d Iron (C         | (4)                |                   |                  | Shallow Aquitare                     | d (D3)           |           |                  |             |   |
| ☐ Iron D                            | eposits (B5)       |           |          |          |             | Recent Iron F    | Reduction | n in Tille        | ed Soils (C6)      |                   |                  | FAC-Neutral Tes                      | st (D5)          |           |                  |             |   |
| ☐ Surfac                            | ce Soil Cracks (B  | 6)        |          |          |             | Stunted or St    | resses l  | Plants (D         | 01) <b>(LRR A)</b> |                   |                  | Raised Ant Mou                       | nds (D6)         | (LRR A)   | )                |             |   |
| ☐ Inunda                            | ation Visible on A | erial Im  | agery (E | 37)      |             | Other (Explai    | n in Rer  | marks)            |                    |                   |                  | Frost-Heave Hu                       | mmocks           | (D7)      |                  |             |   |
| ☐ Spars                             | ely Vegetated Co   | ncave S   | Surface  | (B8)     |             |                  |           |                   |                    |                   |                  |                                      |                  |           |                  |             |   |
| Field Obser                         | vations:           |           |          |          |             |                  |           |                   |                    |                   |                  |                                      |                  |           |                  |             |   |
| Surface Water                       | er Present?        | Yes       |          | No       | $\boxtimes$ | Depth (ir        | iches):   |                   | -                  |                   |                  |                                      |                  |           |                  |             |   |
| Water Table                         | Present?           | Yes       |          | No       | $\boxtimes$ | Depth (ir        | iches):   |                   | _                  |                   |                  |                                      |                  |           |                  |             |   |
| Saturation Procession (includes cap |                    | Yes       |          | No       |             | Depth (ir        | nches):   |                   | _                  | Wetlar            | nd Hyd           | rology Present?                      |                  | Yes       | □ N              | 0           |   |
| Describe Re                         | corded Data (stre  | am gau    | ıge, mor | nitoring | g well, a   | erial photos, p  | evious i  | inspectio         | ons), if availat   | ole:              |                  |                                      |                  |           |                  |             |   |
|                                     |                    |           |          |          |             |                  |           |                   |                    |                   |                  |                                      |                  |           |                  |             |   |
| Remarks:                            | Hydrology was      | not pre   | sent du  | ring the | e field v   | isit and there w | as no e   | vidence           | of wetland hy      | ydrology.         |                  |                                      |                  |           |                  |             |   |
|                                     |                    |           |          |          |             |                  |           |                   |                    |                   |                  |                                      |                  |           |                  |             |   |
|                                     |                    |           |          |          |             |                  |           |                   |                    |                   |                  |                                      |                  |           |                  |             |   |

| Project Site:                    | Port Gamble T                   | rail Feasibility                                                    |                 |              |                 |           | City/Count               | ty: <u>Po</u>  | ort Gar  | mble/Ki            | tsap          | Samplin                | ng Date:     | 1/1         | 8/17        |          |
|----------------------------------|---------------------------------|---------------------------------------------------------------------|-----------------|--------------|-----------------|-----------|--------------------------|----------------|----------|--------------------|---------------|------------------------|--------------|-------------|-------------|----------|
| Applicant/Owner:                 | Fischer Bouma                   | a Partnership                                                       |                 |              |                 |           |                          |                |          | State              | e: <u>WA</u>  | Samplir                | ng Point:    | TP          | <u>1A</u>   |          |
| Investigator(s):                 | J. Bartlett, L. V               | Vestervelt, K. Boa                                                  |                 |              |                 |           |                          |                | Section  | n, Tow             | nship, Ran    | ge: <u>S7</u>          | T27N R2E     |             |             |          |
| Landform (hillslope, ter         | rrace, etc.):                   | <u>hillslope</u>                                                    |                 |              |                 | Loca      | al relief (conca         | ave, cor       | nvex, n  | one):              | convex        |                        | Slo          | pe (%):     | <u>6-15</u> | <u> </u> |
| Subregion (LRR):                 | MLRA 2                          |                                                                     | Lat:            |              |                 |           |                          | Long           | g:       |                    |               |                        | Datum:       | Trimb       | l <u>e</u>  |          |
| Soil Map Unit Name:              | Ragnar Fine                     | sandy loam, 6 to 1                                                  | 5 percen        | t slope      | <u>s</u>        |           |                          |                |          |                    | NWI clas      | ssification            | : <u></u>    |             |             |          |
| Are climatic / hydrologi         | c conditions on                 | the site typical for                                                | this time       | of yea       | r?              | Y         | es 🛛                     | No             |          | (If n              | io, explain i | in Remar               | ks.)         |             |             |          |
| Are Vegetation $\square$ ,       | Soil □,                         | or Hydrology                                                        | □, sigi         | nificant     | ly dist         | turbed    | l? Are "l                | Normal         | Circun   | nstance            | es" present   | ?                      | Yes          | $\boxtimes$ | No          |          |
| Are Vegetation $\square$ ,       | Soil □,                         | or Hydrology                                                        | □, nat          | urally p     | roble           | matic?    | ? (If nee                | eded, e        | xplain   | any ans            | swers in Re   | emarks.)               |              |             |             |          |
| SUMMARY OF FIN                   | DINGS – Atta                    | ach site map sh                                                     | nowing          | sampl        | ing Į           | point     | locations,               | transe         | ects, i  | mport              | tant featu    | ıres, etc              | <b>:.</b>    |             |             |          |
| Hydrophytic Vegetation           | n Present?                      |                                                                     | Yes             | $\boxtimes$  | No              |           | la tha Canan             | I I A          | _        |                    |               |                        |              |             |             |          |
| Hydric Soil Present?             |                                 |                                                                     | Yes             | $\boxtimes$  | No              |           | Is the Samp within a Wes |                | ea       |                    |               |                        | Yes          | $\boxtimes$ | No          |          |
| Wetland Hydrology Pre            | esent?                          |                                                                     | Yes             | $\boxtimes$  | No              |           |                          |                |          |                    |               |                        |              |             |             |          |
| south end<br>current log         | . It passes prim                | ity encompasses a<br>narily through under<br>and a large systement. | eveloped        | timberl      | and o           | wned      | by OPG; mos              | st of wh       | ich is v | woven v            | with interlac | cing loggi             | ng roads du  | e to his    | toric a     | ınd      |
| VEGETATION - Us                  | e scientific ı                  | names of plants                                                     |                 |              |                 |           |                          |                |          |                    |               |                        |              |             |             |          |
| Tree Stratum (Plot size          | e: <u>30' diameter</u> )        |                                                                     | Absolute % Cove |              | omina<br>pecies |           | Indicator<br>Status      | Domii          | nance    | Test W             | Vorksheet:    |                        |              |             |             |          |
| 1. Alnus rubra                   |                                 |                                                                     | <u>15</u>       | <u>. y</u> e |                 | <u>J.</u> | FAC                      | Numb           | er of D  | ominar             | nt Species    |                        |              |             |             |          |
| 2. Thuja plicata                 |                                 |                                                                     | <u>15</u>       | ye           | es.             |           | FAC                      |                |          |                    | W, or FAC     | :                      | <u>2</u>     |             |             | (A)      |
| 3                                |                                 |                                                                     |                 | _            |                 |           |                          |                |          |                    | minant        |                        | <u>2</u>     |             |             | (B)      |
| 4                                |                                 |                                                                     |                 | _            | —               |           |                          | Specie         | es Acro  | oss All            | Strata:       |                        | _            |             |             | ,        |
| 50% = <u>15</u> , 20% = <u>6</u> |                                 |                                                                     | <u>30</u>       | =            | Total           | Cove      | r                        |                |          |                    | nt Species    |                        | 100          |             |             | (A/B)    |
| Sapling/Shrub Stratum            | <u>ı</u> (Plot size: <u>30'</u> | <u>diameter</u> )                                                   |                 |              |                 |           | =                        |                |          |                    | W, or FAC     |                        |              |             | <del></del> | . ,      |
| 1                                |                                 |                                                                     |                 | _            | —               |           |                          | Preva          |          |                    | worksheet     |                        |              |             |             |          |
| 2                                |                                 |                                                                     |                 | _            | —               |           |                          |                |          |                    | 6 Cover of:   |                        |              | ply by:     |             |          |
| 3                                |                                 |                                                                     | -               | _            | —               |           |                          |                | pecies   |                    |               |                        | x1 =         |             |             |          |
| 4                                |                                 |                                                                     |                 | _            | —               |           |                          |                | / speci  |                    |               |                        | x2 =         |             |             |          |
| 5                                |                                 |                                                                     |                 | _            |                 | _         |                          |                | pecies   |                    |               |                        | x3 =         |             |             |          |
| 50% =, 20% = _                   |                                 |                                                                     |                 | =            | Total           | Cove      | r                        |                | specie   |                    |               |                        | x4 =         |             |             |          |
| Herb Stratum (Plot siz           | e: <u>15' diameter</u> )        | )                                                                   |                 |              |                 |           |                          | UPL s          | pecies   | ;                  |               |                        | x5 =         | _           |             |          |
| 1                                |                                 |                                                                     | -               | _            | _               |           |                          | Colum          | n Tota   |                    |               | (A)                    |              |             | (E          | 3)       |
| 2                                |                                 |                                                                     |                 | _            |                 |           |                          |                |          | F                  | Prevalence    | Index =                | B/A =        | _           |             |          |
| 3                                |                                 |                                                                     |                 | _            |                 |           |                          | Hydro          | phytic   | C Veget            | tation Indi   | cators:                |              |             |             |          |
| 4                                |                                 |                                                                     |                 | _            |                 |           |                          |                | 1 – Ra   | pid Tes            | st for Hydro  | phytic Ve              | egetation    |             |             |          |
| 5                                |                                 |                                                                     | -               | _            | _               |           |                          |                | 2 - Dor  | minance            | e Test is >5  | 50%                    |              |             |             |          |
| 6                                |                                 |                                                                     |                 | _            |                 |           |                          | □ ;            | 3 - Pre  | valence            | e Index is <  | ≤3.0 <sup>1</sup>      |              |             |             |          |
| 7                                |                                 |                                                                     |                 | _            |                 |           |                          | □ '            |          |                    |               |                        | rovide supp  | orting      |             |          |
| 8                                |                                 |                                                                     |                 | _            |                 |           |                          | _              | data     | a in Rei           | marks or or   | n a separ              | ate sheet)   |             |             |          |
| 9                                |                                 |                                                                     |                 | _            |                 |           |                          |                | 5 - We   | tland N            | lon-Vascula   | ar Plants <sup>1</sup> |              |             |             |          |
| 10                               |                                 |                                                                     |                 | _            |                 |           |                          |                | Proble   | matic H            | Hydrophytic   | Vegetati               | on¹ (Explair | 1)          |             |          |
| 11                               |                                 |                                                                     | -               | _            |                 |           |                          | 11             | _4       | <b>4</b> la la ! a |               | 41 1 1                 | drology mu   | - 4         |             |          |
| 50% =, 20% = _                   |                                 |                                                                     |                 | =            | Total           | Cove      | r                        |                |          |                    | disturbed o   |                        |              | SI          |             |          |
| Woody Vine Stratum (             | Plot size: 15' di               | ameter)                                                             |                 |              |                 |           |                          | •              |          |                    |               |                        |              |             |             |          |
| 1                                |                                 |                                                                     |                 | _            |                 |           |                          |                |          |                    |               |                        |              |             |             |          |
| 2                                |                                 |                                                                     |                 | _            |                 |           |                          | Hydro<br>Veget | phytic   | C                  | <b>v</b>      | 'es                    | $\boxtimes$  | No          |             |          |
| 50% =, 20% = _                   |                                 |                                                                     |                 | =            | Total           | Cove      | r                        | Prese          |          |                    |               |                        | KA           | 140         |             |          |
| % Bare Ground in Her             | b Stratum 100                   |                                                                     |                 |              |                 |           |                          |                |          |                    |               |                        |              |             |             |          |
| Remarks: T                       | he hydrophytic                  | vegetation criterio                                                 | n is met b      | ecaus        | e ther          | re is gr  | reater than 50           | 0% dom         | ninance  | by FA              | .C species    |                        |              |             |             |          |
|                                  |                                 |                                                                     |                 |              |                 |           |                          |                |          |                    |               |                        |              |             |             |          |
|                                  |                                 |                                                                     |                 |              |                 |           |                          |                |          |                    |               |                        |              |             |             |          |

SOIL Sampling Point: TP1 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Redox Features (inches) Color (moist) % Color (moist) % Type<sup>1</sup> Loc2 Texture Remarks Duff 0-6 6-11 10YR 2/1 100 sa si lo no redoximorphic concentrations C 11-16 10YR 4/2 95 10YR 4/6 5 Μ sa lo sa - sand si - silt lo - loam <sup>1</sup>Type: C= Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. <sup>2</sup>Location: PL=Pore Lining, M=Matrix, RC=Root Channel Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils3: Histosol (A1) Sandy Redox (S5) 2 cm Muck (A10) Histic Epipedon (A2) П Stripped Matrix (S6)  $\Box$ Red Parent Material (TF2) Black Histic (A3) Loamy Mucky Mineral (F1) (except MLRA 1) Very Shallow Dark Surface (TF12) Loamy Gleyed Matrix (F2) Hydrogen Sulfide (A4) Other (Explain in Remarks) Depleted Below Dark Surface (A11)  $\boxtimes$ Depleted Matrix (F3) Thick Dark Surface (A12) Redox Dark Surface (F6) <sup>3</sup>Indicators of hydrophytic vegetation and П Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) wetland hydrology must be present, П Sandy Gleyed Matrix (S4) Redox Depressions (F8) unless disturbed or problematic. Restrictive Layer (if present): Type: **Hydric Soils Present?** Yes  $\boxtimes$ Depth (inches): No Remarks: The soil profile most closely matches the description for hydric soil indicateor F3, Depleted Matrix because the depleted matrix begins within 10 inches of the soil surface and has prominent mottling. **HYDROLOGY** Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (2 or more required) П Surface Water (A1) Water-Stained Leaves (B9) Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) High Water Table (A2) (MLRA 1, 2, 4A, and 4B)  $\boxtimes$ Saturation (A3) Salt Crust (B11) Drainage Patterns (B10) П Water Marks (B1) Aquatic Invertebrates (B13) П Dry-Season Water Table (C2) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Drift Deposits (B3) Oxidized Rhizospheres along Living Roots (C3) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aguitard (D3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) FAC-Neutral Test (D5) П Surface Soil Cracks (B6) Stunted or Stresses Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Frost-Heave Hummocks (D7) Sparsely Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes No Depth (inches): Yes Water Table Present? No Depth (inches): Saturation Present? Wetland Hydrology Present? Yes  $\boxtimes$ No Yes  $\boxtimes$ No Depth (inches): 5 (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks: Soil saturation was observed at 5 inches and is a primary indicator for wetland hydrology.

| Project Site: Port Gamble Trail Feasibility                                                                                                                         |                     |                      | City/Coun           | ty: Port Gamble/Kitsap                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Sampling Date:                    | 1/18/17             |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|----------------------|---------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|---------------------|
| Applicant/Owner: <u>Fischer Bouma Partnership</u>                                                                                                                   |                     |                      |                     | State: WA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Sampling Point:                   | TP2A                |
| Investigator(s): J. Bartlett, L. Westervelt, K. Boa                                                                                                                 |                     |                      |                     | Section, Township, Ran-                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | ge: <u>S7 T27N R2E</u>            |                     |
| Landform (hillslope, terrace, etc.): <u>hillslope</u>                                                                                                               |                     | Loca                 | I relief (conc      | ave, convex, none):                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Slor                              | pe (%): <u>6-15</u> |
| Subregion (LRR): MLRA 2                                                                                                                                             | Lat:                | _                    |                     | Long:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Datum:                            | <u>Trimble</u>      |
| Soil Map Unit Name: Ragnar Fine sandy loam, 6 to 2                                                                                                                  | 5 percent slo       | pes                  |                     | NWI clas                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | sification:                       |                     |
| Are climatic / hydrologic conditions on the site typical for                                                                                                        | this time of y      | rear? Ye             | es 🛛                | No                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | n Remarks.)                       |                     |
| Are Vegetation □, Soil □, or Hydrology                                                                                                                              | □, signific         | antly disturbed      | ? Are "             | Normal Circumstances" present?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | ? Yes                             | ⊠ No □              |
| Are Vegetation □, Soil □, or Hydrology                                                                                                                              | □, natural          | ly problematic?      | ? (If ne            | eded, explain any answers in Re                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | marks.)                           |                     |
| SUMMARY OF FINDINGS – Attach site map sl                                                                                                                            | owing san           | anling noint         | locations           | transacts important featu                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | res etc                           |                     |
| Hydrophytic Vegetation Present?                                                                                                                                     | Yes 🛛               | No 🗆                 | iocations,          | transects, important reatu                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 163, 610.                         | <del></del>         |
| Hydric Soil Present?                                                                                                                                                | Yes 🗆               | No 🏻                 | Is the Samp         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Yes                               | □ No ⊠              |
| Wetland Hydrology Present?                                                                                                                                          | Yes 🗆               | No 🖾                 | within a We         | tland?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 163                               |                     |
| · · · · · · · · · · · · · · · · · · ·                                                                                                                               |                     |                      |                     | the same of the sa |                                   | - D d NE d d        |
| Remarks: The scope of this feasibility encompasses a south end. It passes primarily through undo current logging practices, and a large syste in the North Segment. | eveloped timb       | erland owned         | by OPG; mo          | st of which is woven with interlac                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | cing logging roads du             | e to historic and   |
| VEGETATION – Use scientific names of plants                                                                                                                         |                     |                      |                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                   |                     |
| Tree Stratum (Plot size: 30' diameter)                                                                                                                              | Absolute<br>% Cover | Dominant<br>Species? | Indicator<br>Status | Dominance Test Worksheet:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                   |                     |
| 1. Thuja plicata                                                                                                                                                    | <u>25</u>           | <u>yes</u>           | FAC                 | Number of Dominant Species                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 4                                 | (4)                 |
| 2                                                                                                                                                                   |                     |                      |                     | That Are OBL, FACW, or FAC:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | : <u>1</u>                        | (A)                 |
| 3                                                                                                                                                                   |                     |                      |                     | Total Number of Dominant                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 1                                 | (P)                 |
| 4                                                                                                                                                                   |                     |                      |                     | Species Across All Strata:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <u>1</u>                          | (B)                 |
| 50% = <u>12.5</u> , 20% = <u>5</u>                                                                                                                                  | <u>25</u>           | = Total Cover        | •                   | Percent of Dominant Species                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | . 100                             | (A/B)               |
| Sapling/Shrub Stratum (Plot size: 30' diameter)                                                                                                                     |                     |                      |                     | That Are OBL, FACW, or FAC:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 100                               | (A/b)               |
| 1                                                                                                                                                                   |                     |                      |                     | Prevalence Index worksheet                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | :                                 |                     |
| 2                                                                                                                                                                   |                     |                      |                     | Total % Cover of:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | <u>Multi</u>                      | ply by:             |
| 3                                                                                                                                                                   |                     |                      |                     | OBL species                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | x1 =                              |                     |
| 4                                                                                                                                                                   |                     |                      |                     | FACW species                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | x2 =                              |                     |
| 5                                                                                                                                                                   |                     |                      |                     | FAC species                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | x3 =                              |                     |
| 50% =, 20% =                                                                                                                                                        |                     | = Total Cover        | f                   | FACU species                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | x4 =                              |                     |
| Herb Stratum (Plot size: 15' diameter)                                                                                                                              |                     |                      |                     | UPL species                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | x5 =                              |                     |
| 1                                                                                                                                                                   |                     |                      |                     | Column Totals:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | (A)                               | (B)                 |
| 2                                                                                                                                                                   |                     |                      |                     | Prevalence                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Index = B/A =                     | <u>.</u>            |
| 3                                                                                                                                                                   |                     |                      |                     | Hydrophytic Vegetation India                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | cators:                           |                     |
| 4                                                                                                                                                                   |                     |                      |                     | ☐ 1 – Rapid Test for Hydro                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | phytic Vegetation                 |                     |
| 5                                                                                                                                                                   |                     |                      |                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 50%                               |                     |
| 6                                                                                                                                                                   |                     |                      |                     | ☐ 3 - Prevalence Index is <                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | :3.0 <sup>1</sup>                 |                     |
| 7                                                                                                                                                                   |                     |                      |                     | 4 - Morphological Adapta                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | ations <sup>1</sup> (Provide supp | orting              |
| 8                                                                                                                                                                   |                     |                      |                     | data in Remarks or or                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | a separate sheet)                 | · ·                 |
| 9                                                                                                                                                                   |                     |                      |                     | 5 - Wetland Non-Vascula                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | ır Plants <sup>1</sup>            |                     |
| 10                                                                                                                                                                  |                     |                      |                     | ☐ Problematic Hydrophytic                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Vegetation <sup>1</sup> (Explain  | )                   |
| 11                                                                                                                                                                  |                     |                      |                     | 4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                   |                     |
| 50% =, 20% =                                                                                                                                                        |                     | = Total Cover        | Ī                   | <sup>1</sup> Indicators of hydric soil and w<br>be present, unless disturbed of                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                   | st .                |
| Woody Vine Stratum (Plot size: 15' diameter)                                                                                                                        |                     |                      |                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | F                                 |                     |
| 1                                                                                                                                                                   |                     |                      |                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                   |                     |
| 2                                                                                                                                                                   |                     |                      |                     | Hydrophytic<br>Vegetation Y                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | ′es ⊠                             | No 🗆                |
| 50% =, 20% =                                                                                                                                                        |                     | = Total Cover        | -                   | Present?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | es 🗵                              | No 🗆                |
| % Bare Ground in Herb Stratum 100                                                                                                                                   |                     |                      |                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                   |                     |
| Remarks: The hydrophytic vegetation criterio                                                                                                                        | n is met beca       | use there is gr      | reater than 5       | 0% dominance by FAC species                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                   |                     |
|                                                                                                                                                                     |                     |                      |                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                   |                     |
|                                                                                                                                                                     |                     |                      |                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                   |                     |

SOIL Sampling Point: TP2 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Redox Features (inches) Color (moist) % Color (moist) % Type<sup>1</sup> Loc2 Texture Remarks Duff 0-4 4-7 10YR 2/1 100 sa lo no redoximorphic concentrations 7-16 10YR 4/6 100 no redoximorphic concentrations sa lo <sup>1</sup>Type: C= Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. <sup>2</sup>Location: PL=Pore Lining, M=Matrix, RC=Root Channel Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils3: Histosol (A1) Sandy Redox (S5) 2 cm Muck (A10) Histic Epipedon (A2) П Stripped Matrix (S6)  $\Box$ Red Parent Material (TF2) Black Histic (A3) Loamy Mucky Mineral (F1) (except MLRA 1) Very Shallow Dark Surface (TF12) Loamy Gleyed Matrix (F2) Hydrogen Sulfide (A4) Other (Explain in Remarks) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Thick Dark Surface (A12) Redox Dark Surface (F6) <sup>3</sup>Indicators of hydrophytic vegetation and П Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) wetland hydrology must be present, П Sandy Gleyed Matrix (S4) Redox Depressions (F8) unless disturbed or problematic. Restrictive Layer (if present): Type: **Hydric Soils Present?** Yes No  $\boxtimes$ Depth (inches): Remarks: Neither of the soil layers meet the definition of a depleted matrix so this soil profile is determined to meet none of the hydric soil indicators **HYDROLOGY** Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (2 or more required) П Surface Water (A1) Water-Stained Leaves (B9) Water-Stained Leaves (B9) High Water Table (A2) (except MLRA 1, 2, 4A, and 4B) (MLRA 1, 2, 4A, and 4B) Saturation (A3) Salt Crust (B11) Drainage Patterns (B10) П Water Marks (B1) Aquatic Invertebrates (B13) П Dry-Season Water Table (C2) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Drift Deposits (B3) Oxidized Rhizospheres along Living Roots (C3) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aguitard (D3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) FAC-Neutral Test (D5) П Surface Soil Cracks (B6) Stunted or Stresses Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Frost-Heave Hummocks (D7) Sparsely Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes No  $\boxtimes$ Depth (inches): Water Table Present? Yes  $\boxtimes$ No Depth (inches): Saturation Present? Wetland Hydrology Present? Yes No  $\boxtimes$ Yes No  $\boxtimes$ Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Hydrology was not present during the field visit and there was no evidence of wetland hydrology. Remarks:

| Project Site: Port Gamble Trail Feasibility                                               |                                  |                      | City/Cour           | nty: <u>Port Gamble/Kitsap</u> Sampling D                                                                                                      | Date: <u>1/1</u>   | 18/17      |
|-------------------------------------------------------------------------------------------|----------------------------------|----------------------|---------------------|------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|------------|
| Applicant/Owner: Fischer Bouma Partnership                                                |                                  |                      |                     | State: WA Sampling P                                                                                                                           | Point: <u>TP</u> : | <u>3B</u>  |
| Investigator(s): J. Bartlett, L. Westervelt, K. Bo                                        | <u>a</u>                         |                      |                     | Section, Township, Range: S7 T27                                                                                                               | N R2E              |            |
| Landform (hillslope, terrace, etc.): <u>hillslope</u>                                     |                                  | Loca                 | al relief (conc     | eave, convex, none): <u>convex</u>                                                                                                             | Slope (%):         | :          |
| Subregion (LRR): MLRA 2                                                                   | Lat:                             |                      |                     | Long:                                                                                                                                          | Datum: Trimb       | <u>ole</u> |
| Soil Map Unit Name: Ragnar Fine sandy loam, 6 to                                          | 15 percent sl                    | <u>opes</u>          |                     | NWI classification:                                                                                                                            |                    |            |
| Are climatic / hydrologic conditions on the site typical for                              | or this time of                  | year? Y              | es 🛚                | No                                                                                                                                             |                    |            |
| Are Vegetation $\square$ , Soil $\square$ , or Hydrology                                  | ☐, signific                      | cantly disturbed     | l? Are "            | 'Normal Circumstances" present?                                                                                                                | Yes 🛛              | No 🗆       |
| Are Vegetation □, Soil □, or Hydrology                                                    | ☐, natura                        | lly problematic      | ? (If ne            | eeded, explain any answers in Remarks.)                                                                                                        |                    |            |
| SUMMARY OF FINDINGS – Attach site map s                                                   | showing sa                       | mpling point         | locations,          | , transects, important features, etc.                                                                                                          |                    |            |
| Hydrophytic Vegetation Present?                                                           | Yes 🗵                            | No □                 |                     |                                                                                                                                                |                    |            |
| Hydric Soil Present?                                                                      | Yes 🗆                            | No ⊠                 | Is the Samp         |                                                                                                                                                | Yes 🗌              | No 🛛       |
| Wetland Hydrology Present?                                                                | Yes 🗆                            | No ⊠                 |                     | Alama .                                                                                                                                        |                    |            |
| south end. It passes primarily through und<br>current logging practices, and a large syst | developed tim<br>em of trails ut | berland owned        | by OPG; mo          | etween Port Gamble at the north end and Sto<br>ost of which is woven with interlacing logging r<br>d equestrian hobbyists weave between the lo | roads due to his   | storic and |
| in the North Segment, along Service Road                                                  | l 1000.                          |                      |                     |                                                                                                                                                |                    |            |
| VEGETATION – Use scientific names of plan                                                 |                                  |                      |                     |                                                                                                                                                |                    |            |
| Tree Stratum (Plot size: 30' diameter)                                                    | Absolute<br><u>% Cover</u>       | Dominant<br>Species? | Indicator<br>Status | Dominance Test Worksheet:                                                                                                                      |                    |            |
| 1<br>2                                                                                    |                                  |                      |                     | Number of Dominant Species That Are OBL, FACW, or FAC:                                                                                         | <u>2</u>           | (A)        |
| 3                                                                                         |                                  |                      |                     |                                                                                                                                                |                    |            |
| 4                                                                                         |                                  |                      |                     | Total Number of Dominant Species Across All Strata:                                                                                            | <u>3</u>           | (B)        |
| 50% =, 20% =                                                                              |                                  | = Total Cove         | <br>r               | Paraget of Daminant Species                                                                                                                    |                    |            |
| Sapling/Shrub Stratum (Plot size: 30' diameter)                                           |                                  | . 0.0                |                     | Percent of Dominant Species That Are OBL, FACW, or FAC:                                                                                        | <u>67</u>          | (A/B)      |
| Sambucus racemosa                                                                         | <u>15</u>                        | <u>yes</u>           | FACU                | Prevalence Index worksheet:                                                                                                                    |                    |            |
| 2. Thuja plicata*                                                                         | <u>5</u>                         | <u>yes</u>           | FAC                 | Total % Cover of:                                                                                                                              | Multiply by:       |            |
| 3                                                                                         | <u>=</u>                         | <u>700</u>           | <u> </u>            | OBL species                                                                                                                                    | x1 =               |            |
| 4                                                                                         |                                  |                      |                     | FACW species                                                                                                                                   | x2 =               |            |
| 5                                                                                         |                                  |                      |                     | FAC species                                                                                                                                    | x3 =               |            |
| 50% = <u>10</u> , 20% = <u>4</u>                                                          | 20                               | = Total Cove         | <br>r               | FACU species                                                                                                                                   | x4 =               |            |
| Herb Stratum (Plot size: 15' diameter)                                                    | _                                |                      |                     | UPL species                                                                                                                                    | x5 =               |            |
| 1. Tolmiea menziesii                                                                      | <u>20</u>                        | <u>yes</u>           | FAC                 | Column Totals:(A)                                                                                                                              |                    | (B)        |
| Carex obnupta                                                                             | <u>5</u>                         | no                   | OBL                 | Prevalence Index = B/A                                                                                                                         |                    | (5)        |
| 3. Polystichum munitum                                                                    | <u>5</u>                         | no                   | FACU                | Hydrophytic Vegetation Indicators:                                                                                                             |                    |            |
| 4.                                                                                        | <u> </u>                         | 110                  | <u>1 ACC</u>        | ☐ 1 – Rapid Test for Hydrophytic Veget                                                                                                         | ration             |            |
| 5                                                                                         |                                  |                      |                     | <ul> <li>✓ 2 - Dominance Test is &gt;50%</li> </ul>                                                                                            | allori             |            |
| 6.                                                                                        |                                  |                      |                     | ☐ 3 - Prevalence Index is <3.0 <sup>1</sup>                                                                                                    |                    |            |
| 7                                                                                         | <del></del>                      |                      |                     | o i revalende index le <u>s</u> ere                                                                                                            |                    |            |
| 8                                                                                         |                                  |                      |                     | 4 - Morphological Adaptations <sup>1</sup> (Provi data in Remarks or on a separate                                                             |                    |            |
| 9.                                                                                        |                                  |                      |                     | 5 - Wetland Non-Vascular Plants <sup>1</sup>                                                                                                   | ,                  |            |
| 10                                                                                        |                                  |                      |                     |                                                                                                                                                | (F   - i )         |            |
| 11.                                                                                       | <del></del>                      |                      |                     | ☐ Problematic Hydrophytic Vegetation¹                                                                                                          | (Explain)          |            |
| 50% = 15, 20% = 6                                                                         | 30                               | = Total Cove         |                     | <sup>1</sup> Indicators of hydric soil and wetland hydro                                                                                       |                    |            |
| Woody Vine Stratum (Plot size: 15' diameter)                                              | <u>30</u>                        | = Total Cove         | '                   | be present, unless disturbed or problematic                                                                                                    | ).                 |            |
|                                                                                           |                                  |                      |                     |                                                                                                                                                |                    |            |
| 1                                                                                         |                                  |                      |                     | Hydrophytic                                                                                                                                    |                    |            |
| 2                                                                                         |                                  | - Total Cava         |                     |                                                                                                                                                | ⊠ No               | <b>□</b>   |
| 50% =, 20% =                                                                              |                                  | = Total Cove         | ı                   | Present?                                                                                                                                       |                    |            |
| % Bare Ground in Herb Stratum 100                                                         |                                  |                      |                     |                                                                                                                                                |                    |            |
| Remarks: *seedlings The hydrophytic vegetation criterion is r                             | net because tl                   | here is greater      | than 50% do         | minance by FAC species                                                                                                                         |                    |            |
|                                                                                           |                                  |                      |                     |                                                                                                                                                |                    |            |

| Depth                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | /latrix                                                              |                                     |               |                                                                               | Redox Fea                                                                                                                                                                      | tures                                                                                                          |                                         |                   |                                                                                                                                                                                                                                                                                                                               |
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| nches) Color (mo                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | ist)                                                                 | %                                   | Color (n      | noist)                                                                        | %                                                                                                                                                                              | Type <sup>1</sup>                                                                                              | Loc <sup>2</sup>                        | Texture           | Remarks                                                                                                                                                                                                                                                                                                                       |
| 0-14 10YR 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | /2                                                                   | 100                                 |               |                                                                               |                                                                                                                                                                                |                                                                                                                |                                         | sa lo             | no redoximorphic concentrations                                                                                                                                                                                                                                                                                               |
| <u>14-</u> <u>10YR 3</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | <u>/2</u>                                                            | <u>95</u>                           | 5YR 3         | <u>8/4</u>                                                                    | <u>5</u>                                                                                                                                                                       | <u>C</u>                                                                                                       | <u>M</u>                                | sa lo             | <u> </u>                                                                                                                                                                                                                                                                                                                      |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                      |                                     |               | _                                                                             |                                                                                                                                                                                |                                                                                                                |                                         |                   |                                                                                                                                                                                                                                                                                                                               |
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| pe: C= Concentration,                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                      |                                     |               |                                                                               |                                                                                                                                                                                | oated Sand (                                                                                                   | Grains. <sup>2</sup> Loo                |                   | =Pore Lining, M=Matrix, RC=Root Channel                                                                                                                                                                                                                                                                                       |
| Iric Soil Indicators: (                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Applicable                                                           | to all LR                           |               |                                                                               |                                                                                                                                                                                |                                                                                                                |                                         |                   | cators for Problematic Hydric Soils <sup>3</sup> :                                                                                                                                                                                                                                                                            |
| Histosol (A1)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                      |                                     |               | -                                                                             | Redox (S5)                                                                                                                                                                     |                                                                                                                |                                         |                   | 2 cm Muck (A10)                                                                                                                                                                                                                                                                                                               |
| Histic Epipedon (A2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 1                                                                    |                                     |               |                                                                               | ed Matrix (S6)                                                                                                                                                                 |                                                                                                                |                                         |                   | Red Parent Material (TF2)                                                                                                                                                                                                                                                                                                     |
| Black Histic (A3)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                      |                                     |               |                                                                               | y Mucky Miner                                                                                                                                                                  |                                                                                                                | ept MLRA 1)                             |                   | Very Shallow Dark Surface (TF12)                                                                                                                                                                                                                                                                                              |
| Hydrogen Sulfide (A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | •                                                                    | (A.4.4)                             |               |                                                                               | y Gleyed Matri                                                                                                                                                                 | ` '                                                                                                            |                                         |                   | Other (Explain in Remarks)                                                                                                                                                                                                                                                                                                    |
| Depleted Below Dar                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                      | A11)                                |               | -                                                                             | ted Matrix (F3                                                                                                                                                                 |                                                                                                                |                                         |                   |                                                                                                                                                                                                                                                                                                                               |
| Thick Dark Surface                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | ,                                                                    |                                     |               |                                                                               | Control Curte                                                                                                                                                                  | ` '                                                                                                            |                                         | <sup>3</sup> Indi | icators of hydrophytic vegetation and                                                                                                                                                                                                                                                                                         |
| Sandy Mucky Miner                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                      |                                     |               | -                                                                             | ted Dark Surfa                                                                                                                                                                 |                                                                                                                |                                         | W                 | vetland hydrology must be present,                                                                                                                                                                                                                                                                                            |
| Sandy Gleyed Matri<br>strictive Layer (if pres                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                      |                                     |               | Redo                                                                          | Depressions                                                                                                                                                                    | (F6)                                                                                                           |                                         | u                 | inless disturbed or problematic.                                                                                                                                                                                                                                                                                              |
| e:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | O111.j.                                                              |                                     |               |                                                                               |                                                                                                                                                                                |                                                                                                                |                                         |                   |                                                                                                                                                                                                                                                                                                                               |
| pth (inches):<br>marks: Neither of th                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | e soil layer                                                         | s meet th                           | he definition | of a dep                                                                      | eted matrix so                                                                                                                                                                 | this soil pro                                                                                                  | ofile is determine                      | d to meet         | none of the hydric soil indicators                                                                                                                                                                                                                                                                                            |
| marks: Neither of the                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                      | rs meet ti                          | he definition | of a dep                                                                      | eted matrix so                                                                                                                                                                 | o this soil pro                                                                                                | ofile is determine                      | d to meet         | none of the hydric soil indicators                                                                                                                                                                                                                                                                                            |
| DROLOGY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | ators:                                                               |                                     |               |                                                                               | eted matrix so                                                                                                                                                                 | o this soil pro                                                                                                | ofile is determine                      |                   |                                                                                                                                                                                                                                                                                                                               |
| marks: Neither of the control of the | ators:                                                               |                                     | check all th  | at apply)                                                                     |                                                                                                                                                                                |                                                                                                                | ofile is determine                      | Secon             | ndary Indicators (2 or more required)                                                                                                                                                                                                                                                                                         |
| DROLOGY tland Hydrology Indicators (minim Surface Water (A1)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | ators:<br>ım of one r                                                |                                     |               | at apply)<br>Water                                                            | -Stained Leav                                                                                                                                                                  | res (B9)                                                                                                       |                                         | Secon             | ndary Indicators (2 or more required)<br>Water-Stained Leaves (B9)                                                                                                                                                                                                                                                            |
| DROLOGY tland Hydrology Indicentification (A1) High Water Table (A1)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | ators:<br>ım of one r                                                |                                     | check all th  | at apply) Water                                                               | -Stained Leav<br>pt MLRA 1, 2,                                                                                                                                                 | res (B9)                                                                                                       |                                         | Secor             | ndary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)                                                                                                                                                                                                                                       |
| DROLOGY tland Hydrology Indicential Market (Market Market (Market Market (Market Market (Market Market Market (Market Market (Market Market Market (Market Market Market (Market Market Market Market (Market Market Market (Market Market Market (Market Market Market (Market Market Market Market (Market Market Market Market (Market Market Market Market Market (Market Market Market Market Market Market Market (Market Market | ators:<br>ım of one r                                                |                                     | check all tr  | wat apply) Water (exce                                                        | -Stained Leav<br>pt MLRA 1, 2,<br>rust (B11)                                                                                                                                   | es (B9)<br>, <b>4A</b> , and <b>4</b> E                                                                        |                                         | Secon             | ndary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10)                                                                                                                                                                                                               |
| DROLOGY tland Hydrology Indice mary Indicators (minime Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | ators:<br>um of one r                                                |                                     | check all tr  | water<br>(exce<br>Salt C                                                      | -Stained Leav<br>pt MLRA 1, 2,<br>irust (B11)<br>ic Invertebrate                                                                                                               | res (B9)<br>, <b>4A</b> , and <b>4</b> E                                                                       |                                         | Secon             | ndary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2)                                                                                                                                                                                   |
| DROLOGY tland Hydrology Indice mary Indicators (minime Surface Water (A1) High Water Table ( Saturation (A3) Water Marks (B1) Sediment Deposits                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | ators:<br>um of one r                                                |                                     | check all tr  | at apply) Water (exce Salt C Aquat                                            | r-Stained Leav<br>pt MLRA 1, 2,<br>rust (B11)<br>ic Invertebrate<br>gen Sulfide O                                                                                              | res (B9)<br>, <b>4A, and 4E</b><br>es (B13)<br>dor (C1)                                                        | 3)                                      | Secon             | ndary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9)                                                                                                                                         |
| TOROLOGY  tland Hydrology Indic mary Indicators (minim Surface Water (A1) High Water Table ( Saturation (A3) Water Marks (B1) Sediment Deposits Drift Deposits (B3)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | ators: um of one r                                                   |                                     | check all tr  | water (exce<br>Salt C<br>Aquat<br>Hydro                                       | -Stained Leav<br>pt MLRA 1, 2,<br>trust (B11)<br>ic Invertebrate<br>gen Sulfide O                                                                                              | res (B9)<br>, <b>4A, and 4E</b><br>es (B13)<br>dor (C1)<br>eres along Li                                       |                                         | Secon             | ndary Indicators (2 or more required)  Water-Stained Leaves (B9)  (MLRA 1, 2, 4A, and 4B)  Drainage Patterns (B10)  Dry-Season Water Table (C2)  Saturation Visible on Aerial Imagery (C9)  Geomorphic Position (D2)                                                                                                          |
| TOROLOGY  tland Hydrology Indic mary Indicators (minim Surface Water (A1) High Water Table ( Saturation (A3) Water Marks (B1) Sediment Deposits Drift Deposits (B3) Algal Mat or Crust (                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | ators: um of one r                                                   |                                     | check all th  | wat apply) Water (exce Salt C Aquat Hydro Oxidiz                              | -Stained Leav<br>pt MLRA 1, 2,<br>trust (B11)<br>ic Invertebrate<br>gen Sulfide O<br>red Rhizosphe<br>nce of Reduce                                                            | res (B9)  , 4A, and 4E  es (B13)  dor (C1)  eres along Li  ed Iron (C4)                                        | 3) ving Roots (C3)                      | Secon             | ndary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3)                                                                                          |
| TDROLOGY tland Hydrology India mary Indicators (minim Surface Water (A1) High Water Table ( Saturation (A3) Water Marks (B1) Sediment Deposits Drift Deposits (B3) Algal Mat or Crust ( Iron Deposits (B5)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | ators:<br>um of one r<br>A2)<br>(B2)                                 |                                     | check all tr  | at apply) Water (exce Salt C Aquat Hydro Oxidia Prese Recer                   | -Stained Leav pt MLRA 1, 2, rust (B11) ic Invertebrate gen Sulfide Or ted Rhizosphe nce of Reduce nt Iron Reducti                                                              | res (B9)  4A, and 4E  es (B13)  dor (C1)  eres along Li  ed Iron (C4)  ion in Tilled                           | ying Roots (C3) Soils (C6)              | Secon             | ndary Indicators (2 or more required)  Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5)                                                                   |
| DROLOGY tland Hydrology Indice mary Indicators (minime) Surface Water (A1) High Water Table (Control of the Control of the Con | ators:<br>um of one r<br>A2)<br>(B2)<br>(B2)<br>(B4)                 | equired;                            | check all tr  | water (exce<br>Salt C<br>Aquat<br>Hydro<br>Oxidiz<br>Prese<br>Recer<br>Stunte | r-Stained Leav<br>pt MLRA 1, 2,<br>rust (B11)<br>ic Invertebrate<br>gen Sulfide Or<br>red Rhizosphe<br>nce of Reduce<br>nt Iron Reducti                                        | res (B9)  4A, and 4E  es (B13)  dor (C1)  eres along Li  ed Iron (C4)  ion in Tilled 3  Plants (D1)            | ying Roots (C3) Soils (C6)              | Secon             | ndary Indicators (2 or more required)  Water-Stained Leaves (B9)  (MLRA 1, 2, 4A, and 4B)  Drainage Patterns (B10)  Dry-Season Water Table (C2)  Saturation Visible on Aerial Imagery (C9)  Geomorphic Position (D2)  Shallow Aquitard (D3)  FAC-Neutral Test (D5)  Raised Ant Mounds (D6) (LRR A)                            |
| DROLOGY tland Hydrology India mary Indicators (minim Surface Water (A1) High Water Table ( Saturation (A3) Water Marks (B1) Sediment Deposits Drift Deposits (B3) Algal Mat or Crust ( Iron Deposits (B5) Surface Soil Cracks Inundation Visible of                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | ators: Im of one r A2) (B2) (B4) (B6) n Aerial Im                    | required;                           | check all tr  | water (exce<br>Salt C<br>Aquat<br>Hydro<br>Oxidiz<br>Prese<br>Recer<br>Stunte | -Stained Leav pt MLRA 1, 2, rust (B11) ic Invertebrate gen Sulfide Or ted Rhizosphe nce of Reduce nt Iron Reducti                                                              | res (B9)  4A, and 4E  es (B13)  dor (C1)  eres along Li  ed Iron (C4)  ion in Tilled 3  Plants (D1)            | ying Roots (C3) Soils (C6)              | Secon             | ndary Indicators (2 or more required)  Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5)                                                                   |
| TOROLOGY  tland Hydrology Indic mary Indicators (minim Surface Water (A1) High Water Table ( Saturation (A3) Water Marks (B1) Sediment Deposits Drift Deposits (B3) Algal Mat or Crust ( Iron Deposits (B5) Surface Soil Cracks Inundation Visible of Sparsely Vegetated                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | ators: Im of one r A2) (B2) (B4) (B6) n Aerial Im                    | required;                           | check all tr  | water (exce<br>Salt C<br>Aquat<br>Hydro<br>Oxidiz<br>Prese<br>Recer<br>Stunte | r-Stained Leav<br>pt MLRA 1, 2,<br>rust (B11)<br>ic Invertebrate<br>gen Sulfide Or<br>red Rhizosphe<br>nce of Reduce<br>nt Iron Reducti                                        | res (B9)  4A, and 4E  es (B13)  dor (C1)  eres along Li  ed Iron (C4)  ion in Tilled 3  Plants (D1)            | ying Roots (C3) Soils (C6)              | Secon             | ndary Indicators (2 or more required)  Water-Stained Leaves (B9)  (MLRA 1, 2, 4A, and 4B)  Drainage Patterns (B10)  Dry-Season Water Table (C2)  Saturation Visible on Aerial Imagery (C9)  Geomorphic Position (D2)  Shallow Aquitard (D3)  FAC-Neutral Test (D5)  Raised Ant Mounds (D6) (LRR A)                            |
| TOROLOGY  Itland Hydrology Indic mary Indicators (minim Surface Water (A1) High Water Table ( Saturation (A3) Water Marks (B1) Sediment Deposits Drift Deposits (B3) Algal Mat or Crust ( Iron Deposits (B5) Surface Soil Cracks Inundation Visible of Sparsely Vegetated Itd Observations:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | ators: Im of one r A2) (B2) (B4) (B6) n Aerial Im                    | required;                           | check all tr  | wat apply) Water (exce Salt C Aquat Hydro Oxidiz Prese Recer Stunte Other     | r-Stained Leav<br>pt MLRA 1, 2,<br>rust (B11)<br>ic Invertebrate<br>gen Sulfide Or<br>red Rhizosphe<br>nce of Reduce<br>nt Iron Reducti                                        | res (B9)  4A, and 4E  es (B13)  dor (C1)  eres along Li  ed Iron (C4)  ion in Tilled :  Plants (D1)  emarks)   | ying Roots (C3) Soils (C6)              | Secon             | ndary Indicators (2 or more required)  Water-Stained Leaves (B9)  (MLRA 1, 2, 4A, and 4B)  Drainage Patterns (B10)  Dry-Season Water Table (C2)  Saturation Visible on Aerial Imagery (C9)  Geomorphic Position (D2)  Shallow Aquitard (D3)  FAC-Neutral Test (D5)  Raised Ant Mounds (D6) (LRR A)                            |
| TDROLOGY tland Hydrology Indic mary Indicators (minim Surface Water (A1) High Water Table ( Saturation (A3) Water Marks (B1) Sediment Deposits Drift Deposits (B3) Algal Mat or Crust ( Iron Deposits (B5) Surface Soil Cracks Inundation Visible of Sparsely Vegetated Id Observations: face Water Present?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | ators: um of one r A2) (B2) (B4) (B6) n Aerial Im Concave S          | required; ragery (B Surface (       | check all tr  | wat apply) Water (exce Salt C Aquat Hydro Oxidia Prese Recer Stunto Other     | e-Stained Leavent MLRA 1, 2, strust (B11) ic Invertebrate gen Sulfide Or ted Rhizosphence of Reductied or Stresses (Explain in Resepth (inches):                               | res (B9)  4A, and 4E  es (B13)  dor (C1)  eres along Li  ed Iron (C4)  ion in Tilled :  Plants (D1)  emarks)   | ying Roots (C3) Soils (C6)              | Secon             | ndary Indicators (2 or more required)  Water-Stained Leaves (B9)  (MLRA 1, 2, 4A, and 4B)  Drainage Patterns (B10)  Dry-Season Water Table (C2)  Saturation Visible on Aerial Imagery (C9)  Geomorphic Position (D2)  Shallow Aquitard (D3)  FAC-Neutral Test (D5)  Raised Ant Mounds (D6) (LRR A)                            |
| TOROLOGY  Itland Hydrology India mary Indicators (minim Surface Water (A1) High Water Table ( Saturation (A3) Water Marks (B1) Sediment Deposits Drift Deposits (B3) Algal Mat or Crust ( Iron Deposits (B5) Surface Soil Cracks Inundation Visible of                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | ators: um of one r A2) (B2) (B4) (B6) n Aerial Im Concave S          | required;<br>nagery (B<br>Surface ( | check all tr  | water apply) Water (exce Salt C Aquat Hydro Oxidiz Prese Recer Stunte Other   | r-Stained Leav<br>pt MLRA 1, 2,<br>rust (B11)<br>ic Invertebrate<br>gen Sulfide Or<br>red Rhizosphe<br>nce of Reduce<br>nt Iron Reducti<br>ed or Stresses<br>(Explain in Re    | res (B9)  , 4A, and 4E  es (B13)  dor (C1)  eres along Li  ed Iron (C4)  ion in Tilled :  Plants (D1)  emarks) | ving Roots (C3) Soils (C6) (LRR A)      | Secon             | ndary Indicators (2 or more required)  Water-Stained Leaves (B9)  (MLRA 1, 2, 4A, and 4B)  Drainage Patterns (B10)  Dry-Season Water Table (C2)  Saturation Visible on Aerial Imagery (C9)  Geomorphic Position (D2)  Shallow Aquitard (D3)  FAC-Neutral Test (D5)  Raised Ant Mounds (D6) (LRR A)                            |
| TDROLOGY tland Hydrology India mary Indicators (minim Surface Water (A1) High Water Table ( Saturation (A3) Water Marks (B1) Sediment Deposits Drift Deposits (B3) Algal Mat or Crust ( Iron Deposits (B5) Surface Soil Cracks Inundation Visible of Sparsely Vegetated Id Observations: face Water Present? ter Table Present? uration Present?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | ators: Im of one r A2) (B2) (B4) (B6) In Aerial Im Concave S Yes Yes | required; ragery (B Surface (       | check all tr  | nat apply) Water (exce Salt C Aquat Hydro Oxidiz Prese Recer Stunto Other     | r-Stained Leav pt MLRA 1, 2, rust (B11) ic Invertebrate gen Sulfide Or ted Rhizosphe nce of Reduce nt Iron Reducti ed or Stresses (Explain in Re epth (inches): epth (inches): | res (B9)  4A, and 4E  es (B13)  dor (C1)  eres along Li  ed Iron (C4)  ion in Tilled :  Plants (D1)  emarks)   | ving Roots (C3) Soils (C6) (LRR A) Weti | Secon             | ndary Indicators (2 or more required)  Water-Stained Leaves (B9)  (MLRA 1, 2, 4A, and 4B)  Drainage Patterns (B10)  Dry-Season Water Table (C2)  Saturation Visible on Aerial Imagery (C9)  Geomorphic Position (D2)  Shallow Aquitard (D3)  FAC-Neutral Test (D5)  Raised Ant Mounds (D6) (LRR A)  Frost-Heave Hummocks (D7) |
| TDROLOGY  Itland Hydrology India mary Indicators (minim Surface Water (A1) High Water Table ( Saturation (A3) Water Marks (B1) Sediment Deposits Drift Deposits (B3) Algal Mat or Crust ( Iron Deposits (B5) Surface Soil Cracks Inundation Visible of Sparsely Vegetated Id Observations: Iface Water Present? Iter Table Present?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | ators: Im of one r A2) (B2) (B4) (B6) In Aerial Im Concave S Yes Yes | required; ragery (B Surface (       | check all tr  | nat apply) Water (exce Salt C Aquat Hydro Oxidiz Prese Recer Stunto Other     | r-Stained Leav pt MLRA 1, 2, rust (B11) ic Invertebrate gen Sulfide Or ted Rhizosphe nce of Reduce nt Iron Reducti ed or Stresses (Explain in Re epth (inches): epth (inches): | res (B9)  4A, and 4E  es (B13)  dor (C1)  eres along Li  ed Iron (C4)  ion in Tilled :  Plants (D1)  emarks)   | ving Roots (C3) Soils (C6) (LRR A) Weti | Secon             | ndary Indicators (2 or more required)  Water-Stained Leaves (B9)  (MLRA 1, 2, 4A, and 4B)  Drainage Patterns (B10)  Dry-Season Water Table (C2)  Saturation Visible on Aerial Imagery (C9)  Geomorphic Position (D2)  Shallow Aquitard (D3)  FAC-Neutral Test (D5)  Raised Ant Mounds (D6) (LRR A)  Frost-Heave Hummocks (D7) |

| Project Site:                     | Port Gamble Trail Feasibility          |                                  |                      | City/Cour           | nty: Port Gamble/Kitsap                                             | Sampling Date:        | <u>1/18</u>        | 3/17        |
|-----------------------------------|----------------------------------------|----------------------------------|----------------------|---------------------|---------------------------------------------------------------------|-----------------------|--------------------|-------------|
| Applicant/Owner:                  | Fischer Bouma Partnership              |                                  |                      |                     | State: WA                                                           | Sampling Point:       | TP4                | <u>∤B</u>   |
| Investigator(s):                  | J. Bartlett, L. Westervelt, K. Bo      | <u>a</u>                         |                      |                     | Section, Township, Rang                                             | ge: <u>S7 T27N R2</u> | <u>:E</u>          |             |
| Landform (hillslope, te           | errace, etc.): <u>hillslope</u>        |                                  | Loc                  | al relief (conc     | ave, convex, none): <u>convex</u>                                   |                       | Slope (%):         | <u>6-15</u> |
| Subregion (LRR):                  | MLRA 2                                 | Lat:                             |                      |                     | Long:                                                               | Datu                  | ım: <u>Trimble</u> | <u>e</u>    |
| Soil Map Unit Name:               | Ragnar Fine sandy loam, 6 to           | 15 percent sl                    | <u>opes</u>          |                     | NWI clas                                                            | sification:           |                    |             |
| Are climatic / hydrolog           | gic conditions on the site typical for | or this time of                  | year? Y              | ′es ⊠               | No                                                                  | n Remarks.)           |                    |             |
| Are Vegetation                    | , Soil □, or Hydrology                 | ☐, signific                      | cantly disturbed     | d? Are "            | Normal Circumstances" present?                                      | `                     | Yes ⊠              | No 🗆        |
| Are Vegetation                    | , Soil □, or Hydrology                 | □, natura                        | lly problemation     | ? (If ne            | eeded, explain any answers in Re                                    | marks.)               |                    |             |
| SUMMARY OF FIN                    | IDINGS – Attach site map :             | showing sa                       | mpling poin          | t locations,        | transects, important featu                                          | res, etc.             |                    |             |
| Hydrophytic Vegetatio             | ·                                      | Yes 🗵                            |                      | ,                   |                                                                     | <u> </u>              | -                  |             |
| Hydric Soil Present?              |                                        | Yes 🗵                            | No □                 | Is the Samp         |                                                                     | ,                     | Yes ⊠              | No 🗆        |
| Wetland Hydrology Pr              | esent?                                 | Yes 🗵                            | No □                 | within a vve        | nianu r                                                             |                       |                    |             |
| Remarks: The scop                 | e of this feasibility encompasses      | a section abo                    | ut 6 miles long      | extendina be        | etween Port Gamble at the north                                     | end and Stottlem      | ever Road          | NE at the   |
| south end<br>current lo           | d. It passes primarily through un-     | developed tim<br>em of trails ut | berland owned        | by OPG; mo          | ost of which is woven with interlaced equestrian hobbyists weave be | ing logging roads     | due to hist        | toric and   |
| VEGETATION - U                    | se scientific names of plan            | ts                               |                      |                     |                                                                     |                       |                    |             |
| Tree Stratum (Plot siz            | e: 20' diameter)                       | Absolute<br>% Cover              | Dominant<br>Species? | Indicator<br>Status | Dominance Test Worksheet:                                           |                       |                    |             |
| 1. <u>Alnus rubra</u>             |                                        | 20                               | yes                  | FAC                 | Number of Dominant Species                                          |                       |                    |             |
| 2                                 |                                        | _                                |                      |                     | That Are OBL, FACW, or FAC:                                         | <u>3</u>              |                    | (A)         |
| 3                                 |                                        |                                  | ·                    |                     | Total Number of Dominant                                            |                       |                    |             |
| 4.                                |                                        |                                  |                      |                     | Species Across All Strata:                                          | <u>4</u>              |                    | (B)         |
| 50% = <u>10</u> , 20% = <u>4</u>  |                                        | <u>20</u>                        | = Total Cove         | er                  | Percent of Dominant Species                                         |                       |                    |             |
| Sapling/Shrub Stratur             | m (Plot size: 20' diameter)            |                                  |                      |                     | That Are OBL, FACW, or FAC:                                         | 7                     | <u>'5</u>          | (A/B)       |
| 1. Rubus spectabilis              |                                        | <u>35</u>                        | <u>yes</u>           | FAC                 | Prevalence Index worksheet:                                         |                       |                    |             |
| 2                                 |                                        |                                  |                      |                     | Total % Cover of:                                                   | <u>N</u>              | /ultiply by:       |             |
| 3                                 |                                        |                                  |                      |                     | OBL species                                                         | х                     | 1 =                |             |
| 4                                 |                                        |                                  |                      |                     | FACW species                                                        | x                     | 2 =                |             |
| 5                                 |                                        |                                  |                      |                     | FAC species                                                         | x                     | 3 =                |             |
| 50% = <u>17.5,</u> 20% = <u>7</u> |                                        | <u>35</u>                        | = Total Cove         | er                  | FACU species                                                        | x                     | 4 =                |             |
| Herb Stratum (Plot siz            | ze: 10' diameter)                      |                                  |                      |                     | UPL species                                                         | x                     | 5 =                |             |
| 1. Polystichum muni               | tim                                    | <u>10</u>                        | <u>yes</u>           | FACU                | Column Totals:                                                      | (A)                   |                    | (B)         |
| Dryopteris expans                 |                                        | <u> </u>                         | <u>yes</u>           | FACW                |                                                                     | Index = B/A =         |                    |             |
| 3.                                | <del>-</del>                           | _                                |                      |                     | Hydrophytic Vegetation Indic                                        |                       |                    |             |
| 4.                                |                                        |                                  |                      | _                   | ☐ 1 – Rapid Test for Hydro                                          |                       |                    |             |
| 5.                                |                                        |                                  |                      | <del></del>         | <ul><li>✓ 2 - Dominance Test is &gt;5</li></ul>                     |                       |                    |             |
| 6.                                |                                        |                                  | ·                    |                     | ☐ 3 - Prevalence Index is <                                         | 3 N <sup>1</sup>      |                    |             |
| 7                                 |                                        |                                  |                      |                     |                                                                     |                       |                    |             |
| 8                                 |                                        |                                  |                      |                     | 4 - Morphological Adapta<br>data in Remarks or or                   |                       |                    |             |
| 9.                                |                                        |                                  |                      |                     | 5 - Wetland Non-Vascula                                             | r Plants <sup>1</sup> |                    |             |
| 10                                |                                        |                                  |                      | _                   |                                                                     |                       | (منما              |             |
| 11.                               |                                        |                                  |                      |                     | ☐ Problematic Hydrophytic                                           | vegetation (Exp       | iaiii)             |             |
| 50% = 7.5, 20% = 3                |                                        | 15                               | = Total Cove         |                     | <sup>1</sup> Indicators of hydric soil and w                        |                       | must               |             |
|                                   | (Plot size: 10' diameter)              | 10                               | = Total Cove         | ÷1                  | be present, unless disturbed or                                     | problematic.          |                    |             |
| -                                 | i lot size. <u>To diameter</u> )       |                                  |                      |                     |                                                                     |                       |                    |             |
| 1<br>2.                           |                                        |                                  |                      |                     | Hydrophytic                                                         |                       |                    |             |
| 50% =, 20% =                      |                                        |                                  | = Total Cove         |                     | Vegetation Y                                                        | es 🛚                  | No                 |             |
|                                   |                                        |                                  | - 10tal C0VE         | •1                  | Present?                                                            |                       |                    |             |
| % Bare Ground in He               |                                        | ion is mot bee                   | ause there is a      | reater than F       | 0% dominance by FAC and FAC                                         | W species             |                    |             |
| Remarks:                          | rne nyurophytic vegetation criter      | ion is met bec                   | ause ((1818 IS (     | greater tridir 5    | 0 /0 dominance by FAC and FAC                                       | vv species            |                    |             |
|                                   |                                        |                                  |                      |                     |                                                                     |                       |                    |             |
|                                   |                                        |                                  |                      |                     |                                                                     |                       |                    |             |

SOIL Sampling Point: TP4 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Redox Features Texture (inches) Color (moist) % Color (moist) % Type<sup>1</sup> Loc2 Remarks Duff 0-2 2-12 10YR 3/1 99 7.5YR 4/6 1 С Μ sa si lo 12-20 10YR 5/2 94 7.5YR 3/4 6 C Μ gr sa lo sa - sand si - silt lo - loam gr - gravell <sup>1</sup>Type: C= Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. <sup>2</sup>Location: PL=Pore Lining, M=Matrix, RC=Root Channel Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils3: Histosol (A1) Sandy Redox (S5) 2 cm Muck (A10) Histic Epipedon (A2) П Stripped Matrix (S6)  $\Box$ Red Parent Material (TF2) Black Histic (A3) Loamy Mucky Mineral (F1) (except MLRA 1) Very Shallow Dark Surface (TF12) Loamy Gleyed Matrix (F2) Hydrogen Sulfide (A4) Other (Explain in Remarks)  $\boxtimes$ Depleted Below Dark Surface (A11)  $\boxtimes$ Depleted Matrix (F3) Thick Dark Surface (A12) Redox Dark Surface (F6) <sup>3</sup>Indicators of hydrophytic vegetation and П Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) wetland hydrology must be present, П Sandy Gleyed Matrix (S4) Redox Depressions (F8) unless disturbed or problematic Restrictive Layer (if present): Type: **Hydric Soils Present?** Yes  $\boxtimes$ Depth (inches): No Remarks: This soil profile meets the criteria of hydric soil indicator A11 because of the dark surface over a depleted matrix chroma that begins within 12 inches of the **HYDROLOGY** Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (2 or more required) П Surface Water (A1) Water-Stained Leaves (B9) Water-Stained Leaves (B9)  $\boxtimes$ (except MLRA 1, 2, 4A, and 4B) High Water Table (A2) (MLRA 1, 2, 4A, and 4B)  $\boxtimes$ Saturation (A3) Salt Crust (B11) Drainage Patterns (B10) П Water Marks (B1) Aquatic Invertebrates (B13) П Dry-Season Water Table (C2) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Drift Deposits (B3) Oxidized Rhizospheres along Living Roots (C3) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aguitard (D3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) FAC-Neutral Test (D5) Stunted or Stresses Plants (D1) (LRR A) П Surface Soil Cracks (B6) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Frost-Heave Hummocks (D7) Sparsely Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes No  $\boxtimes$ Depth (inches): Yes  $\boxtimes$ Water Table Present? No Depth (inches): 10 Saturation Present? Wetland Hydrology Present? Yes  $\boxtimes$ No Yes  $\boxtimes$ No Depth (inches): 7 (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: A high water table was observed at 10 inches and soil saturation at a depth of 7 inches, so there are primary indicators present for wetland hydrology. Remarks:

| Project Site:                                  | Port Gamble                  | e Trail Feasibility                                                                         |                 |           |                  | City/0            | /County:          | Port Ga           | amble/Ki              | tsap                        | Sampling              | Date:                  | <u>1/18</u> | 3/17        |             |
|------------------------------------------------|------------------------------|---------------------------------------------------------------------------------------------|-----------------|-----------|------------------|-------------------|-------------------|-------------------|-----------------------|-----------------------------|-----------------------|------------------------|-------------|-------------|-------------|
| Applicant/Owner:                               | Fischer Bou                  | ıma Partnership                                                                             |                 |           |                  |                   |                   |                   | Stat                  | e: WA                       | Sampling              | Point:                 | TP5         | В           |             |
| Investigator(s):                               | J. Bartlett, L               | Westervelt, K. Boa                                                                          | <u>l</u>        |           |                  |                   |                   | Secti             | ion, Tow              | nship, Rang                 | ge: <u>S7 T2</u>      | 7N R2E                 |             |             |             |
| Landform (hillslope, ter                       | race, etc.):                 | <u>hillslope</u>                                                                            |                 |           | Lo               | ocal relief (     | (concave,         | convex,           | none):                | convex                      |                       | Slop                   | e (%):      | <u>6-15</u> | <u>i</u>    |
| Subregion (LRR):                               | MLRA 2                       |                                                                                             | Lat:            |           |                  |                   | L                 | _ong: _           |                       |                             |                       | Datum:                 | Trimble     | <u>e</u>    |             |
| Soil Map Unit Name:                            | Ragnar Fir                   | ne sandy loam, 6 to                                                                         | 15 percen       | t slopes  | <u>i</u>         |                   |                   |                   |                       | NWI class                   | sification:           |                        |             |             |             |
| Are climatic / hydrologic                      | c conditions                 | on the site typical fo                                                                      | r this time     | of year   | ?                | Yes               | $\boxtimes$       | No [              | ☐ (If n               | no, explain ir              | n Remarks             | .)                     |             |             |             |
| Are Vegetation $\square$ ,                     | Soil [                       | ], or Hydrology                                                                             | □, sign         | nificantl | y disturb        | ed?               | Are "Norm         | nal Circu         | ımstance              | es" present?                | •                     | Yes                    | $\boxtimes$ | No          |             |
| Are Vegetation □,                              | Soil [                       | ], or Hydrology                                                                             | □, nat          | urally p  | roblema          | tic?              | (If needed        | d, explair        | n any an              | swers in Re                 | marks.)               |                        |             |             |             |
| SUMMARY OF FINI                                | DINGS – A                    | ttach site map s                                                                            | howing          | sampli    | ng poi           | nt location       | ions, trai        | nsects,           | import                | tant featui                 | res, etc.             |                        |             |             |             |
| Hydrophytic Vegetation                         | Present?                     |                                                                                             | Yes             |           | No 🛛             |                   |                   |                   |                       |                             |                       |                        |             |             |             |
| Hydric Soil Present?                           |                              |                                                                                             | Yes             | □ 1       | No 🛛             |                   | Sampled a Wetland |                   |                       |                             |                       | Yes                    |             | No          |             |
| Wetland Hydrology Pre                          | sent?                        |                                                                                             | Yes             | □ 1       | No 🛛             |                   |                   |                   |                       |                             |                       |                        |             |             |             |
| south end.<br>current log                      | It passes p<br>ging practice | bility encompasses a<br>rimarily through und<br>es, and a large syste<br>along Service Road | eveloped a      | timberla  | and own          | ed by OPG         | G; most of        | which is          | woven v               | with interlac               | ing logging           | roads due              | to hist     | oric a      | nd          |
| VEGETATION - Us                                | e scientifi                  | c names of plant                                                                            |                 |           |                  |                   |                   |                   |                       |                             |                       |                        |             |             |             |
| Tree Stratum (Plot size                        | e: <u>30' diamet</u>         | <u>er</u> )                                                                                 | Absolute % Cove |           | minant<br>ecies? | Indicat<br>Status | 1100              | minance           | e Test V              | Vorksheet:                  |                       |                        |             |             |             |
| 1. Alnus rubra                                 |                              |                                                                                             | <u>15</u>       | ye:       |                  | FAC               |                   | ımber of          | Dominar               | nt Species                  |                       | _                      |             |             |             |
| 2                                              |                              |                                                                                             |                 |           |                  |                   |                   |                   |                       | W, or FAC:                  |                       | <u>2</u>               |             |             | (A)         |
| 3                                              |                              |                                                                                             |                 | _         | _                |                   | To                | tal Numb          | per of Do             | minant                      |                       | 4                      |             |             | (D)         |
| 4                                              |                              |                                                                                             |                 |           |                  |                   |                   | ecies Ac          |                       |                             |                       | <u>4</u>               |             |             | (B)         |
| $50\% = \underline{7.5}, 20\% = \underline{3}$ |                              |                                                                                             | <u>15</u>       | = 7       | Γotal Co         | ver               | Pe                | rcent of          | Dominar               | nt Species                  |                       | 50                     |             |             | (A /D)      |
| Sapling/Shrub Stratum                          | (Plot size: 3                | 0' diameter)                                                                                |                 |           |                  |                   | Th                | at Are O          | BL, FAC               | W, or FAC:                  |                       | <u>50</u>              |             |             | (A/B)       |
| 1. Sambucus racemo                             | <u>sa</u>                    |                                                                                             | <u>15</u>       | ye:       | <u>s</u>         | <u>FACU</u>       | Pre               | evalence          | e Index               | worksheet:                  |                       |                        |             |             |             |
| 2. Rubus spectabilis                           |                              |                                                                                             | <u>15</u>       | ye        | <u>s</u>         | FAC               |                   |                   | Total %               | % Cover of:                 |                       | Multip                 | ly by:      |             |             |
| 3                                              |                              |                                                                                             |                 |           |                  |                   | OB                | BL specie         | es                    |                             |                       | x1 =                   |             |             |             |
| 4                                              |                              |                                                                                             |                 |           |                  |                   | FA                | CW spe            | cies                  |                             |                       | x2 =                   |             |             |             |
| 5                                              |                              |                                                                                             |                 |           | _                |                   | FA                | C specie          | es                    |                             |                       | x3 =                   |             |             |             |
| $50\% = \underline{15}, 20\% = \underline{6}$  |                              |                                                                                             | <u>30</u>       | = 7       | Γotal Co         | ver               | FA                | CU spec           | cies                  |                             |                       | x4 =                   |             |             |             |
| Herb Stratum (Plot size                        | e: <u>15' diamet</u>         | er)                                                                                         |                 |           |                  |                   | UP                | L specie          | es                    |                             |                       | x5 =                   |             |             |             |
| 1. Polystichum munitu                          | <u>um</u>                    |                                                                                             | <u>50</u>       | ye        | <u>s</u>         | FACU              | Co                | olumn To          | tals:                 |                             | (A)                   |                        |             | (E          | 3)          |
| 2. <u>Dryopteris expansa</u>                   | 9                            |                                                                                             | <u>10</u>       | no        |                  | FACW              |                   |                   |                       | Prevalence                  | Index = B/            | A =                    | ·           |             |             |
| 3.                                             | _                            |                                                                                             |                 |           |                  |                   |                   | drophyt           | ic Vege               | tation Indic                | ators:                |                        |             |             |             |
| 4.                                             |                              |                                                                                             |                 |           | _                |                   |                   | 1 – R             | apid Tes              | st for Hydrop               | ohytic Vege           | etation                |             |             |             |
| 5.                                             |                              |                                                                                             |                 |           |                  |                   |                   |                   |                       | e Test is >5                |                       |                        |             |             |             |
| 6.                                             |                              |                                                                                             |                 |           |                  |                   |                   | 3 <sub>-</sub> Dr | rovalonce             | e Index is <                | 3 N <sup>1</sup>      |                        |             |             |             |
| 7                                              |                              |                                                                                             |                 |           | _                | _                 |                   |                   |                       | _                           |                       | uida aumaa             | <b>**</b> ! |             |             |
| 8                                              |                              |                                                                                             |                 |           | _                |                   |                   | 4 - Mi            | orpnolog<br>ata in Re | gical Adapta<br>marks or on | tions (Pro            | viae suppo<br>e sheet) | rting       |             |             |
| 9                                              |                              |                                                                                             |                 |           | _                |                   |                   | 5 - W             | etland N              | lon-Vascula                 | r Plants <sup>1</sup> |                        |             |             |             |
| 10.                                            |                              |                                                                                             |                 |           | _                | _                 |                   |                   |                       | Hydrophytic                 |                       | 1 (Evalaia)            |             |             |             |
| 11.                                            |                              |                                                                                             |                 |           | _                |                   |                   | PIODI             | emauc r               | туагорпунс                  | vegetation            | (Explain)              |             |             |             |
| 50% = 30, 20% = 12                             |                              |                                                                                             | 60              | _         | —<br>Гotal Co    |                   |                   |                   |                       | soil and we                 |                       |                        |             |             |             |
| Woody Vine Stratum (F                          | Plot size: 15'               | diameter)                                                                                   | <u>00</u>       | _         | otal Co          | VCI               | be                | present,          | , unless (            | disturbed or                | problemat             | tic.                   |             |             |             |
| 1                                              | 10t 3120. <u>10</u>          | <u>ularifictor</u> )                                                                        |                 |           |                  |                   |                   |                   |                       |                             | <del></del> -         |                        |             |             |             |
| 2.                                             |                              |                                                                                             |                 |           | _                |                   | Ну                | drophyt           | ic                    |                             |                       |                        |             |             |             |
| ·                                              |                              |                                                                                             |                 | _         | —<br>Fotol Co    |                   | Ve                | getation          | 1                     | Ye                          | es                    |                        | No          |             | $\boxtimes$ |
| 50% =, 20% = _                                 |                              |                                                                                             |                 | =         | Fotal Co         | v C I             | Pre               | esent?            |                       |                             |                       |                        |             |             |             |
| % Bare Ground in Herb                          |                              | =                                                                                           |                 |           |                  |                   |                   | E00/ :            |                       |                             | E46'''                |                        |             |             |             |
| Remarks:                                       | ne hydrophy                  | tic vegetation criterio                                                                     | on is not m     | net beca  | use the          | re is not gr      | reater thai       | n 50% do          | ominano               | e by FAC or                 | r FACW sp             | ecies.                 |             |             |             |
|                                                |                              |                                                                                             |                 |           |                  |                   |                   |                   |                       |                             |                       |                        |             |             |             |
|                                                |                              |                                                                                             |                 |           |                  |                   |                   |                   |                       |                             |                       |                        |             |             |             |

SOIL Sampling Point: TP5 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Redox Features Color (moist) (inches) % Color (moist) % Type<sup>1</sup> Loc2 Texture Remarks Duff 0-2 2-9 10YR 2/2 100 sa lo no redoximorphic concentrations 9-16 10YR 3/4 100 no redoixmorphic concentrations sa lo <sup>1</sup>Type: C= Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. <sup>2</sup>Location: PL=Pore Lining, M=Matrix, RC=Root Channel Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils3: Histosol (A1) Sandy Redox (S5) 2 cm Muck (A10) Histic Epipedon (A2) П Stripped Matrix (S6)  $\Box$ Red Parent Material (TF2) Black Histic (A3) Loamy Mucky Mineral (F1) (except MLRA 1) Very Shallow Dark Surface (TF12) Loamy Gleyed Matrix (F2) Hydrogen Sulfide (A4) Other (Explain in Remarks) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Thick Dark Surface (A12) Redox Dark Surface (F6) <sup>3</sup>Indicators of hydrophytic vegetation and П Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) wetland hydrology must be present, П Sandy Gleyed Matrix (S4) Redox Depressions (F8) unless disturbed or problematic. Restrictive Layer (if present): Type: **Hydric Soils Present?** Yes No  $\boxtimes$ Depth (inches): Remarks: Neither of the soil layers meet the definition of a depleted matrix so this soil profile is determined to meet none of the hydric soil indicators **HYDROLOGY** Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (2 or more required) П Surface Water (A1) Water-Stained Leaves (B9) Water-Stained Leaves (B9) High Water Table (A2) (except MLRA 1, 2, 4A, and 4B) (MLRA 1, 2, 4A, and 4B) Saturation (A3) Salt Crust (B11) Drainage Patterns (B10) П Water Marks (B1) Aquatic Invertebrates (B13) П Dry-Season Water Table (C2) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Drift Deposits (B3) Oxidized Rhizospheres along Living Roots (C3) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aguitard (D3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) FAC-Neutral Test (D5) П Surface Soil Cracks (B6) Stunted or Stresses Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Frost-Heave Hummocks (D7) Sparsely Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes No  $\boxtimes$ Depth (inches): Water Table Present? Yes  $\boxtimes$ No Depth (inches): 16 Saturation Present? Wetland Hydrology Present? Yes No  $\boxtimes$ Yes No  $\boxtimes$ Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Water table was below 12 inches so hydrology was not present during the field visit and there was no evidence of wetland hydrology. Remarks:

| Project Site: Port Gamble Trail Feasibility                                                                                             |                                   |                      | City/Coun           | nty: Port Gamble/Kitsap                       | Sampling Date:                    | <u>1/18/17</u>     |
|-----------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|----------------------|---------------------|-----------------------------------------------|-----------------------------------|--------------------|
| Applicant/Owner: <u>Fischer Bouma Partnership</u>                                                                                       |                                   |                      |                     | State: WA                                     | Sampling Point:                   | TP6C               |
| Investigator(s): J. Bartlett, L. Westervelt, K. Boa                                                                                     |                                   |                      |                     | Section, Township, Rang                       | e: <u>S7 T27N R2E</u>             |                    |
| Landform (hillslope, terrace, etc.): <u>hillslope</u>                                                                                   |                                   | Loca                 | I relief (conc      | ave, convex, none): <u>convex</u>             | Slope                             | e (%): <u>6-15</u> |
| Subregion (LRR): MLRA 2                                                                                                                 | Lat:                              | _                    |                     | Long:                                         | Datum: 1                          | rimble             |
| Soil Map Unit Name: Ragnar Fine sandy loam, 6 to 2                                                                                      | 15 percent slo                    | pes                  |                     | NWI class                                     | sification:                       |                    |
| Are climatic / hydrologic conditions on the site typical for                                                                            | this time of y                    | rear? Y              | es 🛚                | No                                            | Remarks.)                         |                    |
| Are Vegetation □, Soil □, or Hydrology                                                                                                  | ☐, signific                       | antly disturbed      | ? Are "             | Normal Circumstances" present?                | Yes                               | ⊠ No □             |
| Are Vegetation □, Soil □, or Hydrology                                                                                                  | □, natural                        | y problematic?       | ? (If ne            | eeded, explain any answers in Rer             | marks.)                           |                    |
| SUMMARY OF FINDINGS – Attach site map sl                                                                                                | nowing san                        | nnling point         | locations           | transects, important featur                   | res. etc.                         |                    |
| Hydrophytic Vegetation Present?                                                                                                         | Yes 🛛                             | No 🗆                 | ioouliono,          | transocio, important roatar                   |                                   |                    |
| Hydric Soil Present?                                                                                                                    | Yes 🗆                             | No 🗵                 | Is the Samp         |                                               | Yes                               | □ No ⊠             |
| Wetland Hydrology Present?                                                                                                              | Yes 🗆                             | No 🖾                 | within a We         | tland?                                        |                                   |                    |
| Remarks: The scope of this feasibility encompasses a                                                                                    |                                   |                      | ovtonding be        | atwoon Port Camble at the north o             | and and Stattlemover              | Pood NE at the     |
| south end. It passes primarily through unde<br>current logging practices, and a large syste<br>in the North Segment, along Service Road | eveloped timb<br>m of trails util | erland owned         | by OPG; mo          | est of which is woven with interlaci          | ing logging roads due             | to historic and    |
| VEGETATION – Use scientific names of plant                                                                                              |                                   |                      |                     |                                               |                                   |                    |
| Tree Stratum (Plot size: 30' diameter)                                                                                                  | Absolute<br>% Cover               | Dominant<br>Species? | Indicator<br>Status | Dominance Test Worksheet:                     |                                   |                    |
| 1. Alnus rubra                                                                                                                          | <u>20</u>                         | <u>yes</u>           | FAC                 | Number of Dominant Species                    | •                                 | (4)                |
| 2                                                                                                                                       |                                   |                      |                     | That Are OBL, FACW, or FAC:                   | <u>3</u>                          | (A)                |
| 3                                                                                                                                       |                                   |                      |                     | Total Number of Dominant                      | F                                 | (D)                |
| 4                                                                                                                                       |                                   |                      |                     | Species Across All Strata:                    | <u>5</u>                          | (B)                |
| 50% = <u>10</u> , 20% = <u>4</u>                                                                                                        | <u>20</u>                         | = Total Cove         | r                   | Percent of Dominant Species                   | 60                                | (A/B)              |
| Sapling/Shrub Stratum (Plot size: 30' diameter)                                                                                         |                                   |                      |                     | That Are OBL, FACW, or FAC:                   | <u>60</u>                         | (A/B)              |
| 1. Rubus spectabilis                                                                                                                    | <u>35</u>                         | <u>yes</u>           | FAC                 | Prevalence Index worksheet:                   |                                   |                    |
| 2. <u>Sambucus racemosa</u>                                                                                                             | <u>10</u>                         | <u>yes</u>           | FACU                | Total % Cover of:                             | <u>Multiply</u>                   | <u>y by:</u>       |
| 3                                                                                                                                       |                                   |                      |                     | OBL species                                   | x1 =                              |                    |
| 4                                                                                                                                       |                                   |                      |                     | FACW species                                  | x2 =                              |                    |
| 5                                                                                                                                       |                                   |                      |                     | FAC species                                   | x3 =                              |                    |
| 50% = <u>22.5</u> , 20% = <u>9</u>                                                                                                      | <u>45</u>                         | = Total Cove         | r                   | FACU species                                  | x4 =                              |                    |
| Herb Stratum (Plot size: 15' diameter)                                                                                                  |                                   |                      |                     | UPL species                                   | x5 =                              |                    |
| 1. Polystichum munitum                                                                                                                  | <u>40</u>                         | <u>yes</u>           | <u>FACU</u>         | Column Totals:(                               | (A)                               | (B)                |
| 2. <u>Dryopteris expansa</u>                                                                                                            | <u>20</u>                         | <u>yes</u>           | FACW                | Prevalence I                                  | Index = B/A =                     |                    |
| 3                                                                                                                                       |                                   |                      | ·                   | Hydrophytic Vegetation Indica                 | ators:                            |                    |
| 4                                                                                                                                       |                                   |                      |                     | ☐ 1 – Rapid Test for Hydrop                   | hytic Vegetation                  |                    |
| 5                                                                                                                                       |                                   |                      | ·                   | □ 2 - Dominance Test is >50                   | 0%                                |                    |
| 6                                                                                                                                       |                                   |                      |                     | ☐ 3 - Prevalence Index is <3                  | 3.0 <sup>1</sup>                  |                    |
| 7                                                                                                                                       |                                   |                      |                     | 4 Morphological Adaptat                       |                                   | tina               |
| 8                                                                                                                                       |                                   |                      |                     | data in Remarks or on                         | a separate sheet)                 | ing                |
| 9                                                                                                                                       |                                   |                      |                     | 5 - Wetland Non-Vascular                      | r Plants <sup>1</sup>             |                    |
| 10                                                                                                                                      |                                   |                      |                     | ☐ Problematic Hydrophytic \                   | vegetation <sup>1</sup> (Explain) |                    |
| 11.                                                                                                                                     |                                   |                      |                     |                                               | regetation (Explain)              |                    |
| 50% = 30, 20% = 12                                                                                                                      | 60                                | = Total Cove         | r                   | <sup>1</sup> Indicators of hydric soil and we |                                   |                    |
| Woody Vine Stratum (Plot size: 15' diameter)                                                                                            | _                                 |                      |                     | be present, unless disturbed or               | problematic.                      |                    |
| 1                                                                                                                                       |                                   |                      |                     |                                               |                                   |                    |
| 2                                                                                                                                       |                                   |                      |                     | Hydrophytic                                   |                                   |                    |
| 50% =, 20% =                                                                                                                            |                                   | = Total Cove         | <br>r               | Vegetation Ye                                 | es 🛛                              | No 🗆               |
| % Bare Ground in Herb Stratum 40                                                                                                        |                                   |                      |                     | Present?                                      |                                   |                    |
| The hydrophytic vegetation criteric                                                                                                     | n is met beca                     | use there is a       | reater than 5       | 0% dominance by FAC and FAC\                  | W species                         |                    |
| Remarks: The hydrophytic vegetation chiefic                                                                                             |                                   | · 9                  |                     | ,                                             | •                                 |                    |
|                                                                                                                                         |                                   |                      |                     |                                               |                                   |                    |

| ofile Descr                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                |                                  |                                         |                                       |                                                                                     |                                                                                                                                                      |                                                                                                      |                                            |                          |                                                                            |                                                                                               | g Point: <u>T</u>                                                                                                               | <u>P6</u>                                                                     |        |         |    | _ |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|-----------------------------------------|---------------------------------------|-------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|--------------------------------------------|--------------------------|----------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------|--------|---------|----|---|
|                                                                                                                                                                          | iption: (Describe t                                                                                                                                                                                                                                                                                                                                                                            | o the dep                        | th neede                                | ed to d                               | ocument                                                                             |                                                                                                                                                      |                                                                                                      | irm the abser                              | nce of indic             | ators.                                                                     | )                                                                                             |                                                                                                                                 |                                                                               |        |         |    |   |
| Depth                                                                                                                                                                    | Matrix                                                                                                                                                                                                                                                                                                                                                                                         |                                  |                                         |                                       |                                                                                     | Redox Fea                                                                                                                                            |                                                                                                      | . 2                                        |                          |                                                                            |                                                                                               |                                                                                                                                 |                                                                               |        |         |    |   |
| nches)                                                                                                                                                                   | Color (moist)                                                                                                                                                                                                                                                                                                                                                                                  | %                                | Co                                      | lor (mo                               | ist)                                                                                | %                                                                                                                                                    | Type <sup>1</sup>                                                                                    | Loc²                                       | Textu                    | ire                                                                        | - ·                                                                                           |                                                                                                                                 | Rema                                                                          | arks   |         |    |   |
| <u>0-2</u>                                                                                                                                                               | 40\/D 0/0                                                                                                                                                                                                                                                                                                                                                                                      | 400                              |                                         |                                       |                                                                                     |                                                                                                                                                      |                                                                                                      |                                            |                          | -                                                                          | <u>Duff</u>                                                                                   |                                                                                                                                 |                                                                               |        | -4!     |    |   |
| <u>2-12</u>                                                                                                                                                              | 10YR 2/2                                                                                                                                                                                                                                                                                                                                                                                       | <u>100</u>                       | -                                       |                                       |                                                                                     |                                                                                                                                                      |                                                                                                      |                                            | <u>sa</u>                | _                                                                          | no rec                                                                                        | doximorph                                                                                                                       | nc conc                                                                       | entra  | ations  |    |   |
| <u>12-16</u>                                                                                                                                                             | <u>10YR 4/3</u>                                                                                                                                                                                                                                                                                                                                                                                | <u>95</u>                        | <u>1.</u>                               | 5YR 4/                                | <u>0</u>                                                                            | <u>5</u>                                                                                                                                             | <u>C</u>                                                                                             | <u>M</u>                                   | <u>sa</u>                | 10                                                                         |                                                                                               | =                                                                                                                               |                                                                               |        |         |    |   |
|                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                |                                  |                                         |                                       |                                                                                     | <del></del>                                                                                                                                          |                                                                                                      |                                            |                          |                                                                            | -                                                                                             | -                                                                                                                               |                                                                               |        |         |    |   |
|                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                |                                  |                                         |                                       | :                                                                                   |                                                                                                                                                      | <del></del> -                                                                                        |                                            |                          |                                                                            |                                                                                               | =                                                                                                                               |                                                                               |        |         |    |   |
|                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                |                                  |                                         |                                       | :                                                                                   |                                                                                                                                                      | <del></del> -                                                                                        |                                            |                          |                                                                            |                                                                                               | =                                                                                                                               |                                                                               |        |         |    |   |
|                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                |                                  |                                         |                                       |                                                                                     |                                                                                                                                                      |                                                                                                      |                                            |                          |                                                                            |                                                                                               | =                                                                                                                               |                                                                               |        |         |    |   |
| vpe: C= Cor                                                                                                                                                              | ncentration, D=Dep                                                                                                                                                                                                                                                                                                                                                                             | letion. RM                       | 1=Reduce                                | ed Matr                               | x. CS=Co                                                                            | vered or Co                                                                                                                                          | oated Sand                                                                                           | d Grains.                                  | <sup>2</sup> Location: F | <br>PL=Por                                                                 | e Linina.                                                                                     | M=Matrix                                                                                                                        | . RC=R                                                                        | loot ( | Chann   | el |   |
| •                                                                                                                                                                        | ndicators: (Applica                                                                                                                                                                                                                                                                                                                                                                            |                                  |                                         |                                       |                                                                                     |                                                                                                                                                      |                                                                                                      |                                            |                          |                                                                            |                                                                                               | oblemati                                                                                                                        |                                                                               |        |         |    | _ |
| Histosol                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                |                                  | -, -                                    |                                       |                                                                                     | Redox (S5)                                                                                                                                           |                                                                                                      |                                            |                          | _                                                                          | cm Mucl                                                                                       |                                                                                                                                 |                                                                               |        |         |    |   |
|                                                                                                                                                                          | pipedon (A2)                                                                                                                                                                                                                                                                                                                                                                                   |                                  |                                         |                                       | -                                                                                   | Matrix (S6)                                                                                                                                          | )                                                                                                    |                                            |                          | _                                                                          |                                                                                               | nt Materia                                                                                                                      | I (TF2)                                                                       |        |         |    |   |
| -                                                                                                                                                                        | istic (A3)                                                                                                                                                                                                                                                                                                                                                                                     |                                  |                                         |                                       |                                                                                     |                                                                                                                                                      |                                                                                                      | cept MLRA 1                                | ı) 🗆                     | _                                                                          |                                                                                               | ow Dark                                                                                                                         |                                                                               | (TF    | 12)     |    |   |
| Hydroge                                                                                                                                                                  | en Sulfide (A4)                                                                                                                                                                                                                                                                                                                                                                                |                                  |                                         |                                       | Loamy C                                                                             | Sleyed Matr                                                                                                                                          | ix (F2)                                                                                              | •                                          |                          |                                                                            | -                                                                                             | olain in Re                                                                                                                     |                                                                               |        | ,       |    |   |
| Deplete                                                                                                                                                                  | d Below Dark Surfa                                                                                                                                                                                                                                                                                                                                                                             | ce (A11)                         |                                         |                                       | Depleted                                                                            | d Matrix (F3                                                                                                                                         | 3)                                                                                                   |                                            |                          |                                                                            |                                                                                               |                                                                                                                                 |                                                                               |        |         |    |   |
| Thick D                                                                                                                                                                  | ark Surface (A12)                                                                                                                                                                                                                                                                                                                                                                              |                                  |                                         |                                       | Redox D                                                                             | ark Surface                                                                                                                                          | e (F6)                                                                                               |                                            |                          |                                                                            |                                                                                               |                                                                                                                                 |                                                                               |        |         |    |   |
| Sandy N                                                                                                                                                                  | Mucky Mineral (S1)                                                                                                                                                                                                                                                                                                                                                                             |                                  |                                         |                                       | Depleted                                                                            | d Dark Surfa                                                                                                                                         | ace (F7)                                                                                             |                                            | ll <sup>c</sup>          |                                                                            |                                                                                               | rophytic v                                                                                                                      |                                                                               |        |         |    |   |
| Sandy G                                                                                                                                                                  | Gleyed Matrix (S4)                                                                                                                                                                                                                                                                                                                                                                             |                                  |                                         |                                       | Redox D                                                                             | epressions                                                                                                                                           | (F8)                                                                                                 |                                            |                          |                                                                            |                                                                                               | logy must<br>ed or prob                                                                                                         |                                                                               |        |         |    |   |
| strictive La                                                                                                                                                             | ayer (if present):                                                                                                                                                                                                                                                                                                                                                                             |                                  |                                         |                                       |                                                                                     |                                                                                                                                                      |                                                                                                      |                                            |                          |                                                                            |                                                                                               |                                                                                                                                 |                                                                               |        |         |    |   |
| pe:                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                |                                  |                                         |                                       |                                                                                     |                                                                                                                                                      |                                                                                                      |                                            |                          |                                                                            |                                                                                               |                                                                                                                                 |                                                                               |        |         |    |   |
| pth (inches)                                                                                                                                                             | ):                                                                                                                                                                                                                                                                                                                                                                                             |                                  |                                         |                                       |                                                                                     |                                                                                                                                                      |                                                                                                      | Hydric Soil                                | s Present?               |                                                                            |                                                                                               | Yes                                                                                                                             |                                                                               |        | No      | [  | Σ |
|                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                |                                  |                                         |                                       |                                                                                     |                                                                                                                                                      |                                                                                                      | profile is deterr                          |                          |                                                                            |                                                                                               |                                                                                                                                 |                                                                               |        |         |    | _ |
|                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                |                                  |                                         |                                       |                                                                                     |                                                                                                                                                      |                                                                                                      |                                            |                          |                                                                            |                                                                                               |                                                                                                                                 |                                                                               |        |         |    |   |
| etland Hydi                                                                                                                                                              | rology Indicators:                                                                                                                                                                                                                                                                                                                                                                             |                                  |                                         |                                       |                                                                                     |                                                                                                                                                      |                                                                                                      |                                            |                          |                                                                            |                                                                                               |                                                                                                                                 |                                                                               |        |         |    | _ |
| etland Hydr<br>imary Indica                                                                                                                                              | rology Indicators:<br>ators (minimum of o                                                                                                                                                                                                                                                                                                                                                      | ne require                       | ed; check                               |                                       |                                                                                     |                                                                                                                                                      |                                                                                                      |                                            | Sec                      |                                                                            |                                                                                               | ors (2 or m                                                                                                                     |                                                                               | juired | d)      |    | _ |
| etland Hydr<br>imary Indica<br>Surface                                                                                                                                   | rology Indicators:<br>ators (minimum of o<br>e Water (A1)                                                                                                                                                                                                                                                                                                                                      | ne require                       | ed; check                               | all that                              | Water-S                                                                             | tained Leav                                                                                                                                          | ves (B9)                                                                                             |                                            |                          | Wat                                                                        | er-Staine                                                                                     | d Leaves                                                                                                                        | (B9)                                                                          | luired | d)      |    |   |
| etland Hydr<br>imary Indica<br>Surface<br>High W                                                                                                                         | rology Indicators:<br>ators (minimum of o<br>e Water (A1)<br>ater Table (A2)                                                                                                                                                                                                                                                                                                                   | ne require                       | ed; check                               |                                       | Water-S<br>(except                                                                  | MLRA 1, 2                                                                                                                                            | ves (B9)                                                                                             |                                            | Sec                      | Wat                                                                        | er-Staine                                                                                     | d Leaves                                                                                                                        | (B9)                                                                          | luired | d)      |    | _ |
| etland Hydr<br>imary Indica<br>  Surface<br>  High W<br>  Saturati                                                                                                       | rology Indicators:<br>ators (minimum of o<br>water (A1)<br>ater Table (A2)<br>ion (A3)                                                                                                                                                                                                                                                                                                         | ne require                       | ed; check                               |                                       | Water-S (except Salt Crus                                                           | MLRA 1, 2<br>st (B11)                                                                                                                                | ves (B9)<br>, <b>4A</b> , and 4                                                                      |                                            | Sec                      | Wat<br><b>(ML</b><br>Drai                                                  | er-Staine<br>RA 1, 2, 4<br>nage Pat                                                           | d Leaves  4A, and 4  terns (B1)                                                                                                 | (B9)<br><b>IB)</b><br>0)                                                      | uired  | d)      |    | _ |
| etland Hydri<br>imary Indica<br>  Surface<br>  High W<br>  Saturati<br>  Water M                                                                                         | rology Indicators:<br>ators (minimum of o<br>water (A1)<br>ater Table (A2)<br>ion (A3)<br>Marks (B1)                                                                                                                                                                                                                                                                                           | ne require                       | ed; check                               |                                       | Water-S<br>(except<br>Salt Crus<br>Aquatic                                          | MLRA 1, 2<br>st (B11)<br>Invertebrate                                                                                                                | ves (B9)<br>, <b>4A</b> , and 4                                                                      |                                            | Sec                      | Wate (ML) Drai Dry-                                                        | er-Staine<br>RA 1, 2, 4<br>nage Pat<br>Season \                                               | d Leaves  4A, and 4  terns (B1)  Vater Tab                                                                                      | (B9)<br>(B9)<br>(B9)<br>(B9)<br>(B9)<br>(B9)<br>(B9)                          |        |         |    |   |
| etland Hydrimary Indica Surface High W Saturati Water N Sedime                                                                                                           | ators (minimum of o<br>Water (A1)<br>vater Table (A2)<br>ion (A3)<br>Marks (B1)<br>ent Deposits (B2)                                                                                                                                                                                                                                                                                           | ne require                       | ed; check                               |                                       | Water-S (except Salt Crue Aquatic Hydroge                                           | MLRA 1, 2<br>st (B11)<br>Invertebrate<br>en Sulfide O                                                                                                | res (B9)<br>, <b>4A, and 4</b><br>es (B13)<br>dor (C1)                                               | 4B)                                        | Sec                      | Wate (ML) Drai Dry- Satu                                                   | er-Staine<br>RA 1, 2, 4<br>nage Pat<br>Season Viration Vis                                    | d Leaves  4A, and 4  terns (B1)  Water Tab  sible on A                                                                          | (B9)  (B9)  (B)  (B)  (C2)  (C2)                                              |        |         |    |   |
| etland Hydrimary Indica Surface High W Saturati Water M Sedime Drift De                                                                                                  | rology Indicators:<br>ators (minimum of o<br>a Water (A1)<br>ater Table (A2)<br>ion (A3)<br>Marks (B1)<br>ent Deposits (B2)                                                                                                                                                                                                                                                                    | ne require                       | ed; check                               |                                       | Water-S (except Salt Crus Aquatic Hydroge Oxidized                                  | MLRA 1, 2<br>st (B11)<br>Invertebrate<br>en Sulfide O                                                                                                | res (B9)<br>, <b>4A</b> , <b>and</b> 4<br>es (B13)<br>dor (C1)<br>eres along                         | <b>4B)</b><br>Living Roots (               | Sec                      | Wate (ML) Drai Dry- Satu                                                   | er-Staine RA 1, 2, 4 nage Pat Season Viration Vis                                             | d Leaves 4A, and 4 terns (B1) Water Tab sible on A Position (I                                                                  | (B9)  (B9)  (B)  (B)  (C2)  (C2)                                              |        |         |    |   |
| etland Hydr imary Indica  Surface  High W  Saturati Water M  Sedime  Drift De  Algal M                                                                                   | rology Indicators: ators (minimum of of a Water (A1) ater Table (A2) ion (A3) Marks (B1) ent Deposits (B2) aposits (B3) lat or Crust (B4)                                                                                                                                                                                                                                                      | ne require                       | ed; check                               |                                       | Water-S (except Salt Crus Aquatic Hydroge Oxidized Presence                         | MLRA 1, 2<br>st (B11)<br>Invertebrate<br>en Sulfide O<br>d Rhizosphe<br>e of Reduce                                                                  | res (B9)  , 4A, and 4 es (B13) dor (C1) eres along ed Iron (C4                                       | <b>4B)</b> Living Roots (                  | Sec                      | Wate (ML) Drai Dry- Satu Geo Shal                                          | er-Staine RA 1, 2, 4 nage Pat Season Viration Vis morphic low Aqui                            | d Leaves 4A, and 4 terns (B1) Water Tab sible on A Position (I) tard (D3)                                                       | (B9) (BB) (D) (D) (B) (B) (B) (B) (C2) (B) (B) (B) (B) (B) (B) (B) (B) (B) (B |        |         |    |   |
| etland Hydrimary Indica  Surface High W Saturati Water M Sedime Drift De Algal M Iron De                                                                                 | ators (minimum of o<br>Water (A1)<br>Later Table (A2)<br>Lion (A3)<br>Marks (B1)<br>Lent Deposits (B2)<br>Leposits (B3)<br>Later Trust (B4)<br>Leposits (B5)                                                                                                                                                                                                                                   | ne require                       | ed; check                               |                                       | Water-S (except Salt Crue Aquatic Hydroge Oxidized Presenc Recent I                 | MLRA 1, 2<br>st (B11)<br>Invertebrate<br>en Sulfide O<br>d Rhizosphe<br>e of Reduct<br>ron Reduct                                                    | ves (B9)  , 4A, and 4  es (B13)  dor (C1)  eres along  ed Iron (C4  ion in Tilled                    | 4B) Living Roots (                         | Sec                      | Wate (ML) Drai Dry- Satu Geo Shal                                          | er-Staine RA 1, 2, 4 nage Pat Season \ Iration Vis morphic   Iow Aqui -Neutral                | d Leaves 4A, and 4 terns (B1) Water Tab sible on A Position (I) tard (D3) Test (D5)                                             | (B9)  (B9)  (B)  (B)  (C2)  (C2)  (C2)  (C3)                                  | ager   |         |    |   |
| etland Hydi imary Indica  Surface High W Saturati Water M Sedime Drift De Algal M I non De Surface                                                                       | rology Indicators: ators (minimum of o a Water (A1) ater Table (A2) ion (A3) Marks (B1) ant Deposits (B2) aposits (B3) lat or Crust (B4) aposits (B5) a Soil Cracks (B6)                                                                                                                                                                                                                       |                                  |                                         |                                       | Water-S (except Salt Cru: Aquatic Hydroge Oxidized Presenc Recent I Stunted         | MLRA 1, 2<br>st (B11)<br>Invertebrate<br>en Sulfide O<br>d Rhizosphe<br>e of Reduce<br>ron Reduct<br>or Stresses                                     | res (B9)  , 4A, and 4 es (B13) dor (C1) eres along ed Iron (C4 ion in Tilled                         | <b>4B)</b> Living Roots (                  | Sec                      | Wate (ML) Drai Dry- Satu Geo Shal FAC                                      | er-Staine RA 1, 2, 4 nage Pat Season Viration Vir morphic I low Aquir -Neutral ed Ant M       | d Leaves 4A, and 4 terns (B10 Water Tab sible on A Position (I tard (D3) Test (D5) Iounds (D                                    | (B9)  (B9)  (B)  (B)  (B)  (B)  (C2)  (A)  (B)  (C2)                          | ager   |         |    |   |
| etland Hydrimary Indica Surface High W Saturati Water M Sedime Drift De Algal M Iron De Surface                                                                          | rology Indicators: ators (minimum of o a Water (A1) ater Table (A2) ion (A3) Marks (B1) and Deposits (B2) aposits (B3) lat or Crust (B4) aposits (B5) a Soil Cracks (B6) tion Visible on Aeria                                                                                                                                                                                                 | ıl Imagery                       | · (B7)                                  |                                       | Water-S (except Salt Cru: Aquatic Hydroge Oxidized Presenc Recent I Stunted         | MLRA 1, 2<br>st (B11)<br>Invertebrate<br>en Sulfide O<br>d Rhizosphe<br>e of Reduct<br>ron Reduct                                                    | res (B9)  , 4A, and 4 es (B13) dor (C1) eres along ed Iron (C4 ion in Tilled                         | 4B) Living Roots (                         | Sec                      | Wate (ML) Drai Dry- Satu Geo Shal FAC                                      | er-Staine RA 1, 2, 4 nage Pat Season Viration Vir morphic I low Aquir -Neutral ed Ant M       | d Leaves 4A, and 4 terns (B1) Water Tab sible on A Position (I) tard (D3) Test (D5)                                             | (B9)  (B9)  (B)  (B)  (B)  (B)  (C2)  (A)  (B)  (C2)                          | ager   |         |    |   |
| etland Hydrimary Indica Surface High W Saturati Water M Sedime Drift De Algal M Iron De Surface                                                                          | rology Indicators: ators (minimum of or a Water (A1) ater Table (A2) ion (A3) Marks (B1) and Deposits (B2) aposits (B3) lat or Crust (B4) aposits (B5) a Soil Cracks (B6) ition Visible on Aeria                                                                                                                                                                                               | ıl Imagery                       | · (B7)                                  |                                       | Water-S (except Salt Cru: Aquatic Hydroge Oxidized Presenc Recent I Stunted         | MLRA 1, 2<br>st (B11)<br>Invertebrate<br>en Sulfide O<br>d Rhizosphe<br>e of Reduce<br>ron Reduct<br>or Stresses                                     | res (B9)  , 4A, and 4 es (B13) dor (C1) eres along ed Iron (C4 ion in Tilled                         | 4B) Living Roots (                         | Sec                      | Wate (ML) Drai Dry- Satu Geo Shal FAC                                      | er-Staine RA 1, 2, 4 nage Pat Season Viration Vir morphic I low Aquir -Neutral ed Ant M       | d Leaves 4A, and 4 terns (B10 Water Tab sible on A Position (I tard (D3) Test (D5) Iounds (D                                    | (B9)  (B9)  (B)  (B)  (B)  (B)  (C2)  (A)  (B)  (C2)                          | ager   |         |    |   |
| etland Hydrimary Indica  Surface High W Saturati Sedime Sedime Drift De Algal M Iron De Surface Inundat Sparsel                                                          | rology Indicators: ators (minimum of or a Water (A1) ater Table (A2) ion (A3) Marks (B1) ent Deposits (B2) aposits (B3) lat or Crust (B4) aposits (B5) a Soil Cracks (B6) ition Visible on Aeria ly Vegetated Conca                                                                                                                                                                            | ıl Imagery                       | r (B7)<br>be (B8)                       |                                       | Water-S (except Salt Cru Aquatic Hydroge Oxidized Presenc Recent I Stunted Other (E | MLRA 1, 2<br>st (B11)<br>Invertebrate<br>en Sulfide O<br>d Rhizosphe<br>e of Reduct<br>fron Reduct<br>or Stresses<br>explain in Re                   | res (B9)  , 4A, and 4  es (B13)  dor (C1)  eres along  ed Iron (C4  ion in Tilled  Plants (Diemarks) | 4B) Living Roots (                         | Sec                      | Wate (ML) Drai Dry- Satu Geo Shal FAC                                      | er-Staine RA 1, 2, 4 nage Pat Season Viration Vir morphic I low Aquir -Neutral ed Ant M       | d Leaves 4A, and 4 terns (B10 Water Tab sible on A Position (I tard (D3) Test (D5) Iounds (D                                    | (B9)  (B9)  (B)  (B)  (B)  (B)  (C2)  (A)  (B)  (C2)                          | ager   |         |    |   |
| etland Hydrimary Indica    Surface   High W   Saturati   Water M   Sedime   Drift De   Algal M   Iron De   Surface   Inundat   Sparseleld Observaurface Water            | rology Indicators: ators (minimum of o a Water (A1) ater Table (A2) ion (A3) Marks (B1) and Deposits (B2) aposits (B3) lat or Crust (B4) aposits (B5) a Soil Cracks (B6) tion Visible on Aeria by Vegetated Conca ations: r Present?                                                                                                                                                           | ıl Imagery<br>ive Surfac         | r (B7)<br>ce (B8)<br>No                 |                                       | Water-S (except Salt Cru Aquatic Hydroge Oxidized Presenc Recent I Stunted Other (E | MLRA 1, 2<br>st (B11)<br>Invertebrate<br>en Sulfide O<br>d Rhizosphe<br>e of Reduct<br>fron Reduct<br>or Stresses<br>explain in Re                   | ves (B9)  4A, and 4  es (B13)  dor (C1)  eres along  ed Iron (C4  ion in Tilled  Flants (Diemarks)   | 4B) Living Roots (                         | Sec                      | Wate (ML) Drai Dry- Satu Geo Shal FAC                                      | er-Staine RA 1, 2, 4 nage Pat Season Viration Vir morphic I low Aquir -Neutral ed Ant M       | d Leaves 4A, and 4 terns (B10 Water Tab sible on A Position (I tard (D3) Test (D5) Iounds (D                                    | (B9)  (B9)  (B)  (B)  (B)  (B)  (C2)  (A)  (B)  (C2)                          | ager   |         |    |   |
| etland Hydrimary Indica    Surface   High W   Saturati   Water M   Sedime   Drift De   Algal M   Iron De   Surface   Inundat   Sparsel                                   | rology Indicators: ators (minimum of o a Water (A1) ater Table (A2) ion (A3) Marks (B1) and Deposits (B2) aposits (B3) lat or Crust (B4) aposits (B5) a Soil Cracks (B6) tion Visible on Aeria ly Vegetated Conca ations: ar Present? Yeresent? Yeresent?                                                                                                                                      | ıl Imagery<br>ıve Surfac<br>es □ | V (B7)<br>See (B8)<br>No<br>No          |                                       | Water-S (except Salt Cru Aquatic Hydroge Oxidized Presenc Recent I Stunted Other (E | MLRA 1, 2<br>st (B11)<br>Invertebrate<br>en Sulfide O<br>d Rhizosphe<br>e of Reduct<br>fron Reduct<br>or Stresses<br>explain in Re                   | ves (B9)  4A, and 4  es (B13)  dor (C1)  eres along  ed Iron (C4  ion in Tilled  Flants (Diemarks)   | Living Roots (4) d Soils (C6) 1) (LRR A)   | C3)                      | Wat<br>(ML)<br>Drai<br>Dry-<br>Satu<br>Geo<br>Shai<br>FAC<br>Raiss<br>Fros | er-Staine RA 1, 2, nage Pat Season V rration Vi: morphic I low Aqui -Neutral ed Ant M t-Heave | d Leaves<br>4A, and 4<br>terns (B10<br>Water Tab<br>sible on A<br>Position (I<br>tard (D3)<br>Test (D5)<br>lounds (D<br>Hummock | (B9) (BB) 0) ble (C2) erial Im D2) 6) (LRF                                    | ager   | ry (C9) |    |   |
| etland Hydrimary Indica    Surface   High W   Saturati   Water M   Sedime   Drift De   Algal M   Iron De   Surface   Inundat   Sparsel   Eld Observatiface Water Table P | rology Indicators: ators (minimum of or a Water (A1) ater Table (A2) ion (A3) Marks (B1) and Deposits (B2) aposits (B3) lat or Crust (B4) aposits (B5) a Soil Cracks (B6) ition Visible on Aeria ly Vegetated Conca ations: r Present?  Yesent?                                                                                                                                                | ıl Imagery<br>ıve Surfac<br>es □ | V (B7)<br>See (B8)<br>No<br>No          |                                       | Water-S (except Salt Cru Aquatic Hydroge Oxidized Presend Recent I Stunted Other (E | MLRA 1, 2 st (B11) Invertebrate en Sulfide O d Rhizosphe e of Reduce fron Reduct or Stresses explain in Re eth (inches):                             | res (B9)  , 4A, and 4  es (B13)  dor (C1) eres along ed Iron (C4 ion in Tilled Plants (Demarks)      | Living Roots (4) d Soils (C6) 1) (LRR A)   | C3)                      | Wat<br>(ML)<br>Drai<br>Dry-<br>Satu<br>Geo<br>Shai<br>FAC<br>Raiss<br>Fros | er-Staine RA 1, 2, nage Pat Season V rration Vi: morphic I low Aqui -Neutral ed Ant M t-Heave | d Leaves<br>4A, and 4<br>terns (B10<br>Water Tab<br>sible on A<br>Position (I<br>tard (D3)<br>Test (D5)<br>lounds (D<br>Hummock | (B9) (BB) 0) ble (C2) erial Im D2) 6) (LRF                                    | ager   | ry (C9) |    |   |
| retland Hydrimary Indica Surface High W Saturati Water M Sedime Drift De Algal M Iron De Surface Inundat Sparsel eld Observation rate Table P aturation Pre              | rology Indicators: ators (minimum of o a Water (A1) ater Table (A2) ion (A3) Marks (B1) and Deposits (B2) aposits (B3) lat or Crust (B4) aposits (B5) a Soil Cracks (B6) ation Visible on Aeria ly Vegetated Conca ations: ar Present? ar Present? ar Present? ar Present? ar Present? ations: ar Present? | Il Imagery Ive Surface  es       | r (B7)<br>ce (B8)<br>No<br>No<br>No     |                                       | Water-S (except Salt Cru Aquatic Hydroge Oxidized Presenc Recent I Stunted Other (E | MLRA 1, 2 st (B11) Invertebrate en Sulfide O d Rhizosphe e of Reduct ron Reduct or Stresses explain in Re eth (inches): eth (inches):                | ves (B9)  4A, and 4  es (B13)  dor (C1)  eres along  ed Iron (C4  ion in Tilled  Flants (Diemarks)   | Living Roots (  i) d Soils (C6) 1) (LRR A) | C3)                      | Wat<br>(ML)<br>Drai<br>Dry-<br>Satu<br>Geo<br>Shai<br>FAC<br>Raiss<br>Fros | er-Staine RA 1, 2, nage Pat Season Vi rration Vi morphic low Aqui -Neutral ed Ant M t-Heave   | d Leaves<br>4A, and 4<br>terns (B10<br>Water Tab<br>sible on A<br>Position (I<br>tard (D3)<br>Test (D5)<br>lounds (D<br>Hummock | (B9)  (B9)  (B)  (B)  (B)  (B)  (C2)  (A)  (B)  (C2)                          | ager   | ry (C9) | No |   |
| Surface High W Saturati Water M Sedime Drift De Magal M Iron De Murface Inundat Sparsel Feld Observator Water Table P Surface Vater Cater Table P Surface Saturation Pre | rology Indicators: ators (minimum of o a Water (A1) ater Table (A2) ion (A3) Marks (B1) and Deposits (B2) aposits (B3) ator Crust (B4) aposits (B5) a Soil Cracks (B6) ation Visible on Aeria by Vegetated Conca ations: ar Present?  Yesent?  Yesent?                                                                                                                                         | Il Imagery Ive Surface  es       | r (B7)<br>ce (B8)<br>No<br>No<br>No     |                                       | Water-S (except Salt Cru Aquatic Hydroge Oxidized Presenc Recent I Stunted Other (E | MLRA 1, 2 st (B11) Invertebrate en Sulfide O d Rhizosphe e of Reduct ron Reduct or Stresses explain in Re eth (inches): eth (inches):                | ves (B9)  4A, and 4  es (B13)  dor (C1)  eres along  ed Iron (C4  ion in Tilled  Flants (Diemarks)   | Living Roots (  i) d Soils (C6) 1) (LRR A) | C3)                      | Wat<br>(ML)<br>Drai<br>Dry-<br>Satu<br>Geo<br>Shai<br>FAC<br>Raiss<br>Fros | er-Staine RA 1, 2, nage Pat Season Vi rration Vi morphic low Aqui -Neutral ed Ant M t-Heave   | d Leaves<br>4A, and 4<br>terns (B10<br>Water Tab<br>sible on A<br>Position (I<br>tard (D3)<br>Test (D5)<br>lounds (D<br>Hummock | (B9) (BB) 0) ble (C2) erial Im D2) 6) (LRF                                    | ager   | ry (C9) |    |   |
| etland Hydrimary Indica    Surface   High W   Saturati   Water M   Sedime   Drift De   Algal M   Iron De   Surface   Inundat   Sparsel eld Observation Presidudes capil  | rology Indicators: ators (minimum of o a Water (A1) ater Table (A2) ion (A3) Marks (B1) and Deposits (B2) aposits (B3) lat or Crust (B4) aposits (B5) a Soil Cracks (B6) ation Visible on Aeria ly Vegetated Conca ations: ar Present? ar Present? ar Present? ar Present? ar Present? ations: ar Present? | Il Imagery<br>Ive Surface<br>es  | V (B7) Se (B8)  No No No No ononitoring | U U U U U U U U U U U U U U U U U U U | Water-S (except Salt Cru Aquatic Hydroge Oxidized Presenc Recent I Stunted Other (E | MLRA 1, 2 st (B11) Invertebrate en Sulfide O d Rhizosphe e of Reduct fron Reduct or Stresses explain in Re eth (inches): oth (inches): oth (inches): | res (B9)  , 4A, and 4  es (B13) dor (C1) eres along ed Iron (C4 ion in Tilled Plants (Demarks)       | Living Roots ( i) d Soils (C6) 1) (LRR A)  | C3)                      | Wat<br>(ML)<br>Drai<br>Dry-<br>Satu<br>Geo<br>Shai<br>FAC<br>Raiss<br>Fros | er-Staine RA 1, 2, nage Pat Season Vi rration Vi morphic low Aqui -Neutral ed Ant M t-Heave   | d Leaves<br>4A, and 4<br>terns (B10<br>Water Tab<br>sible on A<br>Position (I<br>tard (D3)<br>Test (D5)<br>lounds (D<br>Hummock | (B9) (BB) 0) ble (C2) erial Im D2) 6) (LRF                                    | ager   | ry (C9) |    |   |

| Project Site: P                   | Port Gamble Trail Feasibility      |                                   |                   | City/Coun               | ty: <u>Port Gamble/Kitsap</u> Samplin                                                              | g Date: <u>1/1</u>        | 18/17         |
|-----------------------------------|------------------------------------|-----------------------------------|-------------------|-------------------------|----------------------------------------------------------------------------------------------------|---------------------------|---------------|
| Applicant/Owner: <u>F</u>         | Fischer Bouma Partnership          |                                   |                   |                         | State: WA Sampling                                                                                 | g Point: <u>TP</u>        | 7 <u>7</u> C  |
| Investigator(s): <u>J</u>         | J. Bartlett, L. Westervelt, K. Boa |                                   |                   |                         | Section, Township, Range: S7 T                                                                     | 27N R2E                   |               |
| Landform (hillslope, terra        | ace, etc.): <u>hillslope</u>       |                                   | Loca              | l relief (conc          | ave, convex, none): <u>convex</u>                                                                  | Slope (%):                | : <u>6-15</u> |
| Subregion (LRR):                  | MLRA 2                             | Lat:                              | _                 |                         | Long:                                                                                              | Datum: Trimb              | <u>ole</u>    |
| Soil Map Unit Name:               | Ragnar Fine sandy loam, 6 to 1     | 5 percent slo                     | pes               |                         | NWI classification:                                                                                |                           |               |
| Are climatic / hydrologic         | conditions on the site typical for | this time of y                    | rear? Yo          | es 🛛                    | No                                                                                                 | s.)                       |               |
| Are Vegetation $\square$ ,        | Soil ☐, or Hydrology               | ☐, signification                  | antly disturbed   | ? Are "                 | Normal Circumstances" present?                                                                     | Yes 🛛                     | No 🗆          |
| Are Vegetation $\square$ ,        | Soil □, or Hydrology               | ☐, naturall                       | y problematic?    | ? (If ne                | eded, explain any answers in Remarks.)                                                             |                           |               |
| SUMMARY OF FIND                   | INGS – Attach site map sh          | owing san                         | npling point      | locations,              | transects, important features, etc.                                                                |                           |               |
| Hydrophytic Vegetation F          | Present?                           | Yes 🛛                             | No 🗆              | <u> </u>                |                                                                                                    |                           | ·             |
| Hydric Soil Present?              |                                    | Yes 🛛                             | No 🗆              | Is the Samp within a We |                                                                                                    | Yes ⊠                     | No 🗆          |
| Wetland Hydrology Prese           | ent?                               | Yes 🛛                             | No 🗆              | within a we             | uanu r                                                                                             |                           |               |
| Remarks: The scope of             | of this feasibility encompasses a  | section abou                      | ıt 6 miles lona   | extendina be            | etween Port Gamble at the north end and S                                                          | Stottlemever Road         | d NE at the   |
| south end. I<br>current loggi     | It passes primarily through unde   | eveloped timb<br>m of trails util | erland owned      | by OPG; mo              | st of which is woven with interlacing loggin<br>d equestrian hobbyists weave between the           | ng roads due to his       | storic and    |
| VEGETATION – Use                  | scientific names of plants         | 3                                 |                   |                         |                                                                                                    |                           |               |
| Tree Stratum (Plot size:          | 30' diameter)                      | Absolute<br>% Cover               | Dominant Species? | Indicator<br>Status     | Dominance Test Worksheet:                                                                          |                           |               |
| 1. Alnus rubra                    |                                    | 30                                | <u>yes</u>        | FAC                     | Number of Dominant Species                                                                         |                           | (4)           |
| 2                                 |                                    |                                   |                   |                         | That Are OBL, FACW, or FAC:                                                                        | <u>3</u>                  | (A)           |
| 3                                 |                                    |                                   |                   |                         | Total Number of Dominant                                                                           | 2                         | (D)           |
| 4                                 |                                    |                                   |                   |                         | Species Across All Strata:                                                                         | <u>3</u>                  | (B)           |
| 50% = <u>15</u> , 20% = <u>6</u>  |                                    | <u>30</u>                         | = Total Cover     | Ī                       | Percent of Dominant Species                                                                        | 100                       | (A/D)         |
| Sapling/Shrub Stratum (           | Plot size: 30' diameter)           |                                   |                   |                         | That Are OBL, FACW, or FAC:                                                                        | <u>100</u>                | (A/B)         |
| 1. Rubus spectabilis              |                                    | <u>35</u>                         | <u>yes</u>        | FAC                     | Prevalence Index worksheet:                                                                        |                           |               |
| 2                                 |                                    |                                   |                   |                         | Total % Cover of:                                                                                  | Multiply by:              | <u>.</u>      |
| 3                                 |                                    |                                   |                   |                         | OBL species                                                                                        | x1 =                      |               |
| 4                                 |                                    |                                   |                   |                         | FACW species                                                                                       | x2 =                      |               |
| 5                                 |                                    |                                   |                   |                         | FAC species                                                                                        | x3 =                      |               |
| 50% = <u>17.5,</u> 20% = <u>7</u> |                                    | <u>35</u>                         | = Total Cover     | •                       | FACU species                                                                                       | x4 =                      |               |
| Herb Stratum (Plot size:          | 15' diameter)                      |                                   |                   |                         | UPL species                                                                                        | x5 =                      |               |
| 1. <u>Dryopteris expansa</u>      |                                    | <u>10</u>                         | <u>yes</u>        | <u>FACW</u>             | Column Totals:(A)                                                                                  | _                         | (B)           |
| 2                                 |                                    |                                   |                   |                         | Prevalence Index = B                                                                               | i/A =                     |               |
| 3                                 |                                    |                                   |                   |                         | Hydrophytic Vegetation Indicators:                                                                 |                           |               |
| 4                                 |                                    |                                   |                   |                         | ☐ 1 – Rapid Test for Hydrophytic Ve                                                                | getation                  |               |
| 5                                 |                                    |                                   |                   |                         | ☑ 2 - Dominance Test is >50%                                                                       |                           |               |
| 6                                 |                                    |                                   |                   |                         | ☐ 3 - Prevalence Index is ≤3.0 <sup>1</sup>                                                        |                           |               |
| 7                                 |                                    |                                   |                   |                         | 4 - Morphological Adaptations (Pr                                                                  | ovide supporting          |               |
| 8                                 |                                    |                                   |                   |                         | data in Remarks or on a separa                                                                     |                           |               |
| 9                                 |                                    |                                   |                   |                         | ☐ 5 - Wetland Non-Vascular Plants¹                                                                 |                           |               |
| 10                                |                                    |                                   |                   |                         | ☐ Problematic Hydrophytic Vegetatio                                                                | on <sup>1</sup> (Explain) |               |
| 11                                |                                    |                                   |                   |                         |                                                                                                    |                           |               |
| 50% = <u>5,</u> 20% = <u>2</u>    |                                    | <u>10</u>                         | = Total Cover     | -                       | <sup>1</sup> Indicators of hydric soil and wetland hyd<br>be present, unless disturbed or problema |                           |               |
| Woody Vine Stratum (Ple           | ot size: 15' diameter)             |                                   |                   |                         | <br>                                                                                               | AUG.                      |               |
| 1                                 |                                    |                                   |                   |                         |                                                                                                    |                           |               |
| 2                                 |                                    |                                   |                   |                         | Hydrophytic                                                                                        | <b>5</b>                  | _             |
| 50% =, 20% =                      |                                    |                                   | = Total Cover     | -                       | Vegetation Yes Present?                                                                            | ⊠ No                      | • 🗆           |
| % Bare Ground in Herb             | Stratum 90                         |                                   |                   |                         |                                                                                                    |                           |               |
| Remarks: The                      | e hydrophytic vegetation criterion | n is met beca                     | use there is g    | reater than 50          | 0% dominance by FAC and FACW specie                                                                | S                         |               |
|                                   |                                    |                                   |                   |                         |                                                                                                    |                           |               |
|                                   |                                    |                                   |                   |                         |                                                                                                    |                           |               |

SOIL Sampling Point: TP7 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Redox Features Texture (inches) Color (moist) % Color (moist) % Type<sup>1</sup> Loc2 Remarks 10YR 2/1 100 0-12 Muck with silt 12-16 10YR 2/1 100 sa lo sa - sand lo - loam <sup>1</sup>Type: C= Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. <sup>2</sup>Location: PL=Pore Lining, M=Matrix, RC=Root Channel Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils3: Histosol (A1) Sandy Redox (S5) 2 cm Muck (A10)  $\boxtimes$ Histic Epipedon (A2) П Stripped Matrix (S6)  $\Box$ Red Parent Material (TF2) Black Histic (A3) Loamy Mucky Mineral (F1) (except MLRA 1) Very Shallow Dark Surface (TF12) Loamy Gleyed Matrix (F2) Hydrogen Sulfide (A4) Other (Explain in Remarks) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Thick Dark Surface (A12) Redox Dark Surface (F6) <sup>3</sup>Indicators of hydrophytic vegetation and П Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) wetland hydrology must be present, П Sandy Gleyed Matrix (S4) Redox Depressions (F8) unless disturbed or problematic. Restrictive Layer (if present): Type: **Hydric Soils Present?** Yes  $\boxtimes$ Depth (inches): No Remarks: This soil profile consists of an organic profile that is at least 8 inches thick so meets the definition of a histic epipedonand meets hydric soil indicator A2 **HYDROLOGY** Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (2 or more required) П Surface Water (A1) Water-Stained Leaves (B9) Water-Stained Leaves (B9)  $\boxtimes$ High Water Table (A2) (except MLRA 1, 2, 4A, and 4B) (MLRA 1, 2, 4A, and 4B)  $\boxtimes$ Saturation (A3) Salt Crust (B11) Drainage Patterns (B10) П Water Marks (B1) Aquatic Invertebrates (B13) П Dry-Season Water Table (C2) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Drift Deposits (B3) Oxidized Rhizospheres along Living Roots (C3) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aguitard (D3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) FAC-Neutral Test (D5) Stunted or Stresses Plants (D1) (LRR A) П Surface Soil Cracks (B6) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Frost-Heave Hummocks (D7) Sparsely Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes No Depth (inches): Water Table Present? Yes  $\boxtimes$ No Depth (inches): 8 Saturation Present? Wetland Hydrology Present? Yes  $\boxtimes$ No Yes  $\boxtimes$ No Depth (inches): surface (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: A high water table was observed at 8 inches and soil saturation at the surface so there are primary indicators present for wetland hydrology. Remarks:

| Project Site:                                 | Port Gamble           | Trail Feasibility                                                                      |                         |             |           |                | City/Coun                  | ty: <u>F</u> | Port Ga  | amble/K  | <u>litsap</u>              | Sam                  | pling Da         | ate:      | 1/18        | 3/17      |          |
|-----------------------------------------------|-----------------------|----------------------------------------------------------------------------------------|-------------------------|-------------|-----------|----------------|----------------------------|--------------|----------|----------|----------------------------|----------------------|------------------|-----------|-------------|-----------|----------|
| Applicant/Owner:                              | Fischer Boun          | na Partnership                                                                         |                         |             |           |                |                            |              |          | Sta      | te: WA                     | Sam                  | pling Po         | oint:     | TP8         | <u>3D</u> |          |
| Investigator(s):                              | J. Bartlett, L.       | Westervelt, K. Boa                                                                     |                         |             |           |                |                            |              | Secti    | ion, Tov | wnship, Rar                | nge: S               | 37 T27N          | I R2E     |             |           |          |
| Landform (hillslope, ter                      | race, etc.):          | <u>hillslope</u>                                                                       |                         |             |           | Loca           | I relief (conca            | ave, co      | onvex,   | none):   | convex                     |                      |                  | Slope     | e (%):      | 6-15      | <u>i</u> |
| Subregion (LRR):                              | MLRA 2                |                                                                                        | Lat:                    |             |           |                |                            | Lor          | ng: _    |          |                            |                      |                  | Datum:    | Trimbl      | <u>e</u>  |          |
| Soil Map Unit Name:                           | Ragnar Fine           | e sandy loam, 6 to                                                                     | 15 percen               | t slope     | es .      |                |                            |              |          |          | NWI cla                    | ssificati            | ion:             |           |             |           |          |
| Are climatic / hydrologic                     | c conditions o        | n the site typical for                                                                 | r this time             | of yea      | ar?       | Y              | es 🗆                       | No           | o [      | ☐ (If    | no, explain                | in Rem               | ıarks.)          |           |             |           |          |
| Are Vegetation $\square$ ,                    | Soil 🔲                | or Hydrology                                                                           | □, sigi                 | nifican     | tly dis   | sturbed        | ? Are "I                   | Norma        | l Circu  | ımstanc  | es" present                | t?                   |                  | Yes       | $\boxtimes$ | No        |          |
| Are Vegetation $\square$ ,                    | Soil 🔲                | , or Hydrology                                                                         | □, nat                  | urally      | oroble    | ematic1        | ? (If ne                   | eded,        | explair  | n any ar | nswers in R                | Remarks              | 3.)              |           |             |           |          |
| SUMMARY OF FIN                                | DINGS – At            | tach site map sl                                                                       | howing                  | samp        | ling      | point          | locations,                 | trans        | ects,    | impor    | rtant feat                 | ures, e              | etc.             |           |             |           |          |
| Hydrophytic Vegetation                        | Present?              |                                                                                        | Yes                     | $\boxtimes$ | No        |                |                            |              |          |          |                            |                      |                  |           |             |           |          |
| Hydric Soil Present?                          |                       |                                                                                        | Yes                     | $\boxtimes$ | No        |                | Is the Samp<br>within a We |              |          |          |                            |                      |                  | Yes       | $\boxtimes$ | No        |          |
| Wetland Hydrology Pre                         | esent?                |                                                                                        | Yes                     | $\boxtimes$ | No        |                |                            |              |          |          |                            |                      |                  |           |             |           |          |
| south end.<br>current log                     | It passes pri         | ility encompasses a<br>marily through und<br>s, and a large syste<br>long Service Road | eveloped<br>m of trails | timber      | land      | owned          | by OPG; mo:                | st of w      | hich is  | woven    | with interla               | acing log            | gging ro         | ads due   | to his      | toric a   | ınd      |
| VEGETATION - Us                               | e scientific          | names of plant                                                                         |                         |             |           |                |                            |              |          |          |                            |                      |                  |           |             |           |          |
| Tree Stratum (Plot size                       | e: 30' diamete        | <u>r</u> )                                                                             | Absolute % Cove         |             | omin      |                | Indicator<br>Status        | Dom          | inanc    | e Test \ | Worksheet                  | t:                   |                  |           |             |           |          |
| 1. Alnus rubra                                |                       |                                                                                        | 20                      |             | <u>es</u> | <del>50.</del> | FAC                        | Num          | ber of   | Domina   | ant Species                | :                    |                  |           |             |           |          |
| 2. Thuja plicata                              |                       |                                                                                        | <u>10</u>               | y           | <u>es</u> |                | FAC                        |              |          |          | CW, or FAC                 |                      |                  | <u>4</u>  |             |           | (A)      |
| 3                                             |                       |                                                                                        |                         | _           |           |                |                            |              |          |          | ominant                    |                      |                  | <u>6</u>  |             |           | (B)      |
| 4                                             |                       |                                                                                        |                         | _           |           |                |                            | Spec         | cies Ac  | ross All | Strata:                    |                      |                  | ū         |             |           | (D)      |
| $50\% = \underline{15}, 20\% = \underline{6}$ |                       |                                                                                        | <u>30</u>               | =           | Tota      | I Cove         | r                          |              |          |          | nt Species                 |                      |                  | <u>67</u> |             |           | (A/B)    |
| Sapling/Shrub Stratum                         | (Plot size: <u>30</u> | ' diameter)                                                                            |                         |             |           |                | •                          |              |          |          | CW, or FAC                 |                      |                  |           |             |           | ,        |
| 1. Rubus spectabilis                          |                       |                                                                                        | <u>20</u>               | <u>y</u>    | <u>es</u> |                | <u>FAC</u>                 | Prev         | alence   |          | workshee                   |                      |                  |           |             |           |          |
| 2. <u>Sambucus racemo</u>                     | <u>sa</u>             |                                                                                        | <u>10</u>               | y           | <u>es</u> |                | <u>FACU</u>                |              |          | Total    | % Cover of                 | <u>f:</u>            |                  | Multip    | ly by:      |           |          |
| 3                                             |                       |                                                                                        |                         | _           |           |                |                            |              | specie   |          |                            | _                    |                  | x1 =      |             |           |          |
| 4                                             |                       |                                                                                        |                         | _           |           |                |                            | FAC          | W spe    | cies     |                            | _                    |                  | x2 =      |             |           |          |
| 5                                             |                       |                                                                                        |                         | _           |           |                |                            | FAC          | specie   | es       | -                          | -                    |                  | x3 =      | -           | _         |          |
| $50\% = \underline{15}, 20\% = \underline{6}$ |                       |                                                                                        | <u>30</u>               | =           | Tota      | I Cove         | r                          | FAC          | U spec   | cies     |                            | _                    |                  | x4 =      |             |           |          |
| Herb Stratum (Plot size                       | e: <u>15' diamete</u> | <u>r</u> )                                                                             |                         |             |           |                |                            | UPL          | specie   | es       | -                          | -                    |                  | x5 =      |             |           |          |
| 1. Polystichum munitu                         | <u>um</u>             |                                                                                        | <u>15</u>               | y           | <u>es</u> |                | <u>FACU</u>                | Colu         | mn To    | tals:    |                            | _ (A)                |                  |           |             | (E        | 3)       |
| 2. Dryopteris expansa                         | <u>a</u>              |                                                                                        | <u>5</u>                | y           | <u>es</u> |                | <u>FACW</u>                |              |          |          | Prevalence                 | e Index              | = B/A =          | •         |             |           |          |
| 3                                             |                       |                                                                                        |                         | _           |           |                |                            | Hydr         | rophyt   | ic Vege  | etation Ind                | icators              | :                |           |             |           |          |
| 4                                             |                       |                                                                                        |                         | _           |           |                |                            |              | 1 – R    | apid Te  | st for Hydro               | ophytic              | Vegeta           | tion      |             |           |          |
| 5                                             |                       |                                                                                        |                         | _           |           |                |                            | $\boxtimes$  | 2 - Do   | ominano  | ce Test is >               | 50%                  |                  |           |             |           |          |
| 6                                             |                       |                                                                                        |                         | _           |           |                |                            |              | 3 - Pr   | revalend | ce Index is                | ≤3.0 <sup>1</sup>    |                  |           |             |           |          |
| 7                                             |                       |                                                                                        |                         | _           |           |                |                            |              | 4 - M    | orpholo  | gical Adapt                | tations <sup>1</sup> | (Provid          | le suppoi | rting       |           |          |
| 8                                             |                       |                                                                                        |                         | _           |           |                |                            |              |          |          | emarks or c                |                      |                  |           | Ū           |           |          |
| 9                                             |                       |                                                                                        |                         | _           |           |                |                            |              | 5 - W    | etland I | Non-Vascul                 | lar Plan             | ıts <sup>1</sup> |           |             |           |          |
| 10                                            |                       |                                                                                        |                         | _           |           |                |                            |              | Probl    | ematic   | Hydrophytic                | c Veget              | tation1 (        | Explain)  |             |           |          |
| 11                                            |                       |                                                                                        |                         | _           |           |                |                            |              |          |          |                            |                      |                  |           |             |           |          |
| $50\% = \underline{10}, 20\% = \underline{4}$ |                       |                                                                                        | <u>20</u>               | =           | Tota      | I Cove         | r                          |              |          |          | c soil and we disturbed of |                      |                  | ogy must  |             |           |          |
| Woody Vine Stratum (I                         | Plot size: 15' o      | diameter)                                                                              |                         |             |           |                |                            | вс рі        | reserit, | , urness | distanca                   | or probr             | cinatio.         |           |             |           |          |
| 1                                             |                       |                                                                                        |                         | _           |           |                |                            |              |          |          |                            |                      |                  |           |             |           |          |
| 2                                             |                       |                                                                                        |                         | _           |           |                |                            | _            | ophyt    |          |                            | .,                   | _                |           |             |           | _        |
| 50% =, 20% = _                                |                       |                                                                                        |                         | =           | Tota      | I Cove         | r                          | Vege<br>Pres | etation  | 1        | ·                          | Yes                  | $\boxtimes$      | j         | No          |           |          |
| % Bare Ground in Herb                         | b Stratum <u>80</u>   |                                                                                        |                         |             |           |                |                            | . 103        | J.,      |          |                            |                      |                  |           |             |           |          |
| Remarks: T                                    | he hydrophyti         | c vegetation criterio                                                                  | n is met b              | becaus      | se the    | ere is g       | reater than 50             | 0% doı       | minano   | ce by F  | AC and FA                  | CW sp                | ecies.           |           |             |           |          |
|                                               |                       |                                                                                        |                         |             |           |                |                            |              |          |          |                            |                      |                  |           |             |           |          |
|                                               |                       |                                                                                        |                         |             |           |                |                            |              |          |          |                            |                      |                  |           |             |           |          |

SOIL Sampling Point: TP8 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Redox Features (inches) Color (moist) % Color (moist) % Type<sup>1</sup> Loc2 Texture Remarks Duff 0-2 2-4 10YR 2/1 100 sa lo no redoixmorphic concentrations <u>4-7</u> 10YR 3/2 100 sa lo no redoximorphic concentrations 7-12 5YR 3/4 100 sa lo no redoixmorphic concentrations 12-16 10YR 4/2 5YR 3/4 <u>10</u> C 90 Μ sa lo <sup>1</sup>Type: C= Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. <sup>2</sup>Location: PL=Pore Lining, M=Matrix, RC=Root Channel Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils3: Histosol (A1) Sandy Redox (S5) 2 cm Muck (A10) Histic Epipedon (A2) П Stripped Matrix (S6)  $\Box$ Red Parent Material (TF2) Black Histic (A3) Loamy Mucky Mineral (F1) (except MLRA 1) Very Shallow Dark Surface (TF12) Loamy Gleyed Matrix (F2) Hydrogen Sulfide (A4) Other (Explain in Remarks) Depleted Below Dark Surface (A11)  $\boxtimes$ Depleted Matrix (F3) Thick Dark Surface (A12) Redox Dark Surface (F6) <sup>3</sup>Indicators of hydrophytic vegetation and П Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) wetland hydrology must be present, П Sandy Gleyed Matrix (S4) Redox Depressions (F8) unless disturbed or problematic. Restrictive Layer (if present): Type: **Hydric Soils Present?** Yes  $\boxtimes$ Depth (inches): No Remarks: The soil profile most closely matches the description for hydric soil indicateor F3, Depleted Matrix because the depleted matrix begins within 10 inches of the soil surface and has distinct mottling. **HYDROLOGY** Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (2 or more required) П Surface Water (A1) Water-Stained Leaves (B9) Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) High Water Table (A2) (MLRA 1, 2, 4A, and 4B) Saturation (A3) Salt Crust (B11) Drainage Patterns (B10) П Water Marks (B1) Aquatic Invertebrates (B13) П Dry-Season Water Table (C2) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aerial Imagery (C9) Drift Deposits (B3) Oxidized Rhizospheres along Living Roots (C3) Geomorphic Position (D2) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aguitard (D3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) FAC-Neutral Test (D5) П Surface Soil Cracks (B6) Stunted or Stresses Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Frost-Heave Hummocks (D7) Sparsely Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes No  $\boxtimes$ Depth (inches): Yes  $\boxtimes$ Water Table Present? No Depth (inches): 10 Saturation Present? Wetland Hydrology Present? Yes  $\boxtimes$ No Yes  $\boxtimes$ No Depth (inches): surface (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: A high water table was observed at 10" and soil saturation at the surface so there are primary indicators present for wetland hydrology. Water also seeped Remarks: into the hole at 6" depth.

| Project Site:                                 | Port Gamble                      | Trail Feasibility                                                                    |                         |             |                                |             | City/Coun                  | ty: <u>P</u>  | ort Ga  | mble/K             | itsap                       | Sampl                 | ling Date:             |              | <u>1/18</u> | <u>/17</u>  |             |
|-----------------------------------------------|----------------------------------|--------------------------------------------------------------------------------------|-------------------------|-------------|--------------------------------|-------------|----------------------------|---------------|---------|--------------------|-----------------------------|-----------------------|------------------------|--------------|-------------|-------------|-------------|
| Applicant/Owner:                              | Fischer Boum                     | a Partnership                                                                        |                         |             | State: WA Sampling Point: TP9D |             |                            |               |         |                    |                             |                       |                        |              |             |             |             |
| Investigator(s):                              | J. Bartlett, L. V                | Westervelt, K. Boa                                                                   |                         |             |                                |             |                            |               | Secti   | on, Tov            | vnship, Rar                 | nge: <u>S7</u>        | ' T27N R2              | <u>E</u>     |             |             |             |
| Landform (hillslope, ter                      | race, etc.):                     | hillslope                                                                            |                         |             |                                | Loca        | al relief (conc            | ave, co       | nvex,   | none):             | convex                      |                       | ;                      | Slope        | (%):        | <u>6-15</u> |             |
| Subregion (LRR):                              | MLRA 2                           |                                                                                      | Lat:                    |             |                                |             |                            | Lon           | ng:     |                    |                             |                       | Datu                   | m: <u>Tı</u> | rimble      | 2           |             |
| Soil Map Unit Name:                           | Ragnar Fine                      | sandy loam, 6 to                                                                     | 15 percen               | t slope     | <u>s</u>                       |             |                            |               |         |                    | NWI cla                     | ssificatio            | ın:                    |              |             |             |             |
| Are climatic / hydrologic                     | c conditions or                  | the site typical for                                                                 | this time               | of yea      | r?                             | Y           | es 🛚                       | No            | ) [     | lf ı               | no, explain                 | in Rema               | ırks.)                 |              |             |             |             |
| Are Vegetation $\square$ ,                    | Soil □,                          | or Hydrology                                                                         | □, sigi                 | nificant    | ly dis                         | turbed      | l? Are "                   | Normal        | l Circu | mstance            | es" present                 | t?                    | Y                      | 'es          | $\boxtimes$ | No          |             |
| Are Vegetation $\square$ ,                    | Soil □,                          | or Hydrology                                                                         | □, nat                  | urally p    | roble                          | ematic1     | ? (If ne                   | eded, e       | explair | any an             | swers in R                  | emarks.)              | )                      |              |             |             |             |
| SUMMARY OF FIN                                | DINGS – Att                      | ach site map sl                                                                      | nowing                  | samp        | ling                           | point       | locations,                 | trans         | ects,   | impor              | tant featu                  | ures, et              | tc.                    |              |             |             |             |
| Hydrophytic Vegetation                        | Present?                         |                                                                                      | Yes                     | $\boxtimes$ | No                             |             |                            |               |         |                    |                             |                       |                        |              |             |             |             |
| Hydric Soil Present?                          |                                  |                                                                                      | Yes                     |             | No                             | $\boxtimes$ | Is the Samp<br>within a We |               |         |                    |                             |                       | Y                      | 'es          |             | No          | $\boxtimes$ |
| Wetland Hydrology Pre                         | esent?                           |                                                                                      | Yes                     |             | No                             | $\boxtimes$ |                            |               |         |                    |                             |                       |                        |              |             |             |             |
| south end.<br>current log                     | It passes prir<br>ging practices | lity encompasses a<br>marily through undo<br>, and a large syste<br>ong Service Road | eveloped<br>m of trails | timberl     | and c                          | wned        | by OPG; mo                 | st of wh      | hich is | woven              | with interla                | cing logg             | ging roads             | due to       | o histo     | oric a      | nd          |
| <b>VEGETATION – Us</b>                        | e scientific                     | names of plant                                                                       |                         |             |                                |             |                            |               |         |                    |                             |                       |                        |              |             |             |             |
| Tree Stratum (Plot size                       | e: 30' diameter                  | )                                                                                    | Absolute % Cove         |             | omina<br>pecie                 |             | Indicator<br>Status        | Domi          | inance  | e Test V           | Vorksheet                   | :                     |                        |              |             |             |             |
| 1. Alnus rubra                                |                                  |                                                                                      | <u>75 0070</u>          |             | es<br>es                       | <u> </u>    | FAC                        | Numh          | her of  | Domina             | nt Species                  |                       |                        |              |             |             |             |
| 2. Thuja plicata                              |                                  |                                                                                      | <u>15</u>               | ye          | es                             |             | FAC                        |               |         |                    | CW, or FAC                  |                       | <u>4</u>               |              |             |             | (A)         |
| 3                                             |                                  |                                                                                      |                         | _           |                                |             |                            |               |         |                    | ominant                     |                       | <u>6</u>               |              |             |             | (B)         |
| 4                                             |                                  |                                                                                      |                         | _           | _                              |             |                            | Speci         | ies Ac  | ross All           | Strata:                     |                       | _                      |              |             |             | (-)         |
| $50\% = \underline{15}, 20\% = \underline{6}$ |                                  |                                                                                      | <u>30</u>               | =           | Total                          | Cove        | r                          |               |         |                    | nt Species                  |                       | 67                     | 7            |             |             | (A/B)       |
| Sapling/Shrub Stratum                         | (Plot size: <u>30'</u>           | diameter)                                                                            |                         |             |                                |             |                            |               |         |                    | CW, or FAC                  |                       |                        |              |             |             | , ,         |
| 1. Rubus spectabilis                          |                                  |                                                                                      | <u>30</u>               | ye          | <u>es</u>                      |             | <u>FAC</u>                 | Preva         | alence  |                    | workshee                    |                       |                        |              |             |             |             |
| 2. <u>Sambucus racemo</u>                     | <u>sa</u>                        |                                                                                      | <u>15</u>               | ye          | es es                          |             | <u>FACU</u>                |               |         | Total <sup>c</sup> | % Cover of                  | <u>:</u>              | <u>M</u>               | ultiply      | by:         |             |             |
| 3                                             |                                  |                                                                                      |                         | _           |                                |             |                            | OBL:          | specie  | es.                |                             | :                     | X1                     | 1 =          |             | _           |             |
| 4                                             |                                  |                                                                                      |                         | _           |                                |             |                            | FACV          | N spe   | cies               |                             | :                     | x2                     | 2 =          |             | _           |             |
| 5                                             |                                  |                                                                                      |                         | _           |                                |             | —                          | FAC :         | specie  | S                  |                             |                       | x3                     | 3 =          |             | _           |             |
| 50% = 22.5, 20% = 9                           |                                  |                                                                                      | <u>45</u>               | =           | Total                          | Cove        | r                          | FACL          | J spec  | ies                |                             | :                     | X <sup>2</sup>         | 4 =          |             | _           |             |
| Herb Stratum (Plot size                       | e: <u>15' diameter</u>           | r)                                                                                   |                         |             |                                |             |                            | UPL :         | specie  | S                  |                             |                       | χŧ                     | 5 =          |             | _           |             |
| 1. Polystichum munitt                         | <u>um</u>                        |                                                                                      | <u>25</u>               | <u>y</u> e  | es es                          |             | <u>FACU</u>                | Colur         | mn To   | tals:              |                             | _ (A)                 |                        |              |             | (E          | 3)          |
| 2. Dryopteris expansa                         | <u>a</u>                         |                                                                                      | <u>10</u>               | ye          | es                             |             | <u>FACW</u>                |               |         |                    | Prevalence                  | e Index =             | = B/A =                |              |             |             |             |
| 3. Rubus ursinus                              |                                  |                                                                                      | <u>5</u>                | ne          | <u> </u>                       |             | <u>FACU</u>                | Hydr          | ophyt   | ic Vege            | tation Indi                 | icators:              |                        |              |             |             |             |
| 4                                             |                                  |                                                                                      |                         | _           |                                |             |                            |               | 1 – R   | apid Te            | st for Hydro                | ophytic V             | egetation/             |              |             |             |             |
| 5                                             |                                  |                                                                                      |                         | _           |                                |             |                            | $\boxtimes$   | 2 - Do  | ominano            | e Test is >                 | 50%                   |                        |              |             |             |             |
| 6                                             |                                  |                                                                                      |                         | _           |                                |             |                            |               | 3 - Pr  | evalend            | e Index is                  | ≤3.0 <sup>1</sup>     |                        |              |             |             |             |
| 7                                             |                                  |                                                                                      |                         | _           |                                |             |                            |               | 4 - Mo  | orpholog           | gical Adapt                 | ations <sup>1</sup> ( | Provide su             | ıpporti      | ng          |             |             |
| 8                                             |                                  |                                                                                      |                         | _           |                                |             |                            |               | da      | ta in Re           | marks or o                  | n a sepa              | arate shee             | t)           | •           |             |             |
| 9                                             |                                  |                                                                                      |                         | _           |                                |             |                            |               | 5 - W   | etland N           | lon-Vascul                  | ar Plants             | s <sup>1</sup>         |              |             |             |             |
| 10                                            |                                  |                                                                                      |                         | _           |                                |             |                            |               | Proble  | ematic I           | Hydrophytic                 | c Vegeta              | tion <sup>1</sup> (Exp | ain)         |             |             |             |
| 11                                            |                                  |                                                                                      |                         | _           |                                |             |                            |               |         |                    |                             |                       |                        | ,            |             |             |             |
| 50% = <u>20</u> , 20% = <u>8</u>              |                                  |                                                                                      | <u>40</u>               | =           | Total                          | Cove        | r                          |               |         |                    | c soil and v<br>disturbed o |                       |                        | nust         |             |             |             |
| Woody Vine Stratum (F                         | Plot size: 15' d                 | iameter)                                                                             |                         |             |                                |             |                            | ne bi         | esent,  | uilless            | uistuibeu t                 | n proble              | mauc.                  |              |             |             |             |
| 1                                             |                                  |                                                                                      |                         | _           |                                |             |                            |               |         |                    |                             |                       |                        |              |             |             |             |
| 2                                             |                                  |                                                                                      |                         |             |                                |             |                            | -             | ophyt   |                    |                             |                       | _                      |              |             |             | _           |
| 50% =, 20% = _                                |                                  |                                                                                      |                         | =           | Total                          | Cove        | r                          | Vege<br>Prese | tation  | l                  | `                           | Yes                   | $\boxtimes$            |              | No          |             |             |
| % Bare Ground in Herb                         | b Stratum                        | <u> </u>                                                                             |                         |             |                                |             |                            | 1 103         | ont!    |                    |                             |                       |                        |              |             |             |             |
| Remarks: T                                    | he hydrophytic                   | vegetation criterio                                                                  | n is met b              | oecaus      | e the                          | re is g     | reater than 50             | 0% don        | ninano  | e by FA            | AC and FA                   | CW spec               | ies                    |              |             |             |             |
| . comuno.                                     |                                  |                                                                                      |                         |             |                                |             |                            |               |         |                    |                             |                       |                        |              |             |             |             |
|                                               |                                  |                                                                                      |                         |             |                                |             |                            |               |         |                    |                             |                       |                        |              |             |             |             |

SOIL Sampling Point: TP9 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Redox Features (inches) Color (moist) % Color (moist) % Type<sup>1</sup> Loc<sup>2</sup> Texture Remarks Duff 0-1 1-5 10YR 2/1 100 sa lo no redoximorphic concentrations 5-16 10YR 4/4 100 no redoximorphic concentrations sa lo sa- sand lo - loam <sup>1</sup>Type: C= Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. <sup>2</sup>Location: PL=Pore Lining, M=Matrix, RC=Root Channel Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils3: Histosol (A1) Sandy Redox (S5) 2 cm Muck (A10) Histic Epipedon (A2) П Stripped Matrix (S6)  $\Box$ Red Parent Material (TF2) Black Histic (A3) Loamy Mucky Mineral (F1) (except MLRA 1) Very Shallow Dark Surface (TF12) Loamy Gleyed Matrix (F2) Hydrogen Sulfide (A4) Other (Explain in Remarks) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Thick Dark Surface (A12) Redox Dark Surface (F6) <sup>3</sup>Indicators of hydrophytic vegetation and П Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) wetland hydrology must be present, П Sandy Gleyed Matrix (S4) Redox Depressions (F8) unless disturbed or problematic. Restrictive Layer (if present): Type: **Hydric Soils Present?** Yes No  $\boxtimes$ Depth (inches): Remarks: Neither of the soil layers meet the definition of a depleted matrix so this soil profile is determined to meet none of the hydric soil indicators **HYDROLOGY** Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (2 or more required) П Surface Water (A1) Water-Stained Leaves (B9) Water-Stained Leaves (B9) High Water Table (A2) (except MLRA 1, 2, 4A, and 4B) (MLRA 1, 2, 4A, and 4B) Saturation (A3) Salt Crust (B11) Drainage Patterns (B10) П Water Marks (B1) Aquatic Invertebrates (B13) П Dry-Season Water Table (C2) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Drift Deposits (B3) Oxidized Rhizospheres along Living Roots (C3) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aguitard (D3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) FAC-Neutral Test (D5) П Surface Soil Cracks (B6) Stunted or Stresses Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Frost-Heave Hummocks (D7) Sparsely Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes No  $\boxtimes$ Depth (inches): Water Table Present? Yes  $\boxtimes$ No Depth (inches): Saturation Present? Wetland Hydrology Present? Yes No  $\boxtimes$ Yes No  $\boxtimes$ Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Hydrology was not present during the field visit and there was no evidence of wetland hydrology. Remarks:

| Project Site:                      | Port Gamble Trail Fea                       | sibility                                         |                                              | City/Coun       | ty: Port Gamble/Kitsap                                               | Sampling Date         | e: <u>1/1</u>     | 18/17         |    |
|------------------------------------|---------------------------------------------|--------------------------------------------------|----------------------------------------------|-----------------|----------------------------------------------------------------------|-----------------------|-------------------|---------------|----|
| Applicant/Owner:                   | Fischer Bouma Partne                        | <u>ership</u>                                    |                                              |                 | State: WA                                                            | Sampling Poin         | nt: <u>TF</u>     | 210E          |    |
| Investigator(s):                   | J. Bartlett, L. Westerve                    | elt, K. Boa                                      |                                              |                 | Section, Township, Rar                                               | ige: <u>S7 T27N R</u> | R2E               |               |    |
| Landform (hillslope, te            | errace, etc.): <u>hillslope</u>             | <u>e</u>                                         | Loca                                         | al relief (conc | ave, convex, none): <u>convex</u>                                    |                       | Slope (%)         | : <u>6-15</u> |    |
| Subregion (LRR):                   | MLRA 2                                      | Lat:                                             |                                              |                 | Long:                                                                | Da                    | tum: <u>Trimb</u> | ole           |    |
| Soil Map Unit Name:                | Ragnar Fine sandy lo                        | oam, 6 to 15 percent s                           | lopes                                        |                 | NWI clas                                                             | ssification:          |                   |               |    |
| Are climatic / hydrolog            | ic conditions on the site                   | typical for this time of                         | year? Y                                      | es 🛚            | No                                                                   | in Remarks.)          |                   |               |    |
| Are Vegetation                     | , Soil □, or Hy                             | drology $\square$ , signifi                      | cantly disturbed                             | l? Are "        | Normal Circumstances" present                                        | ?                     | Yes 🛛             | No 🗆          |    |
| Are Vegetation                     | , Soil □, or Hy                             | drology   , natura                               | ally problematic                             | ? (If ne        | eded, explain any answers in R                                       | emarks.)              |                   |               |    |
| SUMMARY OF FIN                     | IDINGS – Attach sit                         | e map showing sa                                 | mpling point                                 | locations,      | transects, important featu                                           | ıres, etc.            |                   |               |    |
| Hydrophytic Vegetatio              | n Present?                                  | Yes [                                            | ] No ⊠                                       |                 | · · · · · ·                                                          | ·                     |                   |               |    |
| Hydric Soil Present?               |                                             | Yes [                                            | ] No ⊠                                       | Is the Samp     |                                                                      |                       | Yes 🗆             | No 🛛          |    |
| Wetland Hydrology Pr               | esent?                                      | Yes [                                            | ] No ⊠                                       | within a we     | uanu:                                                                |                       |                   |               |    |
| Remarks: The scop                  | e of this feasibility encor                 | mpasses a section abo                            | out 6 miles long                             | extending be    | etween Port Gamble at the north                                      | end and Stottle       | meyer Road        | d NE at the   |    |
| south end<br>current lo            | <ol> <li>It passes primarily the</li> </ol> | rough undeveloped tin<br>arge system of trails u | berland owned                                | by OPG; mo      | st of which is woven with interla<br>d equestrian hobbyists weave be | cing logging road     | ds due to hi      | storic and    |    |
|                                    | se scientific names                         |                                                  |                                              |                 |                                                                      |                       |                   |               |    |
| Tree Stratum (Plot siz             |                                             | Absolute                                         | Dominant                                     | Indicator       | Dominance Test Worksheet                                             | <del></del>           |                   |               |    |
|                                    |                                             | % Cover                                          | Species?                                     | Status<br>FACU  |                                                                      |                       |                   |               |    |
| Tsuga heterophyli     Z            | <u>a</u>                                    | <u>15</u>                                        | <u>yes</u>                                   | FACU            | Number of Dominant Species<br>That Are OBL, FACW, or FAC             | :                     | <u>2</u>          | (A)           |    |
| 3                                  |                                             |                                                  |                                              |                 | ,                                                                    |                       |                   |               |    |
| 4                                  |                                             |                                                  |                                              |                 | Total Number of Dominant<br>Species Across All Strata:               |                       | <u>6</u>          | (B)           |    |
| 50% = <u>7.5</u> , 20% = <u>3</u>  |                                             | 15                                               | = Total Cove                                 |                 | Descript of Descript Occasion                                        |                       |                   |               |    |
|                                    | n (Plot size: 30' diamete                   | · <del></del>                                    | = 10tal 0010                                 | •               | Percent of Dominant Species<br>That Are OBL, FACW, or FAC            | ):                    | <u>33</u>         | (A/E          | 3) |
| Gaultheria shallor                 | •                                           | <u>10</u>                                        | <u>yes</u>                                   | <u>UPL</u>      | Prevalence Index workshee                                            | <br><del>!</del> :    |                   | <del></del>   |    |
| Rubus spectabilis                  |                                             | <u>10</u>                                        | <u>yes</u>                                   | FAC             | Total % Cover of                                                     |                       | Multiply by:      |               |    |
| Sambucus racem                     |                                             | <u>10</u><br>5                                   | <u>yes</u><br>yes                            | FACU            | OBL species                                                          |                       | x1 =              | <u>-</u>      |    |
| 4                                  | <u> </u>                                    | ≅.                                               | <u>,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,</u> | 17.00           | FACW species                                                         |                       | x2 =              | <del></del>   |    |
| 5.                                 |                                             | <del></del>                                      |                                              |                 | FAC species                                                          |                       | x3 =              |               |    |
| 50% = <u>12.5</u> , 20% = <u>5</u> |                                             | 25                                               | = Total Cove                                 | <br>r           | FACU species                                                         |                       | x4 =              |               |    |
| Herb Stratum (Plot siz             | ve: 15' diameter)                           | <u>=v</u>                                        | 101010010                                    |                 | UPL species                                                          |                       | x5 =              | <del></del>   |    |
| •                                  | •                                           | 10                                               | VOS                                          | FACU            |                                                                      | _(A)                  |                   | (B)           |    |
| 1. Polystichum muni                |                                             | <u>10</u>                                        | <u>yes</u>                                   |                 | Column Totals:                                                       |                       |                   | (D)           |    |
| 2. <u>Dryopteris expans</u>        | <u>sa</u>                                   | <u>5</u>                                         | <u>yes</u>                                   | <u>FACW</u>     |                                                                      | e Index = B/A = _     | <del></del>       |               |    |
| 3                                  |                                             |                                                  |                                              |                 | Hydrophytic Vegetation Indi                                          |                       |                   |               |    |
| 4                                  |                                             |                                                  |                                              | —               | 1 – Rapid Test for Hydro                                             |                       | on                |               |    |
| 5                                  |                                             |                                                  |                                              |                 | 2 - Dominance Test is >                                              |                       |                   |               |    |
| 6                                  |                                             |                                                  |                                              | —               | 3 - Prevalence Index is                                              | _                     |                   |               |    |
| 7                                  |                                             |                                                  |                                              |                 | 4 - Morphological Adapt<br>data in Remarks or o                      |                       |                   |               |    |
| 8                                  |                                             |                                                  |                                              |                 |                                                                      | •                     | 301)              |               |    |
| 9                                  |                                             |                                                  |                                              |                 |                                                                      |                       |                   |               |    |
| 10                                 |                                             |                                                  |                                              |                 | ☐ Problematic Hydrophytic                                            | : Vegetation¹ (Ex     | xplain)           |               |    |
| 11                                 |                                             |                                                  |                                              |                 | <sup>1</sup> Indicators of hydric soil and v                         | vetland hydrolog      | v must            |               |    |
| 50% = <u>7.5</u> , 20% = <u>3</u>  | (5)                                         | <u>15</u>                                        | = Total Cove                                 | r               | be present, unless disturbed of                                      |                       | ,                 |               |    |
| -                                  | (Plot size: 15' diameter)                   |                                                  |                                              |                 |                                                                      |                       |                   | <del></del> ; |    |
| 1                                  |                                             |                                                  |                                              |                 | Hydrophytic                                                          |                       |                   |               |    |
| 2                                  |                                             |                                                  |                                              |                 |                                                                      | ∕es □                 | N                 | o 🛛           |    |
| 50% =, 20% =                       |                                             |                                                  | = Total Cove                                 | r               | Present?                                                             | _ <del>-</del>        |                   | _             |    |
| % Bare Ground in He                |                                             |                                                  |                                              |                 |                                                                      |                       |                   |               |    |
| Remarks:                           | The hydrophytic vegetat                     | ion criterion is not met                         | because there                                | is not greate   | than 50% dominance by FAC                                            | or FACW species       | S.                |               |    |
|                                    |                                             |                                                  |                                              |                 |                                                                      |                       |                   |               |    |
|                                    |                                             |                                                  |                                              |                 |                                                                      |                       |                   |               |    |

SOIL Sampling Point: TP10 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Redox Features (inches) Color (moist) % Color (moist) % Type<sup>1</sup> Loc2 Texture Remarks Duff 0-5 <u>5-10</u> 10YR 2/1 100 sa lo no redoximorphic concentrations 10-16 10YR 3/2 100 sa lo no redoximorphic concentrations 16-20 2.5Y 3/1 100 sa lo no redoximorphic concentrations <sup>1</sup>Type: C= Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. <sup>2</sup>Location: PL=Pore Lining, M=Matrix, RC=Root Channel Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils3: Histosol (A1) Sandy Redox (S5) 2 cm Muck (A10) Histic Epipedon (A2) П Stripped Matrix (S6)  $\Box$ Red Parent Material (TF2) Black Histic (A3) Loamy Mucky Mineral (F1) (except MLRA 1) Very Shallow Dark Surface (TF12) Loamy Gleyed Matrix (F2) Hydrogen Sulfide (A4) Other (Explain in Remarks) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Thick Dark Surface (A12) Redox Dark Surface (F6) <sup>3</sup>Indicators of hydrophytic vegetation and П Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) wetland hydrology must be present, П Sandy Gleyed Matrix (S4) Redox Depressions (F8) unless disturbed or problematic. Restrictive Layer (if present): Type: **Hydric Soils Present?** Yes No  $\boxtimes$ Depth (inches): Remarks: None of the soil layers meet the definition of a depleted matrix so this soil profile is determined to meet none of the hydric soil indicators **HYDROLOGY** Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (2 or more required) П Surface Water (A1) Water-Stained Leaves (B9) Water-Stained Leaves (B9) High Water Table (A2) (except MLRA 1, 2, 4A, and 4B) (MLRA 1, 2, 4A, and 4B) Saturation (A3) Salt Crust (B11) Drainage Patterns (B10) П Water Marks (B1) Aquatic Invertebrates (B13) П Dry-Season Water Table (C2) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Drift Deposits (B3) Oxidized Rhizospheres along Living Roots (C3) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aguitard (D3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) FAC-Neutral Test (D5) П Surface Soil Cracks (B6) Stunted or Stresses Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Frost-Heave Hummocks (D7) Sparsely Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes No  $\boxtimes$ Depth (inches): Water Table Present? Yes  $\boxtimes$ No Depth (inches): Saturation Present? Wetland Hydrology Present? Yes No  $\boxtimes$ Yes No  $\boxtimes$ Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Seepage was observed below 12 inches so hydrology was not present during the field visit and there was no evidence of wetland hydrology. Remarks:

| Project Site: Port Gamble Trail Feasibility                                                                                                                                           |                                                       | ty: <u>Port Gamble/Kitsap</u> Sampli | ing Date: <u>1/18/</u>                                                                          | <u>/17</u>                                     |             |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------|--------------------------------------|-------------------------------------------------------------------------------------------------|------------------------------------------------|-------------|
| Applicant/Owner: <u>Fischer Bouma Partnership</u>                                                                                                                                     |                                                       |                                      | State: WA Sampli                                                                                | ing Point: TP11                                | <u>1E</u>   |
| Investigator(s): <u>J. Bartlett, L. Westervelt, K. Boa</u>                                                                                                                            |                                                       |                                      | Section, Township, Range: S7                                                                    | T27N R2E                                       |             |
| Landform (hillslope, terrace, etc.): <u>hillslope</u>                                                                                                                                 | L                                                     | ocal relief (conc                    | ave, convex, none): <u>convex</u>                                                               | Slope (%):                                     | <u>6-15</u> |
| Subregion (LRR): MLRA 2                                                                                                                                                               | Lat:                                                  |                                      | Long:                                                                                           | Datum: Trimble                                 | <u>)</u>    |
| Soil Map Unit Name: Ragnar Fine sandy loam, 6 to                                                                                                                                      | 15 percent slopes                                     |                                      | NWI classification                                                                              | ı:                                             |             |
| Are climatic / hydrologic conditions on the site typical for                                                                                                                          | this time of year?                                    | Yes 🛛                                | No                                                                                              | rks.)                                          |             |
| Are Vegetation □, Soil □, or Hydrology                                                                                                                                                | □, significantly distur                               | bed? Are "                           | Normal Circumstances" present?                                                                  | Yes 🛛                                          | No 🗆        |
| Are Vegetation □, Soil □, or Hydrology                                                                                                                                                | ☐, naturally problems                                 | atic? (If ne                         | eded, explain any answers in Remarks.)                                                          |                                                |             |
| SUMMARY OF FINDINGS – Attach site map si                                                                                                                                              | nowing sampling no                                    | int locations                        | transacts important foatures of                                                                 | •                                              |             |
| Hydrophytic Vegetation Present?                                                                                                                                                       | Yes 🛛 No 🗆                                            |                                      | transects, important reatures, etc                                                              | <u>,                                      </u> | <del></del> |
| Hydric Soil Present?                                                                                                                                                                  | Yes ⊠ No □                                            | Is the Samp                          |                                                                                                 | Yes ⊠                                          | No 🗆        |
| Wetland Hydrology Present?                                                                                                                                                            | Yes ⊠ No □                                            | within a we                          | etland?                                                                                         | 103 🖸                                          |             |
| · · · · · · · · · · · · · · · · · · ·                                                                                                                                                 |                                                       |                                      |                                                                                                 |                                                | JE 44       |
| Remarks: The scope of this feasibility encompasses a south end. It passes primarily through undocurrent logging practices, and a large syste in the North Segment, along Service Road | eveloped timberland owr<br>m of trails utilized by wa | ned by OPG; mo                       | st of which is woven with interlacing logg                                                      | ing roads due to histo                         | oric and    |
| VEGETATION – Use scientific names of plant                                                                                                                                            |                                                       |                                      |                                                                                                 |                                                |             |
| Tree Stratum (Plot size: 30' diameter)                                                                                                                                                | Absolute Dominant<br>% Cover Species?                 | Indicator<br>Status                  | Dominance Test Worksheet:                                                                       |                                                |             |
| 1. Thuja plicata                                                                                                                                                                      | 10 <u>yes</u>                                         | FAC                                  | Number of Dominant Species                                                                      | 2                                              | (4)         |
| 2                                                                                                                                                                                     |                                                       |                                      | That Are OBL, FACW, or FAC:                                                                     | <u>2</u>                                       | (A)         |
| 3                                                                                                                                                                                     |                                                       |                                      | Total Number of Dominant                                                                        | 2                                              | (B)         |
| 4                                                                                                                                                                                     |                                                       |                                      | Species Across All Strata:                                                                      | <u>3</u>                                       | (B)         |
| 50% = <u>5</u> , 20% = <u>2</u>                                                                                                                                                       | <u>10</u> = Total Co                                  | over                                 | Percent of Dominant Species                                                                     | <u>67</u>                                      | (A/B)       |
| Sapling/Shrub Stratum (Plot size: 30' diameter)                                                                                                                                       |                                                       |                                      | That Are OBL, FACW, or FAC:                                                                     | <u>07</u>                                      | (7/0)       |
| 1                                                                                                                                                                                     |                                                       |                                      | Prevalence Index worksheet:                                                                     |                                                |             |
| 2                                                                                                                                                                                     |                                                       |                                      | Total % Cover of:                                                                               | Multiply by:                                   |             |
| 3                                                                                                                                                                                     |                                                       |                                      | OBL species                                                                                     | x1 =                                           | _           |
| 4                                                                                                                                                                                     |                                                       |                                      | FACW species                                                                                    | x2 =                                           | _           |
| 5                                                                                                                                                                                     |                                                       |                                      | FAC species                                                                                     | x3 =                                           | _           |
| 50% =, 20% =                                                                                                                                                                          | = Total Co                                            | over                                 | FACU species                                                                                    | x4 =                                           | _           |
| Herb Stratum (Plot size: 15' diameter)                                                                                                                                                |                                                       |                                      | UPL species                                                                                     | x5 =                                           | _           |
| 1. Polystichum munitum                                                                                                                                                                | <u>5</u> <u>yes</u>                                   | <u>FACU</u>                          | Column Totals:(A)                                                                               |                                                | (B)         |
| 2. <u>Tolmiea menziesii</u>                                                                                                                                                           | <u>5</u> <u>yes</u>                                   | <u>FAC</u>                           | Prevalence Index =                                                                              | B/A =                                          |             |
| 3                                                                                                                                                                                     |                                                       |                                      | Hydrophytic Vegetation Indicators:                                                              |                                                |             |
| 4                                                                                                                                                                                     |                                                       |                                      | ☐ 1 – Rapid Test for Hydrophytic V                                                              | egetation                                      |             |
| 5                                                                                                                                                                                     |                                                       |                                      |                                                                                                 |                                                |             |
| 6                                                                                                                                                                                     |                                                       |                                      | ☐ 3 - Prevalence Index is ≤3.0 <sup>1</sup>                                                     |                                                |             |
| 7                                                                                                                                                                                     |                                                       |                                      | 4 - Morphological Adaptations <sup>1</sup> (F                                                   | Provide supporting                             |             |
| 8                                                                                                                                                                                     |                                                       |                                      | data in Remarks or on a sepa                                                                    | rate sheet)                                    |             |
| 9                                                                                                                                                                                     |                                                       |                                      | ☐ 5 - Wetland Non-Vascular Plants                                                               | 1                                              |             |
| 10                                                                                                                                                                                    |                                                       |                                      | ☐ Problematic Hydrophytic Vegetat                                                               | ion¹ (Explain)                                 |             |
| 11                                                                                                                                                                                    |                                                       |                                      | 4                                                                                               |                                                |             |
| 50% =, 20% =                                                                                                                                                                          | = Total Co                                            | over                                 | <sup>1</sup> Indicators of hydric soil and wetland h<br>be present, unless disturbed or probler |                                                |             |
| Woody Vine Stratum (Plot size: 15' diameter)                                                                                                                                          |                                                       |                                      |                                                                                                 |                                                |             |
| 1                                                                                                                                                                                     |                                                       |                                      |                                                                                                 |                                                |             |
| 2                                                                                                                                                                                     |                                                       |                                      | Hydrophytic<br>Vegetation Yes                                                                   | ⊠ No                                           |             |
| 50% =, 20% =                                                                                                                                                                          | = Total Co                                            | over                                 | Present?                                                                                        | ⊠ No                                           |             |
| % Bare Ground in Herb Stratum 90                                                                                                                                                      |                                                       |                                      |                                                                                                 |                                                |             |
| Remarks: The hydrophytic vegetation criterio                                                                                                                                          | on is met because there i                             | s greater than 5                     | 0% dominance by FAC species                                                                     |                                                |             |
|                                                                                                                                                                                       |                                                       |                                      |                                                                                                 |                                                |             |
|                                                                                                                                                                                       |                                                       |                                      |                                                                                                 |                                                |             |

| Color (moist)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | OIL<br>rofile Description: (Desc                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | rihe to th                                                 | a danth           | needed              | to do  | cument the indicate                                                                                                                                                                                                                         | or or confi                                                                                            | irm the absence                                                      | of indicate                                   | Sampling Point: TP11                                                                                                                                                                                                                                                                                               |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------|-------------------|---------------------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------|-----------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Color (moist)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | -                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                            | e depti           | neeueu              | to do  |                                                                                                                                                                                                                                             |                                                                                                        | iriii tile absence                                                   | Oi illuicate                                  | JI 5.)                                                                                                                                                                                                                                                                                                             |
| Design   Concentration   DeDepletion   RM-Reduced Matrix, CS=Covered or Coated Sand Grains.   Cocation: PL=Pere Lining, M-Matrix, RC=Root Channel yorld Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)   Indicators (Applicable to all LRRs, unless otherwise noted.)   Indicators (Applicable to all LRRs, unless otherwise noted.)   Indicators for Problematic Hydric Soils*:   Location: PL=Pere Lining, M-Matrix, RC=Root Channel yorld Soil Indicators (Applicable to all LRRs, unless otherwise noted.)   Indicators for Problematic Hydric Soils*:   Location: PL=Pere Lining, M-Matrix, RC=Root Channel yorld Root (Applicable to all LRRs, unless otherwise noted.)   Indicators for Problematic Hydric Soils*:   Root Parent Matrix (FS)   Root Parent Matrix (FS)   Root Parent Matrix (FS)   Root Parent Matrix (FS)   Channel Root (AT)   Depleted Matrix (FS)   Other (Explain in Remarks)   Depleted Matrix (FS)   Thick Dark Surface (AT1)   Depleted Matrix (FS)   Root Dark Surface (FF)   Root Dark Surface (FF)   Root Parent Matrix (FF)   Root Dark Surface (FF)   Root Parent Matrix (FF)   Root Dark Surface (FF)   Root Parent Matrix (FF)   Root Parent Root Parent Parent Root Parent Parent Root Parent Parent Root Parent Parent Parent Parent Root Parent Parent Parent Root Parent Parent Parent Parent Parent Parent Parent Parent Parent   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                            | 0/_               | Color               | · (moi | <del></del>                                                                                                                                                                                                                                 |                                                                                                        | Loc <sup>2</sup>                                                     | -<br>Tevture                                  | Pemarke                                                                                                                                                                                                                                                                                                            |
| ype: C= Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.    Variety   Vari | <u></u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | <u> </u>                                                   |                   | Coloi               | (IIIOI | 51) /6                                                                                                                                                                                                                                      | туре                                                                                                   |                                                                      | -                                             |                                                                                                                                                                                                                                                                                                                    |
| ppe: C= Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.  **Location: PL=Pore Lining, M=Matrix, RC=Root Channel drift Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)    Hidrosoi (A1)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | · · · · · · · · · · · · · · · · · · ·                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                            |                   |                     | /R 3/4 | 1 20                                                                                                                                                                                                                                        |                                                                                                        |                                                                      | · · · · · · · · · · · · · · · · · · ·         | no redoximorphic concentrations                                                                                                                                                                                                                                                                                    |
| Histosol (Ar)   Sandy Redox (SS)   Care Makers (Applicable to all LRRs, unless otherwise noted.)   Indicators for Problematic Hydric Soils *I-Histosol (Ar)   Sandy Redox (SS)   Care Maker (Ar)   Care Muck (A10)   Care Muck (A11)   Care Muck (A12)   Care Muck (A13)   Care Muck (A14)   Care Muck (A14) | 2.51 5/1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                            | 00                | 7.01                | 100/-  | <u>. 20</u>                                                                                                                                                                                                                                 | <u> </u>                                                                                               | <u>ivi</u>                                                           | <u>30</u>                                     | <del></del>                                                                                                                                                                                                                                                                                                        |
| Histosol (Ar)   Sandy Redox (S5)   2 cm Muck (A10)   2 cm Muck (A10)   2 cm Muck (A10)   3 cm Muck (A10)   2 cm Muck (A10)   3 cm Muck (A10)   2 cm Muck (A10)   3 cm Muck (A10)   4 cm Muck (A1 | <del></del>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | _                                                          |                   |                     |        | <del></del>                                                                                                                                                                                                                                 |                                                                                                        |                                                                      |                                               | <del></del>                                                                                                                                                                                                                                                                                                        |
| Histosol (Ar)   Sandy Redox (SS)   Care Makers (Applicable to all LRRs, unless otherwise noted.)   Indicators for Problematic Hydric Soils *I-Histosol (Ar)   Sandy Redox (SS)   Care Maker (Ar)   Care Muck (A10)   Care Muck (A11)   Care Muck (A12)   Care Muck (A13)   Care Muck (A14)   Care Muck (A14) | <del></del>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | _                                                          |                   |                     |        | <del></del>                                                                                                                                                                                                                                 |                                                                                                        |                                                                      | -                                             | <del></del>                                                                                                                                                                                                                                                                                                        |
| Histosol (Ar)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | <del></del>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | _                                                          |                   |                     |        | <del></del>                                                                                                                                                                                                                                 |                                                                                                        |                                                                      | -                                             | <del></del>                                                                                                                                                                                                                                                                                                        |
| Histosol (Ar)   Sandy Redox (SS)   Care Makers (Applicable to all LRRs, unless otherwise noted.)   Indicators for Problematic Hydric Soils *I-Histosol (Ar)   Sandy Redox (SS)   Care Maker (Ar)   Care Muck (A10)   Care Muck (A11)   Care Muck (A12)   Care Muck (A13)   Care Muck (A14)   Care Muck (A14) |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | _                                                          |                   | _                   |        | <del></del>                                                                                                                                                                                                                                 |                                                                                                        | <del></del>                                                          |                                               | <del></del>                                                                                                                                                                                                                                                                                                        |
| Histosol (Ar)   Sandy Redox (S5)   2 cm Muck (A10)   2 cm Muck (A10)   2 cm Muck (A10)   3 cm Muck (A10)   2 cm Muck (A10)   3 cm Muck (A10)   2 cm Muck (A10)   3 cm Muck (A10)   4 cm Muck (A1 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | _                                                          |                   |                     |        | <del></del>                                                                                                                                                                                                                                 | <del></del>                                                                                            |                                                                      |                                               |                                                                                                                                                                                                                                                                                                                    |
| Histosol (Ar)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | /pe: C= Concentration. D                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | =Depletio                                                  | n. RM=l           | Reduced             | Matrix | x. CS=Covered or Co                                                                                                                                                                                                                         | pated Sand                                                                                             | d Grains. <sup>2</sup> Lo                                            | cation: PL=                                   |                                                                                                                                                                                                                                                                                                                    |
| Histosol (A1)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | · · · · · · · · · · · · · · · · · · ·                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | -                                                          |                   |                     |        |                                                                                                                                                                                                                                             |                                                                                                        |                                                                      |                                               |                                                                                                                                                                                                                                                                                                                    |
| Histic Epipedon (A2)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | •                                                          |                   |                     |        | · ·                                                                                                                                                                                                                                         |                                                                                                        |                                                                      |                                               | •                                                                                                                                                                                                                                                                                                                  |
| Black Histic (A3)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                            |                   |                     |        |                                                                                                                                                                                                                                             | )                                                                                                      |                                                                      |                                               |                                                                                                                                                                                                                                                                                                                    |
| Depleted Below Dark Surface (A11)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                            |                   |                     |        |                                                                                                                                                                                                                                             |                                                                                                        | (cept MLRA 1)                                                        |                                               | Very Shallow Dark Surface (TF12)                                                                                                                                                                                                                                                                                   |
| Depleted Below Dark Surface (A11)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | • •                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | )                                                          |                   |                     |        |                                                                                                                                                                                                                                             |                                                                                                        | . ,                                                                  |                                               |                                                                                                                                                                                                                                                                                                                    |
| Thick Dark Surface (A12)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | · -                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                            | A11)              |                     | ☒      |                                                                                                                                                                                                                                             |                                                                                                        |                                                                      |                                               |                                                                                                                                                                                                                                                                                                                    |
| Sandy Mucky Mineral (S1)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Thick Dark Surface (/                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | .12)                                                       | ,                 |                     |        |                                                                                                                                                                                                                                             |                                                                                                        |                                                                      |                                               |                                                                                                                                                                                                                                                                                                                    |
| Sandy Cleyed Matrix (S4)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | •                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                            |                   |                     | _      |                                                                                                                                                                                                                                             |                                                                                                        |                                                                      |                                               |                                                                                                                                                                                                                                                                                                                    |
| Hydric Soils Present?   Fig.   Hydric Soils Present?   Hydric Soils Present?   Yes   No   No   No   No   No   No   No   N                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Sandy Gleyed Matrix                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | (S4)                                                       |                   |                     | _      | Redox Depressions                                                                                                                                                                                                                           | (F8)                                                                                                   |                                                                      |                                               |                                                                                                                                                                                                                                                                                                                    |
| The soil profile most closely matches the description for hydric soil indicateor F3, Depleted Matrix because the depleted matrix begins within 10 inches the soil surface and has distinct mottling.    DROLOGY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | strictive Layer (if prese                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | nt):                                                       |                   |                     |        | <u> </u>                                                                                                                                                                                                                                    |                                                                                                        |                                                                      | ui.                                           | mode distanced of problematic.                                                                                                                                                                                                                                                                                     |
| The soil profile most closely matches the description for hydric soil indicateor F3, Depleted Matrix because the depleted matrix begins within 10 inches the soil surface and has distinct mottling.    DROLOGY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | e:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                            |                   |                     |        |                                                                                                                                                                                                                                             |                                                                                                        |                                                                      |                                               |                                                                                                                                                                                                                                                                                                                    |
| The soil profile most closely matches the description for hydric soil indicateor F3, Depleted Matrix because the depleted matrix begins within 10 inches the soil surface and has distinct mottling.    DROLOGY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | oth (inches):                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                            |                   |                     |        |                                                                                                                                                                                                                                             |                                                                                                        | Hydric Soils P                                                       | resent?                                       | Yes ⊠ No                                                                                                                                                                                                                                                                                                           |
| Surface Water (A1)   Water-Stained Leaves (B9)   Water-Stained Leaves (B10)   Water-Stained Lea | marks: The soil profil                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                            |                   |                     |        | cription for hydric soil                                                                                                                                                                                                                    | indicateor                                                                                             |                                                                      | trix because                                  | e the depleted matrix begins within 10 inches                                                                                                                                                                                                                                                                      |
| Surface Water (A1)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | marks: The soil profil the soil surface                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | e and has                                                  |                   |                     |        | cription for hydric soil                                                                                                                                                                                                                    | indicateor                                                                                             |                                                                      | trix because                                  | e the depleted matrix begins within 10 inches                                                                                                                                                                                                                                                                      |
| High Water Table (A2)   Cexcept MLRA 1, 2, 4A, and 4B)   CMLRA 1, 2, 4A, and 4B                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | The soil profit the soil surface the soi | e and has                                                  | s distinc         | t mottling.         |        |                                                                                                                                                                                                                                             | indicateor                                                                                             |                                                                      |                                               |                                                                                                                                                                                                                                                                                                                    |
| Saturation (A3)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | The soil profil the soil surface the soi | e and has                                                  | s distinc         | t mottling          | I that | apply)                                                                                                                                                                                                                                      |                                                                                                        |                                                                      | Secon                                         | dary Indicators (2 or more required)                                                                                                                                                                                                                                                                               |
| Water Marks (B1)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | The soil profit the soil surface  TOROLOGY  Itland Hydrology Indicates (minimur Surface Water (A1)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | e and has  tors:  n of one r                               | s distinc         | t mottling          | I that | apply)<br>Water-Stained Leav                                                                                                                                                                                                                | res (B9)                                                                                               | F3, Depleted Ma                                                      | Secon.                                        | dary Indicators (2 or more required) Water-Stained Leaves (B9)                                                                                                                                                                                                                                                     |
| Sediment Deposits (B2)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | DROLOGY tland Hydrology Indicationary Indicators (Minimur Surface Water (A1) High Water Table (A2)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | e and has  tors:  n of one r                               | s distinc         | t mottling          | I that | apply) Water-Stained Leav (except MLRA 1, 2,                                                                                                                                                                                                | res (B9)                                                                                               | F3, Depleted Ma                                                      | Secon                                         | dary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)                                                                                                                                                                                                                             |
| Drift Deposits (B3)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | TDROLOGY tland Hydrology Indica mary Indicators (minimur Surface Water (A1) High Water Table (A2) Saturation (A3)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | e and has  tors:  n of one r                               | s distinc         | t mottling          | I that | apply) Water-Stained Leav (except MLRA 1, 2, Salt Crust (B11)                                                                                                                                                                               | res (B9)<br>, <b>4A, and</b> 4                                                                         | F3, Depleted Ma                                                      | Secon (                                       | dary Indicators (2 or more required)  Water-Stained Leaves (B9)  (MLRA 1, 2, 4A, and 4B)  Drainage Patterns (B10)                                                                                                                                                                                                  |
| Algal Mat or Crust (B4)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | TDROLOGY tland Hydrology Indica mary Indicators (minimur Surface Water (A1) High Water Table (A2 Saturation (A3) Water Marks (B1)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | e and has  tors: n of one r                                | s distinc         | t mottling          | I that | apply) Water-Stained Leav (except MLRA 1, 2, Salt Crust (B11) Aquatic Invertebrate                                                                                                                                                          | res (B9)<br>, <b>4A, and 4</b><br>es (B13)                                                             | F3, Depleted Ma                                                      | Secon (                                       | dary Indicators (2 or more required)  Water-Stained Leaves (B9)  (MLRA 1, 2, 4A, and 4B)  Drainage Patterns (B10)  Dry-Season Water Table (C2)                                                                                                                                                                     |
| Iron Deposits (B5)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | TDROLOGY  tland Hydrology Indica mary Indicators (minimur Surface Water (A1) High Water Table (A2 Saturation (A3) Water Marks (B1) Sediment Deposits (B                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | e and has  tors: n of one r                                | s distinc         | t mottling          | I that | apply) Water-Stained Leav (except MLRA 1, 2, Salt Crust (B11) Aquatic Invertebrate Hydrogen Sulfide O                                                                                                                                       | res (B9)<br>, <b>4A, and 4</b><br>es (B13)<br>dor (C1)                                                 | F3, Depleted Ma                                                      | Second (                                      | dary Indicators (2 or more required)  Water-Stained Leaves (B9)  (MLRA 1, 2, 4A, and 4B)  Drainage Patterns (B10)  Dry-Season Water Table (C2)  Saturation Visible on Aerial Imagery (C9)                                                                                                                          |
| Surface Soil Cracks (B6)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | The soil profil the soil surface  Mary Indicators (minimur Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B3)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | tors: n of one r                                           | s distinc         | t mottling          | I that | apply) Water-Stained Leav (except MLRA 1, 2, Salt Crust (B11) Aquatic Invertebrate Hydrogen Sulfide O Oxidized Rhizosphe                                                                                                                    | res (B9)<br>, <b>4A, and 4</b><br>es (B13)<br>dor (C1)<br>eres along l                                 | F3, Depleted Ma                                                      | Secon (                                       | dary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2)                                                                                                      |
| Inundation Visible on Aerial Imagery (B7)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | The soil profit the soil surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B3) Algal Mat or Crust (B                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | tors: n of one r                                           | s distinc         | t mottling          | I that | apply) Water-Stained Leav (except MLRA 1, 2, Salt Crust (B11) Aquatic Invertebrate Hydrogen Sulfide O Oxidized Rhizosphe Presence of Reduce                                                                                                 | res (B9)<br>, <b>4A, and 4</b><br>es (B13)<br>dor (C1)<br>eres along l                                 | F3, Depleted Ma                                                      | Secon  () () () () () () () () () () () () () | dary Indicators (2 or more required)  Water-Stained Leaves (B9)  (MLRA 1, 2, 4A, and 4B)  Drainage Patterns (B10)  Dry-Season Water Table (C2)  Saturation Visible on Aerial Imagery (C9)  Geomorphic Position (D2)  Shallow Aquitard (D3)                                                                         |
| Sparsely Vegetated Concave Surface (B8)  Id Observations:  Ifface Water Present? Yes No Depth (inches):  Iter Table Present? Yes No                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | TDROLOGY  Itland Hydrology Indica mary Indicators (minimur Surface Water (A1) High Water Table (A2 Saturation (A3) Water Marks (B1) Sediment Deposits (B Drift Deposits (B3) Algal Mat or Crust (B Iron Deposits (B5)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | tors: n of one r 2)                                        | s distinc         | t mottling          | I that | apply) Water-Stained Leav (except MLRA 1, 2, Salt Crust (B11) Aquatic Invertebrate Hydrogen Sulfide O Oxidized Rhizosphe Presence of Reduce Recent Iron Reducti                                                                             | res (B9)  4A, and 4  es (B13)  dor (C1)  eres along led Iron (C4  ion in Tilled                        | F3, Depleted Ma  4B)  Living Roots (C3  4)  d Soils (C6)             | Secon  () () () () () () () () () () () () () | dary Indicators (2 or more required)  Water-Stained Leaves (B9)  (MLRA 1, 2, 4A, and 4B)  Drainage Patterns (B10)  Dry-Season Water Table (C2)  Saturation Visible on Aerial Imagery (C9)  Geomorphic Position (D2)  Shallow Aquitard (D3)  FAC-Neutral Test (D5)                                                  |
| Id Observations:    face Water Present?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | DROLOGY tland Hydrology Indica mary Indicators (minimur Surface Water (A1) High Water Table (A2 Saturation (A3) Water Marks (B1) Sediment Deposits (B3) Algal Mat or Crust (B Iron Deposits (B5) Surface Soil Cracks (B3)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | tors: n of one r 2) 32)                                    | equired           | t mottling          | I that | apply)  Water-Stained Leav (except MLRA 1, 2, Salt Crust (B11)  Aquatic Invertebrate Hydrogen Sulfide O Oxidized Rhizosphe Presence of Reduce Recent Iron Reducti Stunted or Stresses                                                       | res (B9)  , 4A, and 4  es (B13) dor (C1) eres along led Iron (C4 ion in Tilled Plants (D1              | F3, Depleted Ma  4B)  Living Roots (C3  4)  d Soils (C6)             | Second V                                      | dary Indicators (2 or more required)  Water-Stained Leaves (B9)  (MLRA 1, 2, 4A, and 4B)  Drainage Patterns (B10)  Dry-Season Water Table (C2)  Saturation Visible on Aerial Imagery (C9)  Geomorphic Position (D2)  Shallow Aquitard (D3)  FAC-Neutral Test (D5)  Raised Ant Mounds (D6) (LRR A)                  |
| face Water Present? Yes No Depth (inches):  ter Table Present? Yes No Depth (inches):  uration Present?  Yes No Depth (inches):  uration Present?  Yes No Depth (inches): surface  Wetland Hydrology Present? Yes No                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | The soil profil the soil surface than the Hydrology Indicators (minimur Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B3) Algal Mat or Crust (B Iron Deposits (B5) Surface Soil Cracks (Inundation Visible on                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | tors: n of one r 2) 32) 4) B6) Aerial Im                   | equired;          | t mottling check al | I that | apply)  Water-Stained Leav (except MLRA 1, 2, Salt Crust (B11)  Aquatic Invertebrate Hydrogen Sulfide O Oxidized Rhizosphe Presence of Reduce Recent Iron Reducti Stunted or Stresses                                                       | res (B9)  , 4A, and 4  es (B13) dor (C1) eres along led Iron (C4 ion in Tilled Plants (D1              | F3, Depleted Ma  4B)  Living Roots (C3  4)  d Soils (C6)             | Second V                                      | dary Indicators (2 or more required)  Water-Stained Leaves (B9)  (MLRA 1, 2, 4A, and 4B)  Drainage Patterns (B10)  Dry-Season Water Table (C2)  Saturation Visible on Aerial Imagery (C9)  Geomorphic Position (D2)  Shallow Aquitard (D3)  FAC-Neutral Test (D5)  Raised Ant Mounds (D6) (LRR A)                  |
| ster Table Present? Yes No Depth (inches): turation Present? Yes No Depth (inches): <u>surface</u> Wetland Hydrology Present? Yes No                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | The soil profil the soil surface that the surface that t | tors: n of one r 2) 32) 4) B6) Aerial Im                   | equired;          | t mottling check al | I that | apply)  Water-Stained Leav (except MLRA 1, 2, Salt Crust (B11)  Aquatic Invertebrate Hydrogen Sulfide O Oxidized Rhizosphe Presence of Reduce Recent Iron Reducti Stunted or Stresses                                                       | res (B9)  , 4A, and 4  es (B13) dor (C1) eres along led Iron (C4 ion in Tilled Plants (D1              | F3, Depleted Ma  4B)  Living Roots (C3  4)  d Soils (C6)             | Second V                                      | dary Indicators (2 or more required)  Water-Stained Leaves (B9)  (MLRA 1, 2, 4A, and 4B)  Drainage Patterns (B10)  Dry-Season Water Table (C2)  Saturation Visible on Aerial Imagery (C9)  Geomorphic Position (D2)  Shallow Aquitard (D3)  FAC-Neutral Test (D5)  Raised Ant Mounds (D6) (LRR A)                  |
| turation Present?  Yes  No  Depth (inches): surface  Wetland Hydrology Present?  Yes  No                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | The soil profit the soil surface the soil surface water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B3) Algal Mat or Crust (B1) Iron Deposits (B5) Surface Soil Cracks (Inundation Visible on Sparsely Vegetated (Id Observations:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | tors: n of one r 2) 4) B6) Aerial Im                       | equired; agery (E | t mottling check al | I that | apply) Water-Stained Leav (except MLRA 1, 2, Salt Crust (B11) Aquatic Invertebrate Hydrogen Sulfide O Oxidized Rhizosphe Presence of Reduce Recent Iron Reducti Stunted or Stresses Other (Explain in Re                                    | res (B9)  , 4A, and 4  es (B13)  dor (C1)  eres along led Iron (C4  ion in Tilled  Plants (D4  emarks) | F3, Depleted Ma  4B)  Living Roots (C3  4)  d Soils (C6)             | Second V                                      | dary Indicators (2 or more required)  Water-Stained Leaves (B9)  (MLRA 1, 2, 4A, and 4B)  Drainage Patterns (B10)  Dry-Season Water Table (C2)  Saturation Visible on Aerial Imagery (C9)  Geomorphic Position (D2)  Shallow Aquitard (D3)  FAC-Neutral Test (D5)  Raised Ant Mounds (D6) (LRR A)                  |
| cludes capillary fringe)  Yes 🗵 No 📋 Depth (inches): surface   Wetland Hydrology Present? Yes 🗵 No                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | The soil profit the soil surface water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B3) Algal Mat or Crust (B Iron Deposits (B5) Surface Soil Cracks (Inundation Visible on Sparsely Vegetated (Ind Observations: Ifface Water Present?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | tors: n of one r 2) 32) 4) B6) Aerial Im Concave S         | equired;          | t mottling check al | I that | apply)  Water-Stained Leav (except MLRA 1, 2, Salt Crust (B11)  Aquatic Invertebrate Hydrogen Sulfide O Oxidized Rhizosphe Presence of Reduct Recent Iron Reducti Stunted or Stresses Other (Explain in Re                                  | res (B9)  4A, and 4  es (B13)  dor (C1)  eres along led Iron (C4  ion in Tilled  Plants (D4  emarks)   | F3, Depleted Ma  4B)  Living Roots (C3  4)  d Soils (C6)             | Second V                                      | dary Indicators (2 or more required)  Water-Stained Leaves (B9)  (MLRA 1, 2, 4A, and 4B)  Drainage Patterns (B10)  Dry-Season Water Table (C2)  Saturation Visible on Aerial Imagery (C9)  Geomorphic Position (D2)  Shallow Aquitard (D3)  FAC-Neutral Test (D5)  Raised Ant Mounds (D6) (LRR A)                  |
| scribe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | TDROLOGY  Itland Hydrology Indicators (minimur Surface Water (A1) High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B3) Algal Mat or Crust (B Iron Deposits (B5) Surface Soil Cracks (Inundation Visible on Sparsely Vegetated (Itland Observations: Ifface Water Present?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | tors: n of one r 2) 32) 4) B6) Aerial Im Concave S         | equired;          | t mottling check al | I that | apply)  Water-Stained Leav (except MLRA 1, 2, Salt Crust (B11)  Aquatic Invertebrate Hydrogen Sulfide O Oxidized Rhizosphe Presence of Reduct Recent Iron Reducti Stunted or Stresses Other (Explain in Re                                  | res (B9)  4A, and 4  es (B13)  dor (C1)  eres along led Iron (C4  ion in Tilled  Plants (D4  emarks)   | F3, Depleted Ma  4B)  Living Roots (C3  4)  d Soils (C6)             | Second V                                      | dary Indicators (2 or more required)  Water-Stained Leaves (B9)  (MLRA 1, 2, 4A, and 4B)  Drainage Patterns (B10)  Dry-Season Water Table (C2)  Saturation Visible on Aerial Imagery (C9)  Geomorphic Position (D2)  Shallow Aquitard (D3)  FAC-Neutral Test (D5)  Raised Ant Mounds (D6) (LRR A)                  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | The soil profit the soil surface water Alaga Mat or Crust (B Iron Deposits (B3) Algal Mat or Crust (B Iron Deposits (B3) Surface Soil Cracks (Inundation Visible on Sparsely Vegetated (B Iron Deposits (B3) Algal Mat or Crust (B Iron Deposits (B3) Surface Soil Cracks (Inundation Visible on Sparsely Vegetated (B Iron Deposits (B3) Algal Mat or Crust (B Iron Deposits (B3) Surface Soil Cracks (Inundation Visible on Sparsely Vegetated (B Iron Deposits (B3) Surface Water Present?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | tors: n of one r 2) 32) 4) B6) Aerial Im Concave S Yes Yes | agery (ESurface   | t mottling check al | I that | apply)  Water-Stained Leav (except MLRA 1, 2, Salt Crust (B11)  Aquatic Invertebrate Hydrogen Sulfide O Oxidized Rhizosphe Presence of Reduce Recent Iron Reducti Stunted or Stresses Other (Explain in Re  Depth (inches): Depth (inches): | res (B9)  4A, and 4  es (B13)  dor (C1) eres along led Iron (C4 ion in Tillec Plants (D' emarks)       | F3, Depleted Ma  4B)  Living Roots (C3  4)  d Soils (C6)  1) (LRR A) | Secon () () () () () () () () () () () () ()  | dary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7) |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | The soil profit the soil surface water Alaga Mat or Crust (B Iron Deposits (B3) Algal Mat or Crust (B Iron Deposits (B3) Surface Soil Cracks (Inundation Visible on Sparsely Vegetated (B Iron Deposits (B3) Algal Mat or Crust (B Iron Deposits (B3) Surface Soil Cracks (Inundation Visible on Sparsely Vegetated (B Iron Deposits (B3) Algal Mat or Crust (B Iron Deposits (B3) Surface Soil Cracks (Inundation Visible on Sparsely Vegetated (B Iron Deposits (B3) Surface Water Present?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | tors: n of one r 2) 32) 4) B6) Aerial Im Concave S Yes Yes | agery (ESurface   | t mottling check al | I that | apply)  Water-Stained Leav (except MLRA 1, 2, Salt Crust (B11)  Aquatic Invertebrate Hydrogen Sulfide O Oxidized Rhizosphe Presence of Reduce Recent Iron Reducti Stunted or Stresses Other (Explain in Re  Depth (inches): Depth (inches): | res (B9)  4A, and 4  es (B13)  dor (C1) eres along led Iron (C4 ion in Tillec Plants (D' emarks)       | F3, Depleted Ma  4B)  Living Roots (C3  4)  d Soils (C6)  1) (LRR A) | Secon () () () () () () () () () () () () ()  | dary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7) |

| Project Site: Port Gamble Trail Feasibility                                                                                                                         |                                   | Sampling Date:                         | 1/18/17         |                                                         |                        |                                       |  |  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|----------------------------------------|-----------------|---------------------------------------------------------|------------------------|---------------------------------------|--|--|
| Applicant/Owner: <u>Fischer Bouma Partnership</u>                                                                                                                   |                                   |                                        |                 | State: WA S                                             | <del></del>            |                                       |  |  |
| Investigator(s): <u>J. Bartlett, L. Westervelt, K. Boa</u>                                                                                                          |                                   |                                        |                 | Section, Township, Range                                | S7 T27N R2E            |                                       |  |  |
| Landform (hillslope, terrace, etc.): <u>hillslope</u>                                                                                                               |                                   | Loca                                   | al relief (conc | ave, convex, none): <u>convex</u>                       | Slope                  | (%): <u>6-15</u>                      |  |  |
| Subregion (LRR): MLRA 2                                                                                                                                             | Lat:                              | _                                      |                 | Long:                                                   | Datum: <u>T</u>        | <u>rimble</u>                         |  |  |
| Soil Map Unit Name: Ragnar Fine sandy loam, 6 to                                                                                                                    | 15 percent slo                    | <u>opes</u>                            |                 | NWI classif                                             | ication:               |                                       |  |  |
| Are climatic / hydrologic conditions on the site typical fo                                                                                                         | r this time of y                  | ear? Y                                 | es 🛛            | No                                                      | Remarks.)              |                                       |  |  |
| Are Vegetation ☐, Soil ☐, or Hydrology                                                                                                                              | ☐, signific                       | antly disturbed                        | l? Are "        | Normal Circumstances" present?                          | Yes                    | ⊠ No □                                |  |  |
| Are Vegetation □, Soil □, or Hydrology                                                                                                                              | □, natural                        | ly problematic?                        | ? (If ne        | eded, explain any answers in Rem                        | arks.)                 |                                       |  |  |
| CLIMMADY OF FINDINGS. Attack cite man                                                                                                                               | hawina aan                        | unlina naint                           | lesstions       | transacta impartant facture                             | 0.040                  |                                       |  |  |
| SUMMARY OF FINDINGS – Attach site map s Hydrophytic Vegetation Present?                                                                                             | Yes 🛛                             |                                        | iocations,      | transects, important reature                            | s, etc.                |                                       |  |  |
| Hydric Soil Present?                                                                                                                                                | Yes 🛛                             |                                        | Is the Samp     |                                                         | Yes                    | ⊠ No □                                |  |  |
| Wetland Hydrology Present?                                                                                                                                          | Yes 🛛                             |                                        | within a We     | etland?                                                 | 103                    | A 110 L                               |  |  |
|                                                                                                                                                                     |                                   |                                        | autandina ha    | struces Dort Combined the north on                      | d and Ctattlemayer     | Dood NE at the                        |  |  |
| Remarks: The scope of this feasibility encompasses a south end. It passes primarily through und current logging practices, and a large system to logging practices. | eveloped timb<br>m of trails util | erland owned                           | by OPG; mo      | st of which is woven with interlacing                   | g logging roads due t  | to historic and                       |  |  |
| the North Segment, along Service Road 10                                                                                                                            |                                   |                                        |                 |                                                         |                        |                                       |  |  |
| VEGETATION – Use scientific names of plant  Tree Stratum (Plot size: 30' diameter)                                                                                  | Absolute                          | Dominant                               | Indicator       | Dominance Test Worksheet:                               |                        |                                       |  |  |
|                                                                                                                                                                     | % Cover                           | Species?                               | Status<br>54.0  | Dominance rest worksheet.                               |                        |                                       |  |  |
| 1. Alnus rubra                                                                                                                                                      | <u>30</u>                         | <u>yes</u>                             | <u>FAC</u>      | Number of Dominant Species That Are OBL, FACW, or FAC:  | <u>4</u>               | (A)                                   |  |  |
| 2                                                                                                                                                                   |                                   |                                        |                 |                                                         |                        |                                       |  |  |
| 3                                                                                                                                                                   |                                   |                                        |                 | Total Number of Dominant<br>Species Across All Strata:  | <u>4</u>               | (B)                                   |  |  |
| 4                                                                                                                                                                   | 20                                | = Total Cove                           |                 | •                                                       |                        |                                       |  |  |
| 50% = <u>15</u> , 20% = <u>6</u> <u>Sapling/Shrub Stratum</u> (Plot size: <u>30' diameter</u> )                                                                     | <u>30</u>                         | = Total Cove                           | ı               | Percent of Dominant Species That Are OBL, FACW, or FAC: | <u>100</u>             | (A/B)                                 |  |  |
| 1. Thuja plicata*                                                                                                                                                   | <u>2</u>                          | VAS                                    | FAC             | Prevalence Index worksheet:                             |                        | · · · · · · · · · · · · · · · · · · · |  |  |
| 2                                                                                                                                                                   | <u> </u>                          | <u>yes</u>                             | IAO             | Total % Cover of:                                       | Multiply               | v by:                                 |  |  |
| 3                                                                                                                                                                   |                                   |                                        |                 | OBL species                                             | <u>manapry</u><br>x1 = | <u>r by.</u>                          |  |  |
| 4                                                                                                                                                                   | <del></del>                       |                                        |                 | FACW species                                            | x2 =                   |                                       |  |  |
| 5                                                                                                                                                                   |                                   |                                        |                 | FAC species                                             | x3 =                   |                                       |  |  |
| 50% = , 20% =                                                                                                                                                       |                                   | = Total Cove                           |                 | FACU species                                            | x4 =                   |                                       |  |  |
| Herb Stratum (Plot size: 15' diameter)                                                                                                                              |                                   | - 10101 00101                          |                 | UPL species                                             | x5 =                   |                                       |  |  |
| Tolmiea menziesii                                                                                                                                                   | 10                                | V00                                    | EAC             |                                                         |                        | (P)                                   |  |  |
|                                                                                                                                                                     | <u>10</u>                         | <u>yes</u>                             | FAC             | Column Totals: (A                                       | •                      | (B)                                   |  |  |
| 2. <u>Dryopteris expansa</u>                                                                                                                                        | <u>10</u>                         | <u>yes</u>                             | FACW            |                                                         | dex = B/A =            |                                       |  |  |
| 3                                                                                                                                                                   |                                   |                                        |                 | Hydrophytic Vegetation Indicat                          |                        |                                       |  |  |
| 4                                                                                                                                                                   |                                   |                                        |                 | 1 – Rapid Test for Hydroph                              |                        |                                       |  |  |
| 5                                                                                                                                                                   |                                   |                                        |                 | 2 - Dominance Test is >50%                              |                        |                                       |  |  |
| 6                                                                                                                                                                   |                                   |                                        |                 | ☐ 3 - Prevalence Index is ≤3.0                          |                        |                                       |  |  |
| 7                                                                                                                                                                   |                                   |                                        |                 | 4 - Morphological Adaptation data in Remarks or on a    | ns¹ (Provide support   | ing                                   |  |  |
| 8                                                                                                                                                                   |                                   |                                        |                 | _                                                       |                        |                                       |  |  |
| 9                                                                                                                                                                   |                                   |                                        |                 |                                                         |                        |                                       |  |  |
| 10                                                                                                                                                                  |                                   |                                        |                 | ☐ Problematic Hydrophytic Ve                            | getation' (Explain)    |                                       |  |  |
| 11                                                                                                                                                                  |                                   |                                        |                 | <sup>1</sup> Indicators of hydric soil and wetla        | and hydrology must     |                                       |  |  |
| $50\% = \underline{10}, 20\% = \underline{4}$                                                                                                                       | <u>20</u>                         | = Total Cove                           | r               | be present, unless disturbed or p                       |                        |                                       |  |  |
| Woody Vine Stratum (Plot size: 15' diameter)                                                                                                                        |                                   |                                        |                 |                                                         |                        |                                       |  |  |
| 1                                                                                                                                                                   |                                   |                                        |                 | Hydrophytic                                             |                        |                                       |  |  |
| 2                                                                                                                                                                   |                                   | —————————————————————————————————————— |                 | Vegetation Yes                                          |                        | No 🗆                                  |  |  |
| 50% =, 20% =                                                                                                                                                        |                                   | = Total Cove                           | Г               | Present?                                                |                        |                                       |  |  |
| % Bare Ground in Herb Stratum 80                                                                                                                                    |                                   |                                        |                 |                                                         |                        |                                       |  |  |
| Remarks: *seedlings The hydrophytic vegetation criterion is m                                                                                                       | et because th                     | ere is greater t                       | than 50% do     | minance by FAC and FACW specie                          | es                     |                                       |  |  |
|                                                                                                                                                                     |                                   | -                                      |                 | ·                                                       |                        |                                       |  |  |
|                                                                                                                                                                     |                                   |                                        |                 |                                                         |                        |                                       |  |  |

| SOIL                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   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| rofile Desc                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | ription: (Describ                                                                                                                                                                                                                                    | e to the                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | edepth               | needed                    | d to d   | ocument the indicator                                                                                                                                                                                                                                     | r or confir                                                                                    | m the absence                            | of indicato                                                                                                             | rs.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       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| HYDROLOO<br>Vetland Hyd<br>Primary Indica                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Presence of Hyd                                                                                                                                                                                                                                      | rs:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                      |                           |          |                                                                                                                                                                                                                                                           | es (B9)                                                                                        | Hydric Soils F                           | Second                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                   | equirec               | d)      |     |
| HYDROLOG<br>Wetland Hyd<br>Irimary Indica                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | GY drology Indicator                                                                                                                                                                                                                                 | rs:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         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                                               | equirec               | d)      |     |
| HYDROLOG<br>Wetland Hyd<br>Primary Indication Surface<br>High W                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | GY  Irology Indicator ators (minimum c                                                                                                                                                                                                               | rs:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | ves (B9)<br>nd 4B)                                                                | equired               | d)      |     |
| HYDROLOG<br>Wetland Hyd<br>Primary Indica<br>Surface<br>High W                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | GY Irology Indicator ators (minimum of e Water (A1) Vater Table (A2)                                                                                                                                                                                 | rs:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                      |                           | all tha  | t apply) Water-Stained Leave (except MLRA 1, 2, 4                                                                                                                                                                                                         | 4A, and 4E                                                                                     |                                          | Second (I                                                                                                               | dary Indicators (2 v<br>Vater-Stained Lea<br>MLRA 1, 2, 4A, ar                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | ves (B9)<br>nd 4B)<br>(B10)                                                       | -                     | d)      |     |
| IYDROLOG<br>Vetland Hyd<br>rimary Indic<br>Surface<br>High W<br>Satura                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | GY Irology Indicator ators (minimum c e Water (A1) Vater Table (A2) tion (A3)                                                                                                                                                                        | rs:<br>of one re                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                      |                           | all tha  | t apply)  Water-Stained Leave  (except MLRA 1, 2, 4)  Salt Crust (B11)                                                                                                                                                                                    | <b>4A</b> , and <b>4E</b>                                                                      |                                          | Second (I)                                                                          | dary Indicators (2<br>Vater-Stained Lea<br><b>MLRA 1, 2, 4A, a</b> i<br>Orainage Patterns                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | nd 4B)<br>(B10)<br>Table (C2                                                      | 2)                    |         |     |
| IYDROLOO Vetland Hyd rimary Indic: Surface High W Satura Water Sedime                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | GY Irology Indicator ators (minimum of e Water (A1) Vater Table (A2) tion (A3) Marks (B1)                                                                                                                                                            | rs:<br>of one re                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                      |                           | all tha  | t apply)  Water-Stained Leave (except MLRA 1, 2, 4) Salt Crust (B11) Aquatic Invertebrates                                                                                                                                                                | <b>4A</b> , and <b>4E</b><br>s (B13)<br>lor (C1)                                               | 3)                                       | Second (I)                                                                          | dary Indicators (2 o<br>Vater-Stained Lea<br>MLRA 1, 2, 4A, ar<br>Orainage Patterns<br>Ory-Season Water                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | nd 4B) (B10) Table (C2 on Aerial I                                                | 2)                    |         |     |
| HYDROLOG<br>Wetland Hyd<br>Primary Indica<br>Surface<br>High W<br>Satura<br>Water<br>Sedime<br>Drift De                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | GY drology Indicator ators (minimum of e Water (A1) Vater Table (A2) tion (A3) Marks (B1) ent Deposits (B2)                                                                                                                                          | rs:<br>of one re                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                      |                           | I tha    | t apply)  Water-Stained Leave (except MLRA 1, 2, 4) Salt Crust (B11)  Aquatic Invertebrates Hydrogen Sulfide Od                                                                                                                                           | 4A, and 4E<br>s (B13)<br>for (C1)<br>es along Li                                               | 3) iving Roots (C3                       | Second (f                                                                                                               | dary Indicators (2 o<br>Vater-Stained Lea<br><b>MLRA 1, 2, 4A, ar</b><br>Orainage Patterns<br>Ory-Season Water<br>Saturation Visible o                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | nd 4B) (B10) Table (C2 on Aerial I on (D2)                                        | 2)                    |         |     |
| HYDROLOG Vetland Hyd Surface High W Satura Water Sedime Drift De Iron De                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | GY Irology Indicator ators (minimum of e Water (A1) Vater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4) eposits (B5)                                                                                              | rs:<br>of one re                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                      |                           | I that   | t apply)  Water-Stained Leave (except MLRA 1, 2, 4 Salt Crust (B11) Aquatic Invertebrates Hydrogen Sulfide Od Oxidized Rhizosphere Presence of Reduced Recent Iron Reduction                                                                              | 4A, and 4E<br>s (B13)<br>lor (C1)<br>es along Li<br>d Iron (C4)<br>on in Tilled                | iving Roots (C3                          | Second   W   (I     D     D     S     S     S     F   F   F     F     S     F     F     F     S     S     F     F     F | dary Indicators (2 ovater-Stained Lea MLRA 1, 2, 4A, and Drainage Patterns Ory-Season Water Saturation Visible of Geomorphic Positic Shallow Aquitard (EAC-Neutral Test (                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | ves (B9) nd 4B) (B10) Table (C2 on Aerial I on (D2) D3) (D5)                      | 2)<br>mager           |         |     |
| HYDROLOG  Vetland Hyd  Primary Indic:  High W  Satura  Water  Sedime  Drift De  Algal M  Surface                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | GY drology Indicator ators (minimum of e Water (A1) Vater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4) eposits (B5) e Soil Cracks (B6                                                                            | rs: of one re                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | equired;             | check a                   | III tha  | t apply)  Water-Stained Leave (except MLRA 1, 2, 4) Salt Crust (B11) Aquatic Invertebrates Hydrogen Sulfide Od Oxidized Rhizosphen Presence of Reduced Recent Iron Reductio Stunted or Stresses F                                                         | 4A, and 4E<br>s (B13)<br>for (C1)<br>es along Li<br>d Iron (C4)<br>on in Tilled<br>Plants (D1) | iving Roots (C3                          | Second                                                                                                                  | dary Indicators (2 of Vater-Stained Lea MLRA 1, 2, 4A, are Drainage Patterns Dry-Season Water Saturation Visible of Geomorphic Position Shallow Aquitard (If AC-Neutral Test (Staised Ant Moundstained Staised Staise | ves (B9) nd 4B) (B10) Table (C2 on Aerial I on (D2) D3) (D5) s (D6) (LF           | 2)<br>mager           |         |     |
| IYDROLOU Vetland Hyd rimary Indica Surface High W Satura Sedime Drift De Algal M Iron De Surface                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | GY drology Indicator ators (minimum of e Water (A1) Vater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4) eposits (B5) e Soil Cracks (B6 ation Visible on A6                                                        | rs: of one re                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | equired;             | check a                   | I that   | t apply)  Water-Stained Leave (except MLRA 1, 2, 4 Salt Crust (B11) Aquatic Invertebrates Hydrogen Sulfide Od Oxidized Rhizosphere Presence of Reduced Recent Iron Reduction                                                                              | 4A, and 4E<br>s (B13)<br>for (C1)<br>es along Li<br>d Iron (C4)<br>on in Tilled<br>Plants (D1) | iving Roots (C3                          | Second   W (#   D   D   S   S   S   S   S   S   S   S                                                                   | dary Indicators (2 ovater-Stained Lea MLRA 1, 2, 4A, and Drainage Patterns Ory-Season Water Saturation Visible of Geomorphic Positic Shallow Aquitard (EAC-Neutral Test (                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | ves (B9) nd 4B) (B10) Table (C2 on Aerial I on (D2) D3) (D5) s (D6) (LF           | 2)<br>mager           |         |     |
| HYDROLOG  Wetland Hyd  Irimary Indicat  Surface  High W  Satura  Water  Sedime  Jorift De  Algal M  Iron De  Surface                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | GY Irology Indicator ators (minimum of e Water (A1) Vater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4) eposits (B5) e Soil Cracks (B6 ation Visible on A6 ely Vegetated Cor                                      | rs: of one re                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | equired;             | check a                   | III tha  | t apply)  Water-Stained Leave (except MLRA 1, 2, 4) Salt Crust (B11) Aquatic Invertebrates Hydrogen Sulfide Od Oxidized Rhizosphen Presence of Reduced Recent Iron Reductio Stunted or Stresses F                                                         | 4A, and 4E<br>s (B13)<br>for (C1)<br>es along Li<br>d Iron (C4)<br>on in Tilled<br>Plants (D1) | iving Roots (C3                          | Second                                                                                                                  | dary Indicators (2 of Vater-Stained Lea MLRA 1, 2, 4A, are Drainage Patterns Dry-Season Water Saturation Visible of Geomorphic Position Shallow Aquitard (If AC-Neutral Test (Staised Ant Moundstained Staised Staise | ves (B9) nd 4B) (B10) Table (C2 on Aerial I on (D2) D3) (D5) s (D6) (LF           | 2)<br>mager           |         |     |
| HYDROLOG Vetland Hyd Primary Indica Surface High W Satura Sedime Drift De Surface Iron De Surface                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | GY  Irology Indicator ators (minimum of e Water (A1) Vater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4) eposits (B5) e Soil Cracks (B6 ation Visible on Acely Vegetated Convations:                              | rs: of one re                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | equired;<br>agery (B | check a                   | Hall tha | t apply)  Water-Stained Leave (except MLRA 1, 2, 4 Salt Crust (B11)  Aquatic Invertebrates Hydrogen Sulfide Od Oxidized Rhizosphen Presence of Reduced Recent Iron Reductio Stunted or Stresses F Other (Explain in Rer                                   | 4A, and 4E<br>s (B13)<br>for (C1)<br>es along Li<br>d Iron (C4)<br>on in Tilled<br>Plants (D1) | iving Roots (C3                          | Second                                                                                                                  | dary Indicators (2 of Vater-Stained Lea MLRA 1, 2, 4A, are Drainage Patterns Dry-Season Water Saturation Visible of Geomorphic Position Shallow Aquitard (If AC-Neutral Test (Staised Ant Moundstained Staised Staise | ves (B9) nd 4B) (B10) Table (C2 on Aerial I on (D2) D3) (D5) s (D6) (LF           | 2)<br>mager           |         |     |
| HYDROLOG  Vetland Hyd  Primary Indicate  High W  Saturate  Water  Sedime  Iron De  Iron De  Inundate  Inundate  Sparsee  Field Observe                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | GY  drology Indicator ators (minimum of e Water (A1) Vater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4) eposits (B5) e Soil Cracks (B6 ation Visible on Acely Vegetated Convations: er Present?                  | rs: of one re  i)  ii)  iii)  erial Ima ncave S                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | equired;             | check a                   | all tha  | t apply)  Water-Stained Leave (except MLRA 1, 2, 4 Salt Crust (B11)  Aquatic Invertebrates Hydrogen Sulfide Od Oxidized Rhizosphen Presence of Reduced Recent Iron Reductio Stunted or Stresses F Other (Explain in Rer                                   | 4A, and 4E<br>s (B13)<br>for (C1)<br>es along Li<br>d Iron (C4)<br>on in Tilled<br>Plants (D1) | iving Roots (C3                          | Second                                                                                                                  | dary Indicators (2 of Vater-Stained Lea MLRA 1, 2, 4A, are Drainage Patterns Dry-Season Water Saturation Visible of Geomorphic Position Shallow Aquitard (If AC-Neutral Test (Staised Ant Moundstained Staised Staise | ves (B9) nd 4B) (B10) Table (C2 on Aerial I on (D2) D3) (D5) s (D6) (LF           | 2)<br>mager           |         |     |
| HYDROLOO Wetland Hyd Primary Indica High W Satura Sedime Drift De Surface Inunda Sparse Field Observ Surface Water Vater Table I                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | GY drology Indicator ators (minimum of e Water (A1) Vater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4) eposits (B5) e Soil Cracks (B6 ation Visible on Acely Vegetated Convations: er Present?                   | rs: of one re                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | equired;<br>agery (B | check a                   | Hall tha | t apply)  Water-Stained Leave (except MLRA 1, 2, 4 Salt Crust (B11)  Aquatic Invertebrates Hydrogen Sulfide Od Oxidized Rhizosphen Presence of Reduced Recent Iron Reductio Stunted or Stresses F Other (Explain in Rer                                   | 4A, and 4E<br>s (B13)<br>for (C1)<br>es along Li<br>d Iron (C4)<br>on in Tilled<br>Plants (D1) | iving Roots (C3                          | Second                                                                                                                  | dary Indicators (2 of Vater-Stained Lea MLRA 1, 2, 4A, are Drainage Patterns Dry-Season Water Saturation Visible of Geomorphic Position Shallow Aquitard (If AC-Neutral Test (Staised Ant Moundstained Staised Staise | ves (B9) nd 4B) (B10) Table (C2 on Aerial I on (D2) D3) (D5) s (D6) (LF           | 2)<br>mager           |         |     |
| Primary Indication Surface High W Satura Sedime Drift De Surface Inunda Sparse Field Observ Surface Water Vater Table If Saturation Princludes cap                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | GY  Irology Indicator ators (minimum of e Water (A1) Vater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4) eposits (B5) e Soil Cracks (B6) ation Visible on Acely Vegetated Convations: er Present? Present? esent? | of one resolution of one resol | equired;             | check a 37) (B8) No No No | all tha  | t apply)  Water-Stained Leave (except MLRA 1, 2, 4) Salt Crust (B11)  Aquatic Invertebrates Hydrogen Sulfide Od Oxidized Rhizospher Presence of Reduced Recent Iron Reductio Stunted or Stresses f Other (Explain in Rer  Depth (inches): Depth (inches): | 4A, and 4E s (B13) lor (C1) es along Li d Iron (C4) on in Tilled Plants (D1) marks)  surface   | iving Roots (C3<br>Soils (C6)<br>(LRR A) | Second                                                                                                                  | dary Indicators (2 of Vater-Stained Lea MLRA 1, 2, 4A, are Drainage Patterns Dry-Season Water Saturation Visible of Geomorphic Position Shallow Aquitard (If AC-Neutral Test (Staised Ant Moundstained Staised Staise | ves (B9) nd 4B) (B10) Table (C2 on Aerial I on (D2) D3) (D5) s (D6) (LF           | 2)<br>mager<br>RRR A) |         | 0 [ |
| HYDROLOG Wetland Hyd Primary Indic: High W Satura: Water Sedime Iron De Surface Inunda Sparse Field Observ Surface Water Vater Table F Saturation Preincludes cap                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | GY  Irology Indicator ators (minimum of e Water (A1) Vater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4) eposits (B5) e Soil Cracks (B6) ation Visible on Acely Vegetated Convations: er Present? Present? esent? | of one resolution of one resol | equired;             | check a 37) (B8) No No No | all tha  | t apply)  Water-Stained Leave (except MLRA 1, 2, 4) Salt Crust (B11) Aquatic Invertebrates Hydrogen Sulfide Od Oxidized Rhizosphen Presence of Reduced Recent Iron Reductio Stunted or Stresses F Other (Explain in Rer  Depth (inches):                  | 4A, and 4E s (B13) lor (C1) es along Li d Iron (C4) on in Tilled Plants (D1) marks)  surface   | iving Roots (C3<br>Soils (C6)<br>(LRR A) | Second                                                                                                                  | dary Indicators (2 vater-Stained Lea MLRA 1, 2, 4A, and Drainage Patterns Dry-Season Water Saturation Visible of Geomorphic Position Shallow Aquitard (If AC-Neutral Test (Raised Ant Mounds frost-Heave Humn                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | ves (B9) nd 4B) (B10) Table (C2 on Aerial I on (D2) D3) (D5) s (D6) (LF nocks (D7 | 2)<br>mager<br>RRR A) | ry (C9) | 0 [ |
| HYDROLOG Vetland Hyd Primary Indicate High W Saturate Use Sedime Unift De Surface Inundate Inundate Sparse Vetland Observe Vet | GY  Irology Indicator ators (minimum of e Water (A1) Vater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or Crust (B4) eposits (B5) e Soil Cracks (B6) ation Visible on Acely Vegetated Convations: er Present? Present? esent? | of one resolution of one resol | equired;             | check a 37) (B8) No No No | all tha  | t apply)  Water-Stained Leave (except MLRA 1, 2, 4) Salt Crust (B11)  Aquatic Invertebrates Hydrogen Sulfide Od Oxidized Rhizospher Presence of Reduced Recent Iron Reductio Stunted or Stresses f Other (Explain in Rer  Depth (inches): Depth (inches): | 4A, and 4E s (B13) lor (C1) es along Li d Iron (C4) on in Tilled Plants (D1) marks)  surface   | iving Roots (C3<br>Soils (C6)<br>(LRR A) | Second (1) (1) (1) (1) (1) (1) (1) (1) (1) (1)                                                                          | dary Indicators (2 vater-Stained Lea MLRA 1, 2, 4A, and Drainage Patterns Dry-Season Water Saturation Visible of Geomorphic Position Shallow Aquitard (If AC-Neutral Test (Raised Ant Mounds frost-Heave Humn                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | ves (B9) nd 4B) (B10) Table (C2 on Aerial I on (D2) D3) (D5) s (D6) (LF nocks (D7 | 2)<br>mager<br>RRR A) | ry (C9) | o [ |

| Project Site:                         | Port Gaml           | ble Trai            | I Feasibility                                                       |                       |            |                 |              | City/Cour                  | nty: <u>P</u>             | ort Gam             | nble/Kit | sap                        | Samplin         | g Date:                  | 1/1         | 8/17        |             |
|---------------------------------------|---------------------|---------------------|---------------------------------------------------------------------|-----------------------|------------|-----------------|--------------|----------------------------|---------------------------|---------------------|----------|----------------------------|-----------------|--------------------------|-------------|-------------|-------------|
| Applicant/Owner:                      | Fischer Bo          | ouma P              | artnership                                                          | 1                     |            |                 |              |                            | State: WA Sampling Point: |                     |          |                            |                 | TP                       | TP13F       |             |             |
| Investigator(s):                      | J. Bartlett,        | , L. Wes            | stervelt, K. Boa                                                    | <u>a</u>              |            |                 |              |                            |                           | Section             | n, Towr  | nship, Ran                 | ge: <u>S7 T</u> | 27N R2E                  |             |             |             |
| Landform (hillslope, ter              | race, etc.):        | : <u>hill</u>       | slope                                                               |                       |            |                 | Loca         | I relief (conc             | ave, co                   | nvex, no            | one):    | convex                     |                 | Slo                      | pe (%):     | <u>6-15</u> | <u> </u>    |
| Subregion (LRR):                      | MLRA 2              |                     |                                                                     | Lat:                  |            | _               |              |                            | Lon                       | ng:                 |          |                            |                 | Datum:                   | Trimb       | <u>le</u>   |             |
| Soil Map Unit Name:                   | Ragnar I            | Fine sar            | ndy loam, 6 to                                                      | 15 perc               | ent s      | opes            |              |                            |                           |                     |          | NWI clas                   | sification:     |                          |             |             |             |
| Are climatic / hydrologic             | c condition         | s on the            | e site typical fo                                                   | or this ti            | ne of      | year?           | Ye           | es 🛛                       | No                        |                     | (If no   | o, explain i               | n Remark        | s.)                      |             |             |             |
| Are Vegetation $\square$ ,            | Soil                | □, 0                | or Hydrology                                                        | □, 9                  | signifi    | cantly dis      | sturbed      | ? Are "                    | Normal                    | Circum              | stances  | s" present?                | >               | Yes                      | $\boxtimes$ | No          |             |
| Are Vegetation □,                     | Soil                | □, c                | or Hydrology                                                        | □, ı                  | natura     | lly probl       | ematic?      | ? (If ne                   | eded, e                   | explain a           | any ans  | wers in Re                 | emarks.)        |                          |             |             |             |
| SUMMARY OF FINI                       | DINGS –             | Attacl              | h site map s                                                        | howin                 | g sa       | mpling          | point        | locations,                 | trans                     | ects, ir            | mport    | ant featu                  | res, etc        | -                        |             |             |             |
| Hydrophytic Vegetation                | Present?            |                     |                                                                     | Yes                   | ; <u> </u> | No              | $\boxtimes$  |                            |                           |                     |          |                            |                 |                          |             |             |             |
| Hydric Soil Present?                  |                     |                     |                                                                     | Yes                   | ; <u> </u> | No              | $\boxtimes$  | Is the Samp<br>within a We |                           |                     |          |                            |                 | Yes                      |             | No          | $\boxtimes$ |
| Wetland Hydrology Pre                 | esent?              |                     |                                                                     | Yes                   | ; <u> </u> | No              | $\boxtimes$  |                            |                           |                     |          |                            |                 |                          |             |             |             |
| south end.<br>current log             | It passes           | primari<br>ices, an | encompasses<br>ily through und<br>id a large syste<br>ervice Road 1 | develope<br>em of tra | ed tim     | berland         | owned        | by OPG; mo                 | st of wh                  | hich is w           | oven w   | ith interlac               | ing loggir      | ng roads du              | e to his    | storic a    | ınd         |
| VEGETATION - Us                       | e scienti           | fic nar             | mes of plan                                                         |                       |            |                 |              |                            |                           |                     |          |                            |                 |                          |             |             |             |
| Tree Stratum (Plot size               | e: <u>30' diam</u>  | eter)               |                                                                     | Abso<br>% Co          |            | Domin<br>Specie |              | Indicator<br>Status        | Domi                      | inance <sup>-</sup> | Test W   | orksheet:                  |                 |                          |             |             |             |
| 1. Alnus rubra                        |                     |                     |                                                                     | 20                    | <u> </u>   | <u>yes</u>      | <del>.</del> | FAC                        | Numb                      | ner of Do           | ominan   | t Species                  |                 |                          |             |             |             |
| 2                                     |                     |                     |                                                                     |                       | _          |                 |              |                            |                           |                     |          | N, or FAC:                 |                 | <u>2</u>                 |             |             | (A)         |
| 3                                     |                     |                     |                                                                     |                       | _          |                 |              |                            | Total                     | Numbe               | r of Dor | minant                     |                 | _                        |             |             | (D)         |
| 4                                     |                     |                     |                                                                     |                       | _          |                 |              |                            |                           | ies Acro            |          |                            |                 | <u>5</u>                 |             |             | (B)         |
| 50% =, 20% = _                        |                     |                     |                                                                     |                       | _          | = Tota          | l Cover      | r                          | Perce                     | ent of Do           | ominan   | t Species                  |                 | 40                       |             |             | (A /D)      |
| Sapling/Shrub Stratum                 | (Plot size:         | : <u>30' dia</u>    | ımeter)                                                             |                       |            |                 |              |                            |                           |                     |          | N, or FAC:                 |                 | <u>40</u>                |             |             | (A/B)       |
| 1. Corylus cornuta                    |                     |                     |                                                                     | <u>15</u>             |            | <u>yes</u>      |              | <u>FACU</u>                | Preva                     | alence I            | Index w  | vorksheet:                 |                 |                          |             |             |             |
| 2. Rubus spectabilis                  |                     |                     |                                                                     | <u>10</u>             |            | <u>yes</u>      |              | FAC                        |                           | -                   | Total %  | Cover of:                  |                 | Mult                     | iply by:    |             |             |
| 3. Sambucus racemo                    | sa                  |                     |                                                                     | <u>10</u>             |            | <u>yes</u>      |              | FACU                       | OBL:                      | species             |          |                            |                 | x1 =                     |             |             |             |
| 4                                     |                     |                     |                                                                     |                       | _          |                 |              |                            | FACV                      | V specie            | es       |                            |                 | x2 =                     |             |             |             |
| 5                                     |                     |                     |                                                                     |                       | _          |                 |              |                            | FAC :                     | species             |          |                            |                 | x3 =                     |             |             |             |
| 50% = <u>17.5,</u> 20% = <u>7</u>     |                     |                     |                                                                     | <u>35</u>             |            | = Tota          | l Cover      | ·                          | FACL                      | J specie            | es       |                            |                 | x4 =                     |             |             |             |
| Herb Stratum (Plot size               | e: 15' diam         | eter)               |                                                                     |                       |            |                 |              |                            | UPL                       | species             |          |                            |                 | x5 =                     |             |             |             |
| Polystichum munitu                    |                     | ,                   |                                                                     | <u>10</u>             |            | yes             |              | FACU                       | Colur                     | nn Total            | le·      |                            | (A)             |                          |             | (E          | 3)          |
| Dryopteris expansa                    |                     |                     |                                                                     | I                     |            | no              |              | FACW                       | Oolui                     | iiii rota           |          | revalence                  |                 | 3/Δ =                    |             |             | <i>'</i>    |
| 3.                                    | <u>-</u>            |                     |                                                                     | <u>-</u>              |            | <u></u>         |              | <u></u>                    | Hydr                      | onhytic             |          | ation Indic                |                 |                          |             |             |             |
| 4.                                    |                     |                     |                                                                     | -                     | _          |                 |              |                            | -                         |                     | •        | t for Hydro                |                 | netation                 |             |             |             |
| 5.                                    |                     |                     |                                                                     | -                     | _          |                 |              |                            |                           | -                   |          | Test is >5                 | -               | gotation                 |             |             |             |
| 6.                                    |                     |                     |                                                                     | -                     | _          |                 |              |                            |                           |                     |          |                            |                 |                          |             |             |             |
| <del></del>                           |                     |                     |                                                                     | -                     | _          |                 |              |                            |                           |                     |          | Index is <                 |                 |                          |             |             |             |
| 7<br>8                                |                     |                     |                                                                     |                       | _          |                 |              |                            |                           |                     |          | ical Adapta<br>narks or or |                 | ovide supp<br>ate sheet) | orting      |             |             |
| 9                                     |                     |                     |                                                                     |                       | _          |                 |              |                            |                           |                     |          | on-Vascula                 | ٠.              | ,                        |             |             |             |
| 10.                                   |                     |                     |                                                                     | -                     | _          |                 |              |                            |                           |                     |          |                            |                 | 1,                       | ,           |             |             |
| · · · · · · · · · · · · · · · · · · · |                     |                     |                                                                     | -                     | -          |                 |              |                            | Ш                         | Probler             | natic H  | ydrophytic                 | Vegetatio       | on¹ (Explair             | 1)          |             |             |
| 11                                    |                     |                     |                                                                     |                       | -          |                 |              |                            | 1Indic                    | ators of            | hydric   | soil and w                 | etland hy       | drology mu               | st          |             |             |
| 50% =, 20% = _                        |                     | F! -0:              | -4\                                                                 |                       | -          | = 10ta          | l Cover      |                            | be pr                     | esent, u            | ınless d | listurbed or               | r problem       | atic.                    |             |             |             |
| Woody Vine Stratum (F                 | Plot size: <u>1</u> | 5 diam              | <u>leter</u> )                                                      |                       |            |                 |              |                            |                           |                     |          |                            |                 |                          |             | ·····       |             |
| 1                                     |                     |                     |                                                                     | -                     | _          |                 |              |                            | Hydr                      | ophytic             |          |                            |                 |                          |             |             |             |
| 2                                     |                     |                     |                                                                     |                       | -          | _               |              |                            | -                         | tation              |          | Y                          | es              |                          | No          | )           | $\boxtimes$ |
| 50% =, 20% = _                        |                     |                     |                                                                     |                       | -          | = Tota          | l Cover      | Ť                          | Prese                     |                     |          |                            |                 |                          |             |             |             |
| % Bare Ground in Herb                 |                     |                     |                                                                     |                       |            |                 |              |                            |                           |                     |          |                            |                 |                          |             |             |             |
| Remarks:                              | he hydroph          | hytic ve            | getation criteri                                                    | on is no              | t met      | because         | there i      | is not greate              | r than 5                  | 50% don             | ninance  | by FAC o                   | r FACW s        | species.                 |             |             |             |
|                                       |                     |                     |                                                                     |                       |            |                 |              |                            |                           |                     |          |                            |                 |                          |             |             |             |
|                                       |                     |                     |                                                                     |                       |            |                 |              |                            |                           |                     |          |                            |                 |                          |             |             |             |

| SOIL                                    |                    |           |             |           |             |               |             |                   |                  |                     |         | Sampling Point        | :: <u>TP13</u> |          |         |             |          |
|-----------------------------------------|--------------------|-----------|-------------|-----------|-------------|---------------|-------------|-------------------|------------------|---------------------|---------|-----------------------|----------------|----------|---------|-------------|----------|
| Profile Desc                            | ription: (Describ  | e to the  | edepth      | neede     | d to d      | ocument the   | indicato    | r or con          | firm the abse    | ence of i           | ndicat  | ors.)                 |                |          |         |             |          |
| Depth                                   | Matr               | ix        |             |           |             | Re            | edox Feat   | ures              |                  |                     |         |                       |                |          |         |             |          |
| (inches)                                | Color (moist)      |           | %           | Cold      | or (mo      | ist)          | %           | Type <sup>1</sup> | Loc²             |                     | Γexture | •                     | Rer            | marks    |         |             |          |
| 0-3                                     |                    | _         |             | _         |             |               |             |                   |                  |                     |         | Duff                  |                |          |         |             |          |
| <u>3-7</u>                              | 10YR 2/2           | 1         | 100         | _         |             |               |             |                   |                  | _                   | sa lo   | no redoximo           | rphic cor      | ncentra  | ations  |             |          |
| <u>7-16</u>                             | 10YR 3/4           | 1         | 100         | _         |             |               |             |                   |                  | _                   | sa lo   | no redoximo           | rphic cor      | ncentra  | ations  |             |          |
|                                         |                    |           |             | _         |             |               |             |                   |                  | _                   |         |                       |                |          |         |             |          |
|                                         |                    |           |             | _         |             |               |             |                   |                  | _                   |         | sa - sand             |                |          |         |             |          |
|                                         |                    |           |             | _         |             |               |             |                   |                  | _                   |         | <u>lo - loam</u>      |                |          |         |             |          |
|                                         |                    |           |             | _         |             |               |             |                   |                  | =                   |         |                       |                |          |         |             |          |
|                                         |                    | _         |             | -         |             |               |             |                   |                  | -                   |         |                       |                |          |         |             |          |
| <sup>1</sup> Type: C= Ce                | oncentration, D=D  | epletion  | n. RM=R     | educed    | d Matr      | ix. CS=Cove   | red or Co   | ated San          | d Grains.        | <sup>2</sup> Locati | on: PL  | =Pore Lining, M=Ma    | trix. RC=      | =Root    | Channel |             |          |
| • • • • • • • • • • • • • • • • • • • • | Indicators: (Appl  | -         | -           |           |             | -             |             |                   |                  |                     |         | cators for Problem    |                |          |         |             | $\dashv$ |
| ☐ Histos                                |                    |           |             | ,         |             | Sandy Red     | -           |                   |                  |                     |         | 2 cm Muck (A10)       | -              |          |         |             |          |
| _                                       | Epipedon (A2)      |           |             |           |             | Stripped M    |             |                   |                  |                     |         | Red Parent Mate       |                | <b>)</b> |         |             |          |
| _                                       | Histic (A3)        |           |             |           |             |               |             | al (F1) <b>(a</b> | xcept MLRA       | 1)                  |         | Very Shallow Da       |                |          | 12\     |             |          |
|                                         | gen Sulfide (A4)   |           |             |           |             | Loamy Gle     | •           | . , .             | ACEPI WILKA      | 1)                  |         | •                     |                | •        | 12)     |             |          |
|                                         | . ,                | fo.oo ( / | \44\        |           |             | •             | •           | ` ,               |                  |                     | Ц       | Other (Explain in     | Nemain         | .3)      |         |             |          |
|                                         | ed Below Dark St   | -         | A11)        |           |             | Depleted N    | . ,         |                   |                  |                     |         |                       |                |          |         |             |          |
|                                         | Dark Surface (A12  | •         |             |           |             | Redox Dar     |             |                   |                  |                     | 3Ind    | icators of hydrophyti | e vegeta       | tion a   | nd      |             |          |
|                                         | Mucky Mineral (S   |           |             |           |             | Depleted D    |             | , ,               |                  |                     |         | vetland hydrology m   |                |          |         |             |          |
|                                         | Gleyed Matrix (S   |           |             |           |             | Redox Dep     | ressions    | (F8)              |                  |                     | ι       | inless disturbed or p | roblema        | tic.     |         |             | _        |
|                                         | Layer (if present) | ):        |             |           |             |               |             |                   |                  |                     |         |                       |                |          |         |             |          |
| Type:                                   |                    |           |             |           |             |               |             |                   |                  |                     |         |                       |                | _        |         | _           |          |
| Depth (inche                            | s):                |           |             |           |             |               |             |                   | Hydric So        | ils Prese           | ent?    | Y                     | es [           |          | No      | $\boxtimes$ |          |
| HYDROLO                                 | GY                 |           |             |           |             |               |             |                   |                  |                     |         |                       |                |          |         |             |          |
| Wetland Hy                              | drology Indicato   | rs:       |             |           |             |               |             |                   |                  |                     |         |                       |                |          |         |             |          |
| Primary India                           | cators (minimum o  | of one re | equired;    | check a   | all that    | apply)        |             |                   |                  |                     | Seco    | ndary Indicators (2 o | r more re      | equire   | d)      |             |          |
| ☐ Surfac                                | ce Water (A1)      |           |             |           |             | Water-Stai    | ned Leave   | es (B9)           |                  |                     |         | Water-Stained Leav    | es (B9)        |          |         |             |          |
| ☐ High \                                | Vater Table (A2)   |           |             |           |             | (except MI    | LRA 1, 2,   | 4A, and           | 4B)              |                     |         | (MLRA 1, 2, 4A, an    | d 4B)          |          |         |             |          |
| ☐ Satura                                | ation (A3)         |           |             |           |             | Salt Crust    | (B11)       |                   |                  |                     |         | Drainage Patterns (   | 310)           |          |         |             |          |
| ☐ Water                                 | Marks (B1)         |           |             |           |             | Aquatic Inv   | ertebrate:  | s (B13)           |                  |                     |         | Dry-Season Water      | Table (C       | 2)       |         |             |          |
| ☐ Sedim                                 | ent Deposits (B2)  | )         |             |           |             | Hydrogen S    | Sulfide Oc  | for (C1)          |                  |                     |         | Saturation Visible or | n Aerial I     | lmagei   | y (C9)  |             |          |
| ☐ Drift □                               | eposits (B3)       |           |             |           |             | Oxidized R    | hizospher   | es along          | Living Roots     | (C3)                |         | Geomorphic Positio    | n (D2)         |          |         |             |          |
|                                         | Mat or Crust (B4)  |           |             |           |             | Presence of   | of Reduce   | d Iron (C         | 4)               |                     |         | Shallow Aquitard (D   | 3)             |          |         |             |          |
| _                                       | eposits (B5)       |           |             |           |             |               |             | -                 | ed Soils (C6)    |                     | _       | FAC-Neutral Test (E   | )5)            |          |         |             |          |
|                                         | ce Soil Cracks (B6 | 5)        |             |           |             |               |             |                   | 1) (LRR A)       |                     |         | Raised Ant Mounds     | -              | RR A)    |         |             |          |
|                                         | ation Visible on A | -         | agery (B    | 7)        |             | Other (Exp    |             | -                 | , ,              |                     |         | Frost-Heave Humm      | . , .          | •        |         |             |          |
|                                         | ely Vegetated Co   |           |             | -         |             | ( <u>-</u>    |             | ,                 |                  |                     | _       |                       | (              | ,        |         |             |          |
| Field Obser                             |                    |           |             |           |             |               |             |                   |                  |                     |         |                       |                |          |         |             | _        |
| Surface Wat                             |                    | Yes       | П           | No        |             | Denth         | (inches):   |                   |                  |                     |         |                       |                |          |         |             |          |
| Water Table                             |                    |           |             |           |             | •             |             | 1.4               |                  |                     |         |                       |                |          |         |             |          |
|                                         |                    | Yes       | $\boxtimes$ | No        |             | Depth         | (inches):   | <u>14</u>         |                  |                     |         |                       |                |          |         |             |          |
| Saturation P<br>(includes car           |                    | Yes       |             | No        | $\boxtimes$ | Depth         | (inches):   |                   | -                | Wetlan              | d Hydr  | ology Present?        | Ye             | es       | □ N     | o 🗵         | Σ        |
|                                         | corded Data (stre  | am gaud   | ge, moni    | itoring v | well, a     | erial photos. | previous    | inspectio         | ns), if availab  | le:                 |         |                       |                |          |         |             |          |
|                                         | , , ,              | 5 .       | - '         | J         | , -         | ,             |             | •                 | ,                |                     |         |                       |                |          |         |             |          |
| Remarks:                                | Water table wo     | s helow   | 12 inch     | as en hi  | vdrolo      | av was not n  | resent du   | ring the fi       | ield visit and t | there wo            | s no e  | ridence of wetland h  | vdrology       | ,        |         |             |          |
| . tomano.                               |                    | 201011    |             | 20011     | ,           | ع,ع ۱۱۵۱ p    | . 500.11 00 |                   |                  |                     | 0 0 1   | S. Wolland II         | , s. s.ogy     | -        |         |             |          |
|                                         |                    |           |             |           |             |               |             |                   |                  |                     |         |                       |                |          |         |             |          |
|                                         |                    |           |             |           |             |               |             |                   |                  |                     |         |                       |                |          |         |             |          |

| Project Site:                    | Port Gamble T                     | rail Feasibility                                                                 |                         |            | City/County: Port Gamble/Kitsap Sampling Date: 1/1 |                     |                             |             |                        | 1/18/                  | /17                    |              |             |       |
|----------------------------------|-----------------------------------|----------------------------------------------------------------------------------|-------------------------|------------|----------------------------------------------------|---------------------|-----------------------------|-------------|------------------------|------------------------|------------------------|--------------|-------------|-------|
| Applicant/Owner:                 | Fischer Bouma                     | <u>Partnership</u>                                                               |                         |            |                                                    |                     | State: WA Sampling P        |             |                        |                        |                        |              |             |       |
| Investigator(s):                 | J. Bartlett, L. W                 | /estervelt, K. Boa                                                               |                         |            |                                                    |                     | Section                     | on, Towns   | ship, Range            | e: <u>S7 T27</u>       | 'N R2E                 |              |             |       |
| Landform (hillslope, ter         | race, etc.):                      | <u>hillslope</u>                                                                 |                         |            | Loc                                                | al relief (conc     | ave, convex, r              | none):      | convex                 |                        | Slope                  | e (%):       | <u>6-15</u> |       |
| Subregion (LRR):                 | MLRA 2                            |                                                                                  | Lat:                    |            |                                                    |                     | Long:                       |             |                        |                        | Datum:                 | Trimble      | <u> </u>    |       |
| Soil Map Unit Name:              | Ragnar Fine:                      | sandy loam, 6 to 1                                                               | 5 percen                | t slopes   |                                                    |                     |                             |             | NWI classi             | ification:             |                        |              |             |       |
| Are climatic / hydrologic        | c conditions on                   | the site typical for                                                             | this time               | of year?   | ? Y                                                | ′es ⊠               | No 🗆                        | ] (If no,   | , explain in           | Remarks.)              | )                      |              |             |       |
| Are Vegetation $\square$ ,       | Soil □,                           | or Hydrology                                                                     | □, sigi                 | nificantly | disturbed                                          | d? Are "            | Normal Circur               | mstances"   | " present?             |                        | Yes                    | $\boxtimes$  | No          |       |
| Are Vegetation $\square$ ,       | Soil □,                           | or Hydrology                                                                     | □, nat                  | urally pr  | oblematic                                          | ? (If ne            | eded, explain               | any answ    | vers in Ren            | narks.)                |                        |              |             |       |
| SUMMARY OF FIN                   |                                   | ich site map sh                                                                  |                         | -          | · ·                                                | t locations,        | transects,                  | importa     | nt feature             | es, etc.               |                        |              |             |       |
| Hydrophytic Vegetation           | Present?                          |                                                                                  | Yes                     |            | lo 🗆                                               | Is the Samp         | alad Araa                   |             |                        |                        |                        |              |             |       |
| Hydric Soil Present?             |                                   |                                                                                  | Yes                     | ⊠ N        | lo 🗆                                               | within a We         |                             |             |                        |                        | Yes                    | $\boxtimes$  | No          |       |
| Wetland Hydrology Pre            | esent?                            |                                                                                  | Yes                     | ⊠ N        | lo 🗆                                               |                     |                             |             |                        |                        |                        |              |             |       |
| south end.<br>current log        | It passes prim<br>ging practices, | ty encompasses a<br>larily through unde<br>and a large systel<br>ng Service Road | eveloped<br>m of trails | timberla   | nd owned                                           | by OPG; mo          | st of which is              | woven wit   | th interlacir          | ng logging             | roads due              | to histo     | oric ar     | nd    |
| <b>VEGETATION – Us</b>           | e scientific r                    | names of plants                                                                  | 3                       |            |                                                    |                     |                             |             |                        |                        |                        |              |             |       |
| Tree Stratum (Plot size          | e: 30' diameter)                  |                                                                                  | Absolute  % Cove        |            | minant<br>ecies?                                   | Indicator<br>Status | Dominance                   | e Test Wo   | orksheet:              |                        |                        |              |             |       |
| 1                                |                                   |                                                                                  |                         |            | _                                                  |                     | Number of I<br>That Are OF  |             |                        |                        | <u>1</u>               |              |             | (A)   |
| 2                                |                                   |                                                                                  | -                       |            | _                                                  |                     |                             |             |                        |                        |                        |              |             |       |
| 3                                |                                   |                                                                                  | -                       |            | _                                                  |                     | Total Numb<br>Species Acr   |             |                        |                        | <u>1</u>               |              |             | (B)   |
| 4                                |                                   |                                                                                  |                         |            | —<br>otal Cove                                     |                     |                             |             |                        |                        |                        |              |             |       |
| Sapling/Shrub Stratum            |                                   | diamotor)                                                                        |                         | - 1        | otal Cove                                          | ;1                  | Percent of E<br>That Are OE |             |                        |                        | 100                    |              |             | (A/B) |
| 1. Rubus spectabilis             | (Flot Size. <u>50 t</u>           | ularrieter)                                                                      | 10                      | VOC        |                                                    | EAC                 | Prevalence                  |             |                        |                        |                        |              |             |       |
| •                                |                                   |                                                                                  | <u>10</u>               | yes        |                                                    | <u>FAC</u>          | Frevalence                  |             |                        |                        | Multipl                | v bv:        |             |       |
| <ol> <li>2</li> <li>3</li> </ol> |                                   |                                                                                  |                         | _          | _                                                  |                     | OBL specie                  |             | Cover of:              |                        | <u>Multipl</u><br>x1 = | <u>y by.</u> |             |       |
| 4.                               |                                   |                                                                                  |                         |            | _                                                  |                     | FACW species                |             |                        |                        | x2 =                   |              | _           |       |
| 5                                |                                   |                                                                                  |                         |            | _                                                  |                     | FAC species                 |             |                        |                        | x3 =                   |              | _           |       |
| 50% = <u>5</u> , 20% = <u>2</u>  |                                   |                                                                                  | 10                      |            | —<br>otal Cove                                     |                     | FACU specie                 |             |                        |                        | x4 =                   |              | _           |       |
|                                  | a. 45' diamatar                   |                                                                                  | 10                      | - '        | otal Cove                                          | şı                  | UPL species                 |             |                        |                        |                        |              | _           |       |
| Herb Stratum (Plot size          | e: <u>15 diameter</u> )           |                                                                                  |                         |            |                                                    |                     |                             |             |                        | • >                    | x5 =                   |              |             | .,    |
| 1                                |                                   |                                                                                  |                         |            | _                                                  |                     | Column Tot                  |             |                        | A)                     |                        |              | (B          | ')    |
| 2                                |                                   |                                                                                  |                         |            | _                                                  |                     |                             |             | revalence Ir           |                        | ·=                     |              |             |       |
| 3                                |                                   |                                                                                  | -                       |            | _                                                  |                     | Hydrophyti                  | •           |                        |                        |                        |              |             |       |
| 4                                |                                   |                                                                                  |                         |            | _                                                  |                     | ☐ 1 – Ra                    |             |                        |                        | tation                 |              |             |       |
| 5                                |                                   |                                                                                  |                         | _          | _                                                  |                     |                             |             | Test is >50            |                        |                        |              |             |       |
| 6                                |                                   |                                                                                  |                         |            | _                                                  | —                   | ☐ 3 - Pre                   | evalence I  | Index is <u>&lt;</u> 3 | .0 <sup>1</sup>        |                        |              |             |       |
| 7                                |                                   |                                                                                  |                         |            | _                                                  |                     |                             |             | al Adaptati            |                        |                        | ting         |             |       |
| 8                                |                                   |                                                                                  |                         |            | _                                                  | —                   |                             |             | arks or on             | ٠.                     | sneet)                 |              |             |       |
| 9                                |                                   |                                                                                  |                         |            | _                                                  | —                   | □ 5 - We                    | etland Nor  | n-Vascular             | Plants'                |                        |              |             |       |
| 10                               |                                   |                                                                                  |                         |            | _                                                  |                     | ☐ Proble                    | ematic Hyd  | drophytic V            | egetation <sup>1</sup> | (Explain)              |              |             |       |
| 11                               |                                   |                                                                                  |                         |            | _                                                  |                     | <sup>1</sup> Indicators of  | of hydric s | oil and we             | tland hydro            | ology must             |              |             |       |
| 50% =, 20% = _                   |                                   |                                                                                  | -                       | = T        | otal Cove                                          | er                  | be present,                 |             |                        |                        |                        |              |             |       |
| Woody Vine Stratum (I            | Plot size: 15' dia                | ameter)                                                                          |                         |            |                                                    |                     |                             |             |                        |                        |                        |              |             |       |
| 1                                |                                   |                                                                                  | -                       |            | _                                                  |                     | Listed was to be set:       |             |                        |                        |                        |              |             |       |
| 2                                |                                   |                                                                                  |                         |            | _                                                  | —                   | Hydrophyti<br>Vegetation    |             | Ye                     | s                      |                        | No           |             |       |
| 50% =, 20% = _                   |                                   |                                                                                  |                         | = T        | otal Cove                                          | er                  | Present?                    |             |                        |                        |                        | -            |             | _     |
| % Bare Ground in Herb            | b Stratum 100                     |                                                                                  |                         |            |                                                    |                     |                             |             |                        |                        |                        |              |             |       |
| Remarks: T                       | he hydrophytic                    | vegetation criterio                                                              | n is met b              | ecause     | there is g                                         | reater than 5       | 0% dominanc                 | e by FAC    | species.               | -                      |                        |              |             |       |
|                                  |                                   |                                                                                  |                         |            |                                                    |                     |                             |             |                        |                        |                        |              |             |       |
|                                  |                                   |                                                                                  |                         |            |                                                    |                     |                             |             |                        |                        |                        |              |             |       |

| Depth                                                                                                                                                                | Matrix                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                          |                                  | 0-1-        | (manicat)                                              | Redox Feat                                                                                                                                                                                                  |                                                                                                          | 1.5-2                                 | Taratana                                                |                                                                                                                                                                                                                                                        | Da '                                                                       | _               |        |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|----------------------------------|-------------|--------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|---------------------------------------|---------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------|-----------------|--------|
| ches)                                                                                                                                                                | Color (moist)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | _                                        | %<br>                            | Color       | (moist)                                                |                                                                                                                                                                                                             | Type <sup>1</sup>                                                                                        | Loc <sup>2</sup>                      | Texture                                                 |                                                                                                                                                                                                                                                        | Remark                                                                     |                 |        |
| <u>0-1</u>                                                                                                                                                           | 10YR 2/1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | _                                        | <u>00</u>                        |             |                                                        |                                                                                                                                                                                                             |                                                                                                          |                                       | sa lo                                                   | no redoximorp                                                                                                                                                                                                                                          |                                                                            |                 |        |
| <u>1-16</u>                                                                                                                                                          | <u>10GY 4/1</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | _1                                       | <u>00</u>                        | -           |                                                        |                                                                                                                                                                                                             |                                                                                                          |                                       | <u>sa</u>                                               | contains brown                                                                                                                                                                                                                                         | i organic ci                                                               | IUIIKS          |        |
|                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                          |                                  |             |                                                        |                                                                                                                                                                                                             |                                                                                                          |                                       |                                                         | sa - sand                                                                                                                                                                                                                                              |                                                                            |                 |        |
|                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | _                                        |                                  |             |                                                        |                                                                                                                                                                                                             |                                                                                                          |                                       |                                                         | <u>lo - loam</u>                                                                                                                                                                                                                                       |                                                                            |                 |        |
|                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | _                                        |                                  |             |                                                        |                                                                                                                                                                                                             |                                                                                                          |                                       |                                                         |                                                                                                                                                                                                                                                        |                                                                            |                 |        |
|                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | _                                        |                                  | _           |                                                        |                                                                                                                                                                                                             |                                                                                                          |                                       |                                                         |                                                                                                                                                                                                                                                        |                                                                            |                 |        |
| ne: C= Co                                                                                                                                                            | ncentration, D=De                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | <br>enletion                             | RM=R                             | educed M    | —<br>Matrix C.9                                        | S=Covered or Co                                                                                                                                                                                             | ated Sand                                                                                                | Grains <sup>2</sup> Lo                | cation: PI =I                                           | <br>Pore Lining, M=Matri                                                                                                                                                                                                                               | x RC=Roo                                                                   | it Channel      |        |
|                                                                                                                                                                      | ndicators: (Appli                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | •                                        |                                  |             |                                                        |                                                                                                                                                                                                             |                                                                                                          |                                       |                                                         | ators for Problemat                                                                                                                                                                                                                                    |                                                                            |                 |        |
| Histoso                                                                                                                                                              | I (A1)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                          |                                  |             | Sar                                                    | ndy Redox (S5)                                                                                                                                                                                              |                                                                                                          |                                       |                                                         | 2 cm Muck (A10)                                                                                                                                                                                                                                        |                                                                            |                 |        |
| Histic E                                                                                                                                                             | pipedon (A2)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                          |                                  |             | Stri                                                   | pped Matrix (S6)                                                                                                                                                                                            |                                                                                                          |                                       |                                                         | Red Parent Materia                                                                                                                                                                                                                                     | al (TF2)                                                                   |                 |        |
| Black H                                                                                                                                                              | listic (A3)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                          |                                  |             | Loa                                                    | my Mucky Miner                                                                                                                                                                                              | al (F1) <b>(ex</b> c                                                                                     | cept MLRA 1)                          |                                                         | Very Shallow Dark                                                                                                                                                                                                                                      | Surface (T                                                                 | F12)            |        |
| Hydrog                                                                                                                                                               | en Sulfide (A4)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                          |                                  | $\boxtimes$ | Loa                                                    | my Gleyed Matri                                                                                                                                                                                             | x (F2)                                                                                                   |                                       |                                                         | Other (Explain in R                                                                                                                                                                                                                                    | emarks)                                                                    |                 |        |
| Deplete                                                                                                                                                              | d Below Dark Sur                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | face (A                                  | .11)                             |             | Dep                                                    | oleted Matrix (F3)                                                                                                                                                                                          | )                                                                                                        |                                       |                                                         |                                                                                                                                                                                                                                                        |                                                                            |                 |        |
| Thick D                                                                                                                                                              | ark Surface (A12)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | )                                        |                                  |             | Red                                                    | dox Dark Surface                                                                                                                                                                                            | (F6)                                                                                                     |                                       |                                                         |                                                                                                                                                                                                                                                        |                                                                            |                 |        |
| Sandy I                                                                                                                                                              | Mucky Mineral (S                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 1)                                       |                                  |             | Dep                                                    | oleted Dark Surfa                                                                                                                                                                                           | ice (F7)                                                                                                 |                                       |                                                         | ators of hydrophytic                                                                                                                                                                                                                                   |                                                                            |                 |        |
| Sandy (                                                                                                                                                              | Gleyed Matrix (S4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | )                                        |                                  |             | Red                                                    | dox Depressions                                                                                                                                                                                             | (F8)                                                                                                     |                                       |                                                         | etland hydrology mus<br>lless disturbed or pro                                                                                                                                                                                                         |                                                                            | nt,             |        |
| trictive L                                                                                                                                                           | ayer (if present):                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                          |                                  |             |                                                        |                                                                                                                                                                                                             |                                                                                                          |                                       |                                                         |                                                                                                                                                                                                                                                        |                                                                            |                 |        |
| e:                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                          |                                  |             |                                                        |                                                                                                                                                                                                             |                                                                                                          |                                       |                                                         |                                                                                                                                                                                                                                                        |                                                                            |                 |        |
| th (inches                                                                                                                                                           | s):                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                          |                                  |             |                                                        |                                                                                                                                                                                                             |                                                                                                          | Hydric Soils P                        | resent?                                                 | Yes                                                                                                                                                                                                                                                    | $\boxtimes$                                                                | No              | [      |
|                                                                                                                                                                      | soil surface.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                          | sely ma                          | tcnes tna   | of a Loa                                               | my Gleyed Matri                                                                                                                                                                                             | x (F2) beca                                                                                              | ause the layer wi                     | th more than                                            | n 60% giey matrix be                                                                                                                                                                                                                                   | giris within                                                               | TZ IIIOIIOC     | S OI L |
|                                                                                                                                                                      | soil surface.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                          | sery ma                          | tcnes tha   | of a Loa                                               | my Gleyed Matri                                                                                                                                                                                             | x (F2) beca                                                                                              | ause the layer wi                     | th more than                                            | n 60% giey matrix be                                                                                                                                                                                                                                   | giris within                                                               | 72 1101100      | s OI t |
| DROLOG                                                                                                                                                               | soil surface.  SY rology Indicators                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | s:                                       |                                  |             |                                                        |                                                                                                                                                                                                             | x (F2) beca                                                                                              | ause the layer wi                     |                                                         |                                                                                                                                                                                                                                                        |                                                                            |                 | 5 01   |
| DROLOG<br>land Hyd<br>nary Indica                                                                                                                                    | Soil surface.  SY  rology Indicators ators (minimum of                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | s:                                       |                                  | check all   | that appl                                              | у)                                                                                                                                                                                                          |                                                                                                          | ause the layer wi                     | Second                                                  | dary Indicators (2 or r                                                                                                                                                                                                                                | nore requir                                                                |                 | 5 01   |
| DROLOG<br>land Hyd<br>nary Indica<br>Surface                                                                                                                         | GY rology Indicators ators (minimum of                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | s:                                       |                                  |             | that appl                                              | y)<br>ter-Stained Leav                                                                                                                                                                                      | es (B9)                                                                                                  |                                       | Second W                                                | dary Indicators (2 or r<br>Vater-Stained Leaves                                                                                                                                                                                                        | nore requir                                                                |                 |        |
| DROLOG<br>land Hyd<br>nary Indica<br>Surface<br>High W                                                                                                               | GY rology Indicators ators (minimum of e Water (A1) //ater Table (A2)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | s:                                       |                                  | check all   | that appl                                              | y)<br>ter-Stained Leav<br>cept MLRA 1, 2,                                                                                                                                                                   | es (B9)                                                                                                  |                                       | Second (I                                               | dary Indicators (2 or r<br>Vater-Stained Leaves<br>MLRA 1, 2, 4A, and 4                                                                                                                                                                                | nore requir<br>(B9)<br>4 <b>B)</b>                                         |                 |        |
| DROLOG<br>cland Hyd<br>nary Indica<br>Surface<br>High W<br>Satural                                                                                                   | GY rology Indicators ators (minimum of e Water (A1) dater Table (A2) tition (A3)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | s:                                       |                                  | check all   | that appl<br>] Wa<br><b>(ex</b><br>] Sal               | y)<br>ter-Stained Leav<br>cept MLRA 1, 2,<br>t Crust (B11)                                                                                                                                                  | es (B9)<br>4A, and 4B                                                                                    |                                       | Second (I                                               | dary Indicators (2 or r<br>Vater-Stained Leaves<br>MLRA 1, 2, 4A, and 4<br>Orainage Patterns (B1                                                                                                                                                       | nore requir<br>(B9)<br><b>4B)</b><br>0)                                    |                 |        |
| DROLOC<br>tland Hyd<br>nary Indica<br>Surface<br>High W<br>Satural<br>Water I                                                                                        | GY rology Indicators ators (minimum of e Water (A1) //ater Table (A2) tion (A3) Marks (B1)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | s:                                       |                                  | check all   | that appl<br>] Wa<br>(ex<br>] Sal<br>] Aqu             | y)<br>ter-Stained Leave<br>cept MLRA 1, 2,<br>t Crust (B11)<br>uatic Invertebrate                                                                                                                           | es (B9)<br><b>4A, and 4l</b><br>s (B13)                                                                  |                                       | Second (I                                               | dary Indicators (2 or r<br>Vater-Stained Leaves<br><b>MLRA 1, 2, 4A, and</b><br>Orainage Patterns (B1<br>Ory-Season Water Ta                                                                                                                           | nore requir<br>(B9)<br><b>4B)</b><br>0)<br>ble (C2)                        | ed)             | 5 01 1 |
| DROLOO<br>tland Hyd<br>nary Indica<br>Surface<br>High W<br>Saturat<br>Water I<br>Sedime                                                                              | rology Indicators ators (minimum of water (A1) (A2) tion (A3) Marks (B1) ent Deposits (B2)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | s:                                       |                                  | check all   | that appl ] Wa (ex ] Sal ] Aqu                         | y)<br>ter-Stained Leave<br>cept MLRA 1, 2,<br>t Crust (B11)<br>latic Invertebrate<br>drogen Sulfide Od                                                                                                      | es (B9) <b>4A</b> , and <b>4</b> E  s (B13)  dor (C1)                                                    | Э)                                    | Second (I                                               | dary Indicators (2 or r<br>Vater-Stained Leaves<br>MLRA 1, 2, 4A, and a<br>Orainage Patterns (B1<br>Ory-Season Water Tai<br>Saturation Visible on A                                                                                                    | nore requir<br>(B9)<br><b>4B)</b><br>0)<br>ble (C2)<br>Aerial Imag         | ed)             |        |
| DROLOG<br>stland Hyd<br>nary Indica<br>Surface<br>High W<br>Saturat<br>Water I<br>Sedime<br>Drift De                                                                 | rology Indicators ators (minimum of e Water (A1) vater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | s:                                       |                                  | check all   | that appl    Wa   (ex   Sal   Aqu   Hyo   Oxi          | y) ter-Stained Leave cept MLRA 1, 2, t Crust (B11) uatic Invertebrate drogen Sulfide Od dized Rhizosphe                                                                                                     | es (B9) <b>4A, and 4B</b> s (B13)  dor (C1)  res along L                                                 | B) iving Roots (C3)                   | Second (I                                               | dary Indicators (2 or revoluter-Stained Leaves  MLRA 1, 2, 4A, and a  Drainage Patterns (B1)  Dry-Season Water Tal  Staturation Visible on A  Geomorphic Position (                                                                                    | nore requir<br>(B9)<br><b>4B)</b><br>0)<br>ble (C2)<br>Aerial Imag         | ed)             | SOL    |
| DROLOG<br>tland Hyd<br>nary Indica<br>Surface<br>High W<br>Saturat<br>Water I<br>Sedime<br>Drift De                                                                  | rology Indicators ators (minimum of a Water (A1) /ater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) flat or Crust (B4)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | s:                                       |                                  | check all   | that appl  Wa (ex ] Sal ] Aqu ] Hyo ] Oxi ] Pre        | ter-Stained Leave<br>cept MLRA 1, 2,<br>t Crust (B11)<br>latic Invertebrate<br>drogen Sulfide Od<br>dized Rhizosphe<br>sence of Reduce                                                                      | es (B9) <b>4A, and 4</b> s (B13)  dor (C1)  res along L  d Iron (C4)                                     | B) iving Roots (C3)                   | Second (III)                                            | dary Indicators (2 or revoluter-Stained Leaves MLRA 1, 2, 4A, and a Drainage Patterns (B1 Dry-Season Water Tales Baturation Visible on A Geomorphic Position ( Shallow Aquitard (D3)                                                                   | nore requir<br>(B9)<br>4 <b>B)</b><br>0)<br>ble (C2)<br>Aerial Imag<br>D2) | ed)             |        |
| DROLOG<br>tland Hyd<br>nary Indica<br>Surface<br>High W<br>Saturat<br>Water I<br>Sedime<br>Drift De<br>Algal M                                                       | rology Indicators ators (minimum of e Water (A1) dater Table (A2) ator (A3) Marks (B1) ent Deposits (B2) eposits (B3) dat or Crust (B4) eposits (B5)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | s:<br>one re                             |                                  | check all   | that appl ] Wa (ex ] Sal ] Aqu ] Hyo ] Oxi ] Pre ] Rec | ter-Stained Leave<br>cept MLRA 1, 2,<br>t Crust (B11)<br>latic Invertebrate<br>drogen Sulfide Oc<br>dized Rhizosphe<br>sence of Reduce<br>cent Iron Reduction                                               | es (B9)  4A, and 4I  s (B13) dor (C1) res along L dd Iron (C4) on in Tilled                              | iving Roots (C3) Soils (C6)           | Second (I) W (II C) D C C C C C C C C C C C C C C C C C | dary Indicators (2 or revalence) Vater-Stained Leaves MLRA 1, 2, 4A, and a Drainage Patterns (B1 Dry-Season Water Tail Staturation Visible on A Geomorphic Position (6) Shallow Aquitard (D3) GC-Neutral Test (D5)                                     | nore requir<br>(B9)<br>4 <b>B)</b><br>0)<br>ble (C2)<br>Aerial Imag<br>D2) | ed)<br>ery (C9) | SUIT   |
| DROLOO<br>cland Hyd<br>nary Indica<br>Surface<br>High W<br>Saturat<br>Water I<br>Sedime<br>Drift De<br>Algal M<br>Iron De<br>Surface                                 | rology Indicators ators (minimum of a Water (A1) dater Table (A2) dion (A3) Marks (B1) ent Deposits (B2) eposits (B3) dat or Crust (B4) eposits (B5) e Soil Cracks (B6)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | s:<br>one re                             | quired;                          | check all   | that appl  (ex  Sal  Aqu  Hyo  Cxi  Rec                | y) ter-Stained Leave cept MLRA 1, 2, t Crust (B11) uatic Invertebrate drogen Sulfide Or dized Rhizosphe sence of Reduce cent Iron Reduction                                                                 | es (B9)  4A, and 4B  s (B13) dor (C1) res along L d Iron (C4) on in Tilled Plants (D1)                   | iving Roots (C3) Soils (C6)           | Second (I)          | dary Indicators (2 or r<br>Vater-Stained Leaves<br>MLRA 1, 2, 4A, and a<br>Drainage Patterns (B1<br>Dry-Season Water Tal<br>Saturation Visible on A<br>Geomorphic Position (<br>Shallow Aquitard (D3)<br>FAC-Neutral Test (D5)<br>Raised Ant Mounds (D | nore requir<br>(B9)<br>4B)<br>0)<br>ble (C2)<br>Aerial Imag<br>D2)         | ed)<br>ery (C9) |        |
| DROLOO<br>dand Hyd<br>nary Indica<br>Surface<br>High W<br>Saturat<br>Water I<br>Sedime<br>Drift De<br>Algal M<br>Iron De<br>Surface<br>Inunda                        | rology Indicators ators (minimum of a Water (A1) vater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) dat or Crust (B4) eposits (B5) e Soil Cracks (B6) tion Visible on Ae                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | s:<br>one re                             | quired;                          | check all   | that appl  (ex  Sal  Aqu  Hyo  Cxi  Rec                | ter-Stained Leave<br>cept MLRA 1, 2,<br>t Crust (B11)<br>latic Invertebrate<br>drogen Sulfide Oc<br>dized Rhizosphe<br>sence of Reduce<br>cent Iron Reduction                                               | es (B9)  4A, and 4B  s (B13) dor (C1) res along L d Iron (C4) on in Tilled Plants (D1)                   | iving Roots (C3) Soils (C6)           | Second (I)          | dary Indicators (2 or revalence) Vater-Stained Leaves MLRA 1, 2, 4A, and a Drainage Patterns (B1 Dry-Season Water Tail Staturation Visible on A Geomorphic Position (6) Shallow Aquitard (D3) GC-Neutral Test (D5)                                     | nore requir<br>(B9)<br>4B)<br>0)<br>ble (C2)<br>Aerial Imag<br>D2)         | ed)<br>ery (C9) |        |
| DROLOG<br>tland Hyd<br>nary Indica<br>Surface<br>High W<br>Saturat<br>Water I<br>Sedime<br>Drift De<br>Algal M<br>Iron De<br>Surface<br>Inunda<br>Sparse             | rology Indicators ators (minimum of e Water (A1) vater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) at or Crust (B4) eposits (B5) e Soil Cracks (B6) tion Visible on Ae aly Vegetated Con                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | s:<br>one re                             | quired;                          | check all   | that appl  (ex  Sal  Aqu  Hyo  Cxi  Rec                | y) ter-Stained Leave cept MLRA 1, 2, t Crust (B11) uatic Invertebrate drogen Sulfide Or dized Rhizosphe sence of Reduce cent Iron Reduction                                                                 | es (B9)  4A, and 4B  s (B13) dor (C1) res along L d Iron (C4) on in Tilled Plants (D1)                   | iving Roots (C3) Soils (C6)           | Second (I)          | dary Indicators (2 or r<br>Vater-Stained Leaves<br>MLRA 1, 2, 4A, and a<br>Drainage Patterns (B1<br>Dry-Season Water Tal<br>Saturation Visible on A<br>Geomorphic Position (<br>Shallow Aquitard (D3)<br>FAC-Neutral Test (D5)<br>Raised Ant Mounds (D | nore requir<br>(B9)<br>4B)<br>0)<br>ble (C2)<br>Aerial Imag<br>D2)         | ed)<br>ery (C9) |        |
| DROLOG<br>cland Hyd<br>nary Indica<br>Surface<br>High W<br>Saturat<br>Water I<br>Sedime<br>Drift De<br>Algal M<br>Iron De<br>Surface<br>Inunda<br>Sparse<br>d Observ | rology Indicators ators (minimum of e Water (A1) dater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) dat or Crust (B4) eposits (B5) e Soil Cracks (B6) tion Visible on Ae ally Vegetated Conations:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | s:<br>one re                             | quired;<br>gery (B'<br>urface (l | check all   | that appl  (ex  Sal  Aqu  Hyo  Cy  Rec  Stu            | ter-Stained Leave<br>cept MLRA 1, 2,<br>t Crust (B11)<br>latic Invertebrate<br>drogen Sulfide Od<br>dized Rhizosphe<br>sence of Reduce<br>cent Iron Reduction<br>ted or Stresses<br>er (Explain in Re       | es (B9)  4A, and 4B  s (B13) dor (C1) res along L d Iron (C4) on in Tilled Plants (D1)                   | iving Roots (C3) Soils (C6)           | Second (I)          | dary Indicators (2 or r<br>Vater-Stained Leaves<br>MLRA 1, 2, 4A, and a<br>Drainage Patterns (B1<br>Dry-Season Water Tal<br>Saturation Visible on A<br>Geomorphic Position (<br>Shallow Aquitard (D3)<br>FAC-Neutral Test (D5)<br>Raised Ant Mounds (D | nore requir<br>(B9)<br>4B)<br>0)<br>ble (C2)<br>Aerial Imag<br>D2)         | ed)<br>ery (C9) |        |
| DROLOG tland Hyd nary Indica Surface High W Saturat Water I Sedime Drift De Algal M Iron De Surface Inunda Sparse                                                    | rology Indicators ators (minimum of a Water (A1) dater Table (A2) ator (A3) Marks (B1) and Deposits (B3) ator Crust (B4) aposits (B5) a Soil Cracks (B6) ator Visible on Ae ally Vegetated Contations:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | s:<br>one re                             | quired;                          | check all   | that appl  (ex  Sal  Aqu  Hyo  Cxi  Rec                | y) ter-Stained Leave cept MLRA 1, 2, t Crust (B11) uatic Invertebrate drogen Sulfide Or dized Rhizosphe sence of Reduce cent Iron Reduction                                                                 | es (B9)  4A, and 4B  s (B13) dor (C1) res along L d Iron (C4) on in Tilled Plants (D1)                   | iving Roots (C3) Soils (C6)           | Second (I)          | dary Indicators (2 or r<br>Vater-Stained Leaves<br>MLRA 1, 2, 4A, and a<br>Drainage Patterns (B1<br>Dry-Season Water Tal<br>Saturation Visible on A<br>Geomorphic Position (<br>Shallow Aquitard (D3)<br>FAC-Neutral Test (D5)<br>Raised Ant Mounds (D | nore requir<br>(B9)<br>4B)<br>0)<br>ble (C2)<br>Aerial Imag<br>D2)         | ed)<br>ery (C9) |        |
| DROLOG tland Hyd nary Indica Surface High W Saturat Water I Sedime Drift De Algal M Iron De Surface Inunda Sparse d Observ face Wate                                 | rology Indicators ators (minimum of a Water (A1) ater Table (A2) ator (A3) Marks (B1) and Deposits (B3) at or Crust (B4) aposits (B5) a Soil Cracks (B6) ation Visible on Ae aly Vegetated Contations:  r Present?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | s:<br>one re                             | quired;<br>gery (B'<br>urface (l | check all   | that appl  (ex  Sal  Aqu  Hyo  Cy  Rec  Stu            | ter-Stained Leave<br>cept MLRA 1, 2,<br>t Crust (B11)<br>latic Invertebrate<br>drogen Sulfide Od<br>dized Rhizosphe<br>sence of Reduce<br>cent Iron Reduction<br>ted or Stresses<br>er (Explain in Re       | es (B9)  4A, and 4B  s (B13) dor (C1) res along L d Iron (C4) on in Tilled Plants (D1)                   | iving Roots (C3) Soils (C6)           | Second (I)          | dary Indicators (2 or r<br>Vater-Stained Leaves<br>MLRA 1, 2, 4A, and a<br>Drainage Patterns (B1<br>Dry-Season Water Tal<br>Saturation Visible on A<br>Geomorphic Position (<br>Shallow Aquitard (D3)<br>FAC-Neutral Test (D5)<br>Raised Ant Mounds (D | nore requir<br>(B9)<br>4B)<br>0)<br>ble (C2)<br>Aerial Imag<br>D2)         | ed)<br>ery (C9) |        |
| DROLOG tland Hyd nary Indica Surface High W Saturat Water I Sedime Drift De Surface Inunda Sparse d Observ face Wate ter Table F uration Pre                         | accil surface.  GY  rology Indicators ators (minimum of e Water (A1) /ater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) /at or Crust (B4) eposits (B5) e Soil Cracks (B6) tion Visible on Ae ely Vegetated Con ations: r Present?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | s:<br>one re<br>rial Ima<br>cave Si      | quired; degree (B: urface (I     | check all   | that appl ] Wa (ex ] Sal ] Aqu ] Pre ] Rec ] Stu ] Oth | ter-Stained Leave<br>cept MLRA 1, 2,<br>t Crust (B11)<br>latic Invertebrate<br>drogen Sulfide Oc<br>dized Rhizosphe<br>sence of Reduce<br>cent Iron Reduction<br>ted or Stresses<br>er (Explain in Re       | es (B9)  4A, and 4I  s (B13) dor (C1) res along L d Iron (C4) on in Tilled Plants (D1) marks)            | iving Roots (C3) Soils (C6) ) (LRR A) | Second  (I)  (I)  (I)  (I)  (I)  (I)  (I)  (I           | dary Indicators (2 or r<br>Vater-Stained Leaves<br>MLRA 1, 2, 4A, and a<br>Drainage Patterns (B1<br>Dry-Season Water Tal<br>Saturation Visible on A<br>Geomorphic Position (<br>Shallow Aquitard (D3)<br>FAC-Neutral Test (D5)<br>Raised Ant Mounds (D | nore requir<br>(B9)<br>4B)<br>0)<br>ble (C2)<br>Aerial Imag<br>D2)         | ed)<br>ery (C9) |        |
| DROLOG cland Hyd nary Indica Surface High W Saturat Water I Sedime Drift De Surface Inunda Sparse d Observ face Wate er Table F uration Pre                          | rology Indicators ators (minimum of e Water (A1) dater Table (A2) ator (A3) Marks (B1) and Deposits (B3) dat or Crust (B4) aposits (B5) a Soil Cracks (B6) ator Visible on Ae aly Vegetated Conations:  r Present?  Present?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | rial Ima<br>cave Si<br>Yes<br>Yes<br>Yes | quired;                          | check all   | that appl  Wa (ex ] Sal ] Aqu ] Pre ] Rec ] Stu ] Oth  | ter-Stained Leave cept MLRA 1, 2, t Crust (B11) latic Invertebrate drogen Sulfide Oc dized Rhizosphe sence of Reduce cent Iron Reduction ted or Stresses er (Explain in Re  Depth (inches): Depth (inches): | es (B9)  4A, and 4B  s (B13) dor (C1) res along L d Iron (C4) on in Tilled Plants (D1) marks)  8 surface | iving Roots (C3) Soils (C6) ) (LRR A) | Second  (I)  (I)  (I)  (I)  (I)  (I)  (I)  (I           | dary Indicators (2 or revoluter-Stained Leaves MLRA 1, 2, 4A, and a Drainage Patterns (B1 Dry-Season Water Ta Staturation Visible on A Seomorphic Position ( Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (E Brost-Heave Hummoc       | nore requir<br>(B9)<br>4B)<br>0)<br>ble (C2)<br>Aerial Imag<br>(D2)        | ed)             |        |
| DROLOG tland Hyd nary Indica Surface High W Saturat Water I Sedime Drift De Surface Inunda Sparse d Observ face Wate ter Table F uration Pre                         | rology Indicators ators (minimum of a Water (A1) (ater Table (A2) (ater Table (A2) (ater Table (A2) (ater Table (B2) (ater Table (B2) (ater Table (B3) (ater Table (B4) (ater Ta | rial Ima<br>cave Si<br>Yes<br>Yes<br>Yes | quired;                          | check all   | that appl  Wa (ex ] Sal ] Aqu ] Pre ] Rec ] Stu ] Oth  | ter-Stained Leave cept MLRA 1, 2, t Crust (B11) latic Invertebrate drogen Sulfide Oc dized Rhizosphe sence of Reduce cent Iron Reduction ted or Stresses er (Explain in Re  Depth (inches): Depth (inches): | es (B9)  4A, and 4B  s (B13) dor (C1) res along L d Iron (C4) on in Tilled Plants (D1) marks)  8 surface | iving Roots (C3) Soils (C6) ) (LRR A) | Second  (I)  (I)  (I)  (I)  (I)  (I)  (I)  (I           | dary Indicators (2 or revoluter-Stained Leaves MLRA 1, 2, 4A, and a Drainage Patterns (B1 Dry-Season Water Ta Staturation Visible on A Seomorphic Position ( Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (E Brost-Heave Hummoc       | nore requir<br>(B9)<br>4B)<br>0)<br>ble (C2)<br>Aerial Imag<br>(D2)        | ed)             |        |

| Project Site:                                  | Port Gamble T                       | rail Feasibility                                                                   |                         |             |               |             | City/Coun                  | ty: P       | ort Ga           | mble/K   | <u>itsap</u>               | Sampli                 | ng Date:                  | 1/1        | 8/17                                   |          |
|------------------------------------------------|-------------------------------------|------------------------------------------------------------------------------------|-------------------------|-------------|---------------|-------------|----------------------------|-------------|------------------|----------|----------------------------|------------------------|---------------------------|------------|----------------------------------------|----------|
| Applicant/Owner:                               | Fischer Bouma                       | a Partnership                                                                      |                         |             |               |             |                            |             |                  | Sta      | te: WA                     | Sampli                 | ng Point:                 | TP         | 15 - G                                 | <u>ì</u> |
| Investigator(s):                               | J. Bartlett, L. V                   | Vestervelt, K. Boa                                                                 |                         |             |               |             |                            |             | Secti            | on, Tow  | vnship, Rar                | nge: <u>S7</u>         | T27N R2E                  |            |                                        |          |
| Landform (hillslope, ter                       | race, etc.):                        | <u>hillslope</u>                                                                   |                         |             |               | Loca        | l relief (conca            | ave, co     | nvex,            | none):   | convex                     |                        | Slo                       | pe (%):    | 6-15                                   | <u>i</u> |
| Subregion (LRR):                               | MLRA 2                              |                                                                                    | Lat:                    |             |               |             |                            | Lon         | ng:              |          |                            |                        | Datum:                    | Trimb      | <u>le</u>                              |          |
| Soil Map Unit Name:                            | Ragnar Fine                         | sandy loam, 6 to 1                                                                 | 5 percer                | nt slope    | <u>s</u>      |             |                            |             |                  |          | NWI clas                   | ssification            | n:                        | _          |                                        |          |
| Are climatic / hydrologi                       | c conditions on                     | the site typical for                                                               | this time               | of yea      | r?            | Y           | es 🛛                       | No          | ) [              | ] (If r  | no, explain                | in Remar               | ks.)                      |            |                                        |          |
| Are Vegetation $\square$ ,                     | Soil □,                             | or Hydrology                                                                       | □, sig                  | nifican     | ly dis        | sturbed     | ? Are "I                   | Normal      | Circu            | mstance  | es" present                | ?                      | Yes                       |            | No                                     |          |
| Are Vegetation $\square$ ,                     | Soil □,                             | or Hydrology                                                                       | □, nat                  | turally p   | oroble        | ematic?     | ? (If ne                   | eded, e     | explain          | any an   | swers in R                 | emarks.)               |                           |            |                                        |          |
| SUMMARY OF FIN                                 | DINGS – Atta                        | ach site map sh                                                                    | nowing                  | samp        | ling          | point       | locations,                 | trans       | ects,            | impor    | tant featu                 | ures, etc              | э.                        |            |                                        |          |
| Hydrophytic Vegetation                         | Present?                            |                                                                                    | Yes                     | $\boxtimes$ | No            |             |                            |             |                  |          |                            |                        |                           |            |                                        |          |
| Hydric Soil Present?                           |                                     |                                                                                    | Yes                     |             | No            | $\boxtimes$ | Is the Samp<br>within a We |             |                  |          |                            |                        | Yes                       |            | No                                     |          |
| Wetland Hydrology Pre                          | esent?                              |                                                                                    | Yes                     |             | No            | $\boxtimes$ |                            |             |                  |          |                            |                        |                           |            |                                        |          |
| south end<br>current log                       | . It passes prim<br>ging practices, | ty encompasses a<br>parily through under<br>and a large system<br>ang Service Road | eveloped<br>m of trails | timber      | and o         | owned       | by OPG; mos                | st of wh    | nich is          | woven    | with interla               | cing logg              | ing roads du              | ie to his  | storic a                               | ınd      |
| <b>VEGETATION – Us</b>                         | e scientific r                      | names of plants                                                                    |                         |             |               |             |                            |             |                  |          |                            |                        |                           |            |                                        |          |
| Tree Stratum (Plot size                        | e: 30' diameter)                    |                                                                                    | Absolut<br>% Cove       |             | omin<br>pecie |             | Indicator<br>Status        | Domi        | inance           | e Test V | Vorksheet                  | :                      |                           |            |                                        |          |
| 1. Thuja plicata                               |                                     |                                                                                    | <u>15</u>               |             | <u>98</u>     | . <u></u>   | FAC                        | Numh        | ner of           | Domina   | nt Species                 |                        |                           |            |                                        |          |
| 2. Alnus rubra                                 |                                     |                                                                                    | <u>15</u>               | ye          | es_           |             | FAC                        |             |                  |          | CW, or FAC                 |                        | <u>3</u>                  |            |                                        | (A)      |
| 3                                              |                                     |                                                                                    |                         | _           |               |             |                            |             |                  |          | ominant                    |                        | <u>5</u>                  |            |                                        | (B)      |
| 4                                              |                                     |                                                                                    |                         | _           |               |             |                            | Speci       | ies Ac           | ross All | Strata:                    |                        | <u> =</u>                 |            |                                        | (=)      |
| 50% = 15, 20% = 6                              | (Diet size, 20'                     | dia matar)                                                                         | <u>30</u>               | =           | Tota          | l Cove      |                            |             |                  |          | nt Species<br>CW, or FAC   | ·                      | <u>75</u>                 |            |                                        | (A/B)    |
| Sapling/Shrub Stratum                          | i (Piol Size: <u>30</u>             | <u>diameter</u> )                                                                  | 10                      |             |               |             | FAC                        |             |                  |          |                            |                        |                           |            | ······································ |          |
| Rubus spectabilis                              |                                     |                                                                                    | <u>10</u>               | <u>ye</u>   | <u>es</u>     |             | <u>FAC</u>                 | Preva       | aience           |          | worksheet                  |                        | N.A IA                    | بريط براجا |                                        |          |
| 2                                              |                                     |                                                                                    |                         | _           |               |             |                            | ODI 4       |                  |          | % Cover of:                | _                      |                           | iply by:   |                                        |          |
| 3                                              |                                     |                                                                                    |                         | _           | _             |             |                            |             | specie<br>V spec |          |                            |                        | x1 =                      |            |                                        |          |
| 4                                              |                                     |                                                                                    |                         | _           | _             |             |                            |             | -                |          |                            |                        | x2 =<br>x3 =              |            |                                        |          |
| 5                                              |                                     |                                                                                    | 10                      | _           | Toto          | l Cove      |                            |             | specie           |          |                            |                        |                           |            |                                        |          |
| 50% = <u>5</u> , 20% = <u>2</u>                | 451 11 ( )                          |                                                                                    | <u>10</u>               | =           | TOla          | Cove        |                            |             | J spec           |          |                            |                        | x4 =                      |            |                                        |          |
| Herb Stratum (Plot size                        | •                                   |                                                                                    |                         |             |               |             |                            |             | specie           |          |                            |                        | x5 =                      |            |                                        |          |
| 1. Polystichum munit                           | <u>um</u>                           |                                                                                    | <u>50</u>               | <u>ye</u>   | <u>es</u>     |             | <u>FACU</u>                | Colun       | nn Tot           |          |                            | _ (A)                  |                           |            | (E                                     | 3)       |
| 2                                              |                                     |                                                                                    |                         | _           |               |             |                            |             |                  |          | Prevalence                 | e Index =              | B/A =                     | _          |                                        |          |
| 3                                              |                                     |                                                                                    |                         | _           |               |             |                            | _           |                  | _        | tation Indi                |                        |                           |            |                                        |          |
| 4                                              |                                     |                                                                                    |                         | _           |               |             |                            |             |                  |          | st for Hydro               |                        | egetation                 |            |                                        |          |
| 5                                              |                                     |                                                                                    |                         | _           |               |             |                            | $\boxtimes$ | 2 - Do           | ominano  | e Test is >                | 50%                    |                           |            |                                        |          |
| 6                                              |                                     |                                                                                    |                         | _           |               |             |                            |             | 3 - Pr           | evalend  | e Index is                 | ≤3.0 <sup>1</sup>      |                           |            |                                        |          |
| 7                                              |                                     |                                                                                    |                         | _           |               |             |                            |             | 4 - Mo           | orpholog | gical Adapt                | ations <sup>1</sup> (F | rovide supp               | orting     |                                        |          |
| 8                                              |                                     |                                                                                    |                         | _           |               |             |                            |             | da               | ta in Re | marks or o                 | n a sepai              | rate sheet)               |            |                                        |          |
| 9                                              |                                     |                                                                                    |                         | _           |               |             |                            |             | 5 - W            | etland N | lon-Vascul                 | ar Plants              | 1                         |            |                                        |          |
| 10                                             |                                     |                                                                                    |                         | _           |               |             |                            |             | Proble           | ematic I | Hydrophytic                | C Vegetati             | ion <sup>1</sup> (Explair | n)         |                                        |          |
| 11                                             |                                     |                                                                                    |                         | _           |               |             |                            | 1,          |                  |          |                            |                        |                           |            |                                        |          |
| $50\% = \underline{25}, 20\% = \underline{10}$ |                                     |                                                                                    | <u>50</u>               | =           | Tota          | l Cove      | •                          |             |                  |          | c son and w<br>disturbed c |                        | ydrology mu<br>natic.     | St         |                                        |          |
| Woody Vine Stratum (I                          | Plot size: 15' dia                  | ameter)                                                                            |                         |             |               |             |                            |             |                  |          |                            |                        |                           |            |                                        |          |
| 1                                              |                                     |                                                                                    |                         | _           |               |             |                            |             |                  |          |                            |                        |                           |            |                                        |          |
| 2                                              |                                     |                                                                                    |                         | _           |               |             |                            | -           | ophyt            |          | ,                          | Yes                    | ⋈                         | No         |                                        |          |
| 50% =, 20% = _                                 |                                     |                                                                                    |                         | =           | Tota          | l Cove      | -                          | Prese       | tation<br>ent?   |          | וַ                         | . 63                   |                           | INC        | •                                      |          |
| % Bare Ground in Herl                          | b Stratum 100                       |                                                                                    |                         |             |               |             |                            |             |                  |          |                            |                        |                           |            |                                        |          |
| Remarks: T                                     | he hydrophytic                      | vegetation criterio                                                                | n is met                | becaus      | e the         | re is g     | reater than 50             | 0% don      | ninanc           | e by FA  | AC species.                |                        | <del></del>               |            |                                        |          |
|                                                |                                     |                                                                                    |                         |             |               |             |                            |             |                  |          |                            |                        |                           |            |                                        |          |
|                                                |                                     |                                                                                    |                         |             |               |             |                            |             |                  |          |                            |                        |                           |            |                                        |          |

SOIL Sampling Point: TP 15 - G Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Redox Features Color (moist) (inches) Color (moist) % % Type<sup>1</sup> Loc2 Texture Remarks Duff 0-1 1-2 10YR 2/1 100 sa lo no redoximorphic concentrations 2-4 10YR 4/3 100 sa si lo no redoximorphic concentrations no redoximorphic concentrations 10YR 3/2 4-16 100 sa cl lo sa - sand lo - loam si - silt cl - clay <sup>1</sup>Type: C= Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. <sup>2</sup>Location: PL=Pore Lining, M=Matrix, RC=Root Channel Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils3: Histosol (A1) Sandy Redox (S5) 2 cm Muck (A10) Histic Epipedon (A2) П Stripped Matrix (S6)  $\Box$ Red Parent Material (TF2) Black Histic (A3) Loamy Mucky Mineral (F1) (except MLRA 1) Very Shallow Dark Surface (TF12) Loamy Gleyed Matrix (F2) Hydrogen Sulfide (A4) Other (Explain in Remarks) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Thick Dark Surface (A12) Redox Dark Surface (F6) <sup>3</sup>Indicators of hydrophytic vegetation and П Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) wetland hydrology must be present, П Sandy Gleyed Matrix (S4) Redox Depressions (F8) unless disturbed or problematic. Restrictive Layer (if present): Type: **Hydric Soils Present?** Yes No  $\boxtimes$ Depth (inches): Remarks: None of the soil layers meet the definition of a depleted matrix so this soil profile is determined to meet none of the hydric soil indicators. **HYDROLOGY** Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (2 or more required) П Surface Water (A1) Water-Stained Leaves (B9) Water-Stained Leaves (B9) High Water Table (A2) (except MLRA 1, 2, 4A, and 4B) (MLRA 1, 2, 4A, and 4B) Saturation (A3) Salt Crust (B11) Drainage Patterns (B10) П Water Marks (B1) Aquatic Invertebrates (B13) П Dry-Season Water Table (C2) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Drift Deposits (B3) Oxidized Rhizospheres along Living Roots (C3) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aguitard (D3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) FAC-Neutral Test (D5) Stunted or Stresses Plants (D1) (LRR A) П Surface Soil Cracks (B6) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Frost-Heave Hummocks (D7) Sparsely Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes No  $\boxtimes$ Depth (inches): Water Table Present? Yes  $\boxtimes$ No Depth (inches): Saturation Present? Wetland Hydrology Present? Yes No  $\boxtimes$ Yes No  $\boxtimes$ Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Hydrology was not present during the field visit and there was no evidence of wetland hydrology. Remarks:

| Project Site: Port Gamble Trail Feasibil                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | <u>ity</u>                                 |                      | City/Coun                  | ty: Port Gamble/Kitsap                                                        | Sampling Date:                     | 2/10/17            |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------|----------------------|----------------------------|-------------------------------------------------------------------------------|------------------------------------|--------------------|
| Applicant/Owner: Fischer Bouma Partnershi                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | <u>p</u>                                   |                      |                            | State: WA                                                                     | Sampling Point:                    | <u>TP 16 - H</u>   |
| Investigator(s): <u>J. Bartlett, L. Westervelt, R. Martlett, R. Mar</u> | K. Boa                                     |                      |                            | Section, Township, Rang                                                       | ge: <u>S7 T27N R2E</u>             |                    |
| Landform (hillslope, terrace, etc.): <u>hillslope</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                            | Loca                 | I relief (conc             | ave, convex, none): <u>convex</u>                                             | Slop                               | oe (%): <u>0-6</u> |
| Subregion (LRR): MLRA 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Lat:                                       |                      |                            | Long:                                                                         | Datum:                             | <u>Trimble</u>     |
| Soil Map Unit Name: Pouslbo-Ragnar Comple                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | x, 0 to 6 percent slo                      | <u>opes</u>          |                            | NWI clas                                                                      | sification:                        |                    |
| Are climatic / hydrologic conditions on the site typ                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | ical for this time of                      | /ear? Yo             | es 🛚                       | No                                                                            | n Remarks.)                        |                    |
| Are Vegetation □, Soil □, or Hydrol                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | ogy 🔲, signific                            | antly disturbed      | ? Are "                    | Normal Circumstances" present?                                                | ? Yes                              | ⊠ No □             |
| Are Vegetation ☐, Soil ☐, or Hydrol                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | ogy 🔯, natural                             | ly problematic?      | ? (If ne                   | eded, explain any answers in Re                                               | marks.)                            |                    |
| SUMMARY OF FINDINGS – Attach site m                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | ap showing sar                             | npling point         | locations,                 | transects, important featu                                                    | res, etc.                          |                    |
| Hydrophytic Vegetation Present?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Yes 🗆                                      | No 🛛                 |                            |                                                                               |                                    | <del></del>        |
| Hydric Soil Present?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Yes □                                      | No 🛛                 | Is the Samp<br>within a We |                                                                               | Yes                                | □ No ⊠             |
| Wetland Hydrology Present?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Yes □                                      |                      |                            | tiuliu i                                                                      |                                    |                    |
| Remarks: The scope of this feasibility encompa<br>south end. It passes primarily throug<br>current logging practices, and a large<br>in the North Segment, along Service                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | h undeveloped timb<br>system of trails uti | perland owned        | by OPG; mo                 | st of which is woven with interlac                                            | cing logging roads due             | e to historic and  |
| VEGETATION – Use scientific names of                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                            |                      |                            |                                                                               |                                    |                    |
| Tree Stratum (Plot size: 30' diameter)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Absolute<br>% Cover                        | Dominant<br>Species? | Indicator<br>Status        | Dominance Test Worksheet:                                                     |                                    |                    |
| 1. Pseudotsuga menziesii                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 75                                         | yes                  | FACU                       | Number of Dominant Species                                                    |                                    |                    |
| 2. Tsuga heterophylla                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <u>35</u>                                  | <u>yes</u>           | FACU                       | That Are OBL, FACW, or FAC:                                                   | <u>0</u>                           | (A)                |
| 3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                            |                      |                            | Total Number of Dominant                                                      |                                    | (5)                |
| 4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                            |                      |                            | Species Across All Strata:                                                    | <u>4</u>                           | (B)                |
| 50% = <u>55</u> , 20% = <u>22</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | <u>110</u>                                 | = Total Cover        | •                          | Percent of Dominant Species                                                   | 0                                  | (A/D)              |
| Sapling/Shrub Stratum (Plot size: 30' diameter)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                            |                      |                            | That Are OBL, FACW, or FAC:                                                   | <u>0</u>                           | (A/B)              |
| 1. <u>Vaccinium parvifolium</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | <u>5</u>                                   | <u>yes</u>           | <u>FACU</u>                | Prevalence Index worksheet:                                                   |                                    |                    |
| 2. <u>Gaultheria shallonw</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | <u>T</u>                                   | <u>no</u>            | <u>FACU</u>                | Total % Cover of:                                                             | <u>Multi</u> r                     | ply by:            |
| 3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                            |                      |                            | OBL species                                                                   | x1 =                               |                    |
| 4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                            |                      |                            | FACW species                                                                  | x2 =                               |                    |
| 5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                            |                      |                            | FAC species                                                                   | x3 =                               |                    |
| 50% = <u>2.5</u> , 20% = <u>1</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | <u>5</u>                                   | = Total Cover        | •                          | FACU species                                                                  | x4 =                               |                    |
| Herb Stratum (Plot size: 15' diameter)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                            |                      |                            | UPL species                                                                   | x5 =                               |                    |
| 1. Polystichum munitum                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | <u>5</u>                                   | <u>yes</u>           | <u>FACU</u>                | Column Totals:                                                                | (A)                                | (B)                |
| 2. Rubus ursinus                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <u>T</u>                                   | <u>no</u>            | <u>FACU</u>                | Prevalence                                                                    | Index = B/A =                      |                    |
| 3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                            |                      |                            | Hydrophytic Vegetation Indic                                                  | ators:                             |                    |
| 4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                            |                      |                            | ☐ 1 – Rapid Test for Hydro                                                    | phytic Vegetation                  |                    |
| 5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                            |                      |                            | ☐ 2 - Dominance Test is >5                                                    | 0%                                 |                    |
| 6                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                            |                      |                            | ☐ 3 - Prevalence Index is ≤                                                   | 3.0 <sup>1</sup>                   |                    |
| 7                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                            |                      |                            | 4 - Morphological Adapta                                                      | itions <sup>1</sup> (Provide suppo | orting             |
| 8                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                            |                      |                            | data in Remarks or or                                                         | ı a separate sheet)                |                    |
| 9                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                            |                      |                            | ☐ 5 - Wetland Non-Vascula                                                     | r Plants <sup>1</sup>              |                    |
| 10                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                            |                      |                            | ☐ Problematic Hydrophytic                                                     | Vegetation <sup>1</sup> (Explain)  | )                  |
| 11                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                            |                      |                            | 1                                                                             |                                    |                    |
| 50% = <u>2.5</u> , 20% = <u>1</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | <u>5</u>                                   | = Total Cover        | •                          | <sup>1</sup> Indicators of hydric soil and we be present, unless disturbed or |                                    | ,t                 |
| Woody Vine Stratum (Plot size: 15' diameter)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                            |                      |                            | , ,                                                                           | ·                                  |                    |
| 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                            |                      |                            |                                                                               |                                    |                    |
| 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                            |                      |                            | Hydrophytic Vegetation Ye                                                     | es 🗆                               | No 🖂               |
| 50% =, 20% =                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                            | = Total Cover        | Ī                          | Present?                                                                      | ⊔                                  | 🖂                  |
| % Bare Ground in Herb Stratum 95                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                            |                      |                            |                                                                               |                                    |                    |
| Remarks: The hydrophytic vegetation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | criterion is not met l                     | pecause there        | is less than 5             | 50% dominance by FAC species.                                                 |                                    |                    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                            |                      |                            |                                                                               |                                    |                    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                            |                      |                            |                                                                               |                                    |                    |

| SOIL                     |                                  |          |          |          |               |                                         |           |                   |                  |                      |                   | Samplin        | g Point: <u>TF</u> | 2 16 - H   |            |      |
|--------------------------|----------------------------------|----------|----------|----------|---------------|-----------------------------------------|-----------|-------------------|------------------|----------------------|-------------------|----------------|--------------------|------------|------------|------|
| Profile Desc             | ription: (Describ                | e to th  | ne depth | need     | led to d      | ocument the                             | indicato  | or or con         | firm the abse    | ence of i            | ndicat            | ors.)          |                    |            |            |      |
| Depth                    | Matr                             | ix       |          |          |               | Red                                     | dox Feat  | tures             |                  |                      |                   |                |                    |            |            |      |
| (inches)                 | Color (moist)                    |          | %        | С        | olor (mo      | ist) %                                  | )         | Type <sup>1</sup> | Loc <sup>2</sup> | Т                    | exture            |                |                    | Remark     | s          |      |
| 0-3                      |                                  |          |          |          |               |                                         |           |                   |                  |                      |                   | Duff           |                    |            |            |      |
| <u>3-6</u>               | 10YR 2/2                         |          | 100      |          |               |                                         | _         |                   |                  | _                    | sa si le          | No red         | doximorphi         | c concen   | trations   |      |
| <u>6-16</u>              | 10YR 3/2                         |          | 100      |          |               |                                         |           |                   |                  | =                    | sa si le          | No red         | doximorphi         | ic concen  | trations   |      |
|                          |                                  | _        |          |          |               |                                         | _         |                   |                  | _                    |                   |                | -                  |            |            |      |
|                          |                                  | _        |          |          |               |                                         |           |                   |                  | =                    |                   | sa - sa        | and                |            |            |      |
|                          |                                  | _        |          |          |               |                                         |           |                   |                  | =                    |                   | lo - loa       | <u>am</u>          |            |            |      |
|                          |                                  | _        |          |          |               |                                         |           |                   |                  | _                    |                   | si - sil       | t                  |            |            |      |
|                          |                                  |          |          |          |               |                                         |           |                   |                  |                      |                   |                |                    |            |            |      |
| <sup>1</sup> Type: C= Co | oncentration, D=D                | epletio  | n, RM=   | Reduc    | ed Matr       | ix, CS=Covere                           | ed or Co  | ated San          | d Grains.        | <sup>2</sup> Locatio | on: PL=           | Pore Lining,   | M=Matrix,          | RC=Roo     | t Channe   | el . |
| **                       | ndicators: (App                  | •        |          |          |               | •                                       |           |                   |                  |                      |                   | ators for Pr   |                    |            |            |      |
| ☐ Histoso                |                                  |          |          | ,        |               | Sandy Redo                              | -         |                   |                  |                      |                   | 2 cm Mucl      |                    | ,          |            |      |
| _                        | Epipedon (A2)                    |          |          |          |               | Stripped Ma                             |           |                   |                  |                      |                   | Red Parer      |                    | (TF2)      |            |      |
| _                        | Histic (A3)                      |          |          |          |               |                                         |           |                   | xcept MLRA       | 1)                   |                   | Very Shall     |                    |            | F12)       |      |
| _                        | en Sulfide (A4)                  |          |          |          |               | Loamy Gley                              | -         |                   | ACCPL III LIVA   | • • •                |                   | Other (Exp     |                    | •          | 1 12)      |      |
|                          |                                  | ırfaca ( | (111)    |          |               |                                         |           | ` '               |                  |                      | ш                 | Other (LA      | nam m rei          | ilaiks)    |            |      |
| _                        | ed Below Dark St                 |          | (A11)    |          |               | Depleted Ma                             |           |                   |                  |                      |                   |                |                    |            |            |      |
|                          | Dark Surface (A12                | •        |          |          |               | Redox Dark                              |           |                   |                  |                      | <sup>3</sup> Indi | cators of hyd  | ronhytic ve        | netation : | and        |      |
| -                        | Mucky Mineral (S                 | -        |          |          |               | Depleted Da                             |           |                   |                  |                      | W                 | etland hydrol  | ogy must l         | oe preser  |            |      |
|                          | Gleyed Matrix (S                 |          |          |          |               | Redox Depr                              | essions   | (F8)              |                  |                      | u                 | nless disturbe | ed or probl        | ematic.    |            |      |
|                          | ayer (if present                 | ):       |          |          |               |                                         |           |                   |                  |                      |                   |                |                    |            |            |      |
| Type:                    |                                  |          |          |          |               |                                         |           |                   |                  |                      |                   |                |                    | _          |            | _    |
| Depth (inche             | s):                              |          |          |          |               |                                         |           |                   | Hydric So        | iis Prese            | ent?              |                | Yes                |            | No         |      |
| HYDROLO                  | GY                               |          |          |          |               |                                         |           |                   |                  |                      |                   |                |                    |            |            |      |
| Wetland Hyd              | Irology Indicato                 | rs:      |          |          |               |                                         |           |                   |                  |                      |                   |                |                    |            |            |      |
| Primary India            | ators (minimum o                 | of one r | required | ; checl  | k all that    | apply)                                  |           |                   |                  |                      | Secon             | dary Indicato  | rs (2 or mo        | ore requir | ed)        |      |
| Surfac                   | e Water (A1)                     |          |          |          |               | Water-Stain                             | ed Leav   | es (B9)           |                  |                      |                   | Water-Staine   | d Leaves (         | B9)        |            |      |
| ☐ High V                 | Vater Table (A2)                 |          |          |          |               | (except MLI                             | RA 1, 2,  | 4A, and           | 4B)              |                      |                   | (MLRA 1, 2,    | A, and 4E          | 3)         |            |      |
| ☐ Satura                 | tion (A3)                        |          |          |          |               | Salt Crust (E                           | 311)      |                   |                  |                      |                   | Drainage Pat   | terns (B10         | )          |            |      |
| ☐ Water                  | Marks (B1)                       |          |          |          |               | Aquatic Inve                            | rtebrate  | s (B13)           |                  |                      |                   | Dry-Season V   | Vater Tabl         | e (C2)     |            |      |
| ☐ Sedim                  | ent Deposits (B2)                | )        |          |          |               | Hydrogen S                              | ulfide Or | dor (C1)          |                  |                      |                   | Saturation Vis | sible on Ae        | rial Imag  | ery (C9)   |      |
| ☐ Drift D                | eposits (B3)                     |          |          |          |               | Oxidized Rh                             | izosphe   | res along         | Living Roots     | (C3)                 |                   | Geomorphic I   | Position (D        | 2)         |            |      |
| ☐ Algal N                | Mat or Crust (B4)                |          |          |          |               | Presence of                             | Reduce    | ed Iron (C        | 4)               |                      |                   | Shallow Aquit  | ard (D3)           |            |            |      |
| _                        | eposits (B5)                     |          |          |          |               | Recent Iron                             |           | -                 | •                |                      |                   | FAC-Neutral    |                    |            |            |      |
|                          | e Soil Cracks (Be                | 3)       |          |          |               | Stunted or S                            |           |                   | ` '              |                      |                   | Raised Ant M   | , ,                | ) (LRR A   | )          |      |
|                          | ation Visible on A               | •        | agery (E | 37)      |               | Other (Expla                            |           |                   | , ,              |                      |                   | Frost-Heave    | -                  |            | •          |      |
|                          | ely Vegetated Co                 |          |          |          |               | - · · · · · · · · · · · · · · · · · · · |           | ,                 |                  |                      | _                 |                |                    | - ( )      |            |      |
| Field Observ             |                                  |          |          | (20)     |               |                                         |           |                   |                  |                      |                   |                |                    |            |            |      |
| Surface Wate             |                                  | Yes      |          | No       | $\boxtimes$   | Depth (i                                | nches).   |                   |                  |                      |                   |                |                    |            |            |      |
| Water Table              |                                  | Yes      |          | No       |               | Depth (i                                |           |                   | •                |                      |                   |                |                    |            |            |      |
| Saturation Pr            |                                  | 163      | ш        | NO       |               | Deptii (i                               | ncnes).   |                   | -                |                      |                   |                |                    |            |            |      |
| (includes cap            |                                  | Yes      |          | No       | $\boxtimes$   | Depth (i                                | nches):   |                   | -                | Wetland              | d Hydr            | ology Prese    | nt?                | Yes        |            | lo ⊠ |
|                          | corded Data (stre                | am gau   | ide mor  | nitorina | r well a      | erial photos in                         | revious   | inspectio         | ns) if availab   | ıle.                 |                   |                |                    |            |            |      |
|                          |                                  | 940      | ٠,٥١     |          | , J, u        | F.10100, P                              |           |                   | -,, 3.4          |                      |                   |                |                    |            |            |      |
| Damarira                 | Lludeola                         |          | االما    | the f    | فا - این امان | ahaamis -l                              |           | at 10 !:          | hoo he!!         | a au-t-              | . 11              | a              | 00 no -41          | الرواي     | o (o):!-!! |      |
| Remarks:                 | Hydrology was<br>rhizospheres, v |          |          |          |               |                                         |           |                   |                  | e surrace            | . ⊓0W             | ever, mere w   | as 110 Otne        | i evidenc  | e (UXIGIZE | 5U   |
|                          |                                  |          |          | ,        |               |                                         |           |                   | ,                |                      |                   |                |                    |            |            |      |
|                          |                                  |          |          |          |               |                                         |           |                   |                  |                      |                   |                |                    |            |            |      |

| Project Site: <u>F</u>                          | Port Gamble Tra                     | ail Feasibility                                                              |                           |            |                | City/Coun                  | nty: Port            | Gamble/Ki                | <u>itsap</u>                          | Sampling              | Date:          | 2/10            | <u>/17</u> |       |
|-------------------------------------------------|-------------------------------------|------------------------------------------------------------------------------|---------------------------|------------|----------------|----------------------------|----------------------|--------------------------|---------------------------------------|-----------------------|----------------|-----------------|------------|-------|
| Applicant/Owner: <u>F</u>                       | ischer Bouma                        | Partnership Partnership                                                      |                           |            |                |                            |                      | Stat                     | te: WA                                | Sampling              | Point:         | <u>TP 1</u>     | 6 - H      |       |
| Investigator(s):                                | l. Bartlett, L. Wo                  | estervelt, K. Boa                                                            |                           |            |                |                            | Se                   | ction, Tow               | vnship, Rang                          | ge: <u>S7 T2</u>      | 7N R2E         |                 |            |       |
| Landform (hillslope, terra                      | ace, etc.): <u>h</u>                | <u>illslope</u>                                                              |                           |            | Loc            | al relief (conc            | cave, conve          | x, none):                | convex                                |                       | Slope          | e (%):          | <u>0-6</u> |       |
| Subregion (LRR):                                | MLRA 2                              |                                                                              | Lat:                      |            |                |                            | Long:                |                          |                                       |                       | Datum:         | <u> Frimble</u> | 2          |       |
| Soil Map Unit Name:                             | Poulsbo-Ragn                        | ar Complex, 0 to                                                             | 6 percen                  | t slopes   |                |                            |                      |                          | NWI class                             | sification:           |                |                 |            |       |
| Are climatic / hydrologic                       | conditions on t                     | he site typical for                                                          | this time                 | of year?   | Υ              | ′es ⊠                      | No                   | ☐ (If r                  | no, explain ir                        | n Remarks.            | .)             |                 |            |       |
| Are Vegetation $\square$ ,                      | Soil □,                             | or Hydrology                                                                 | □, sigr                   | nificantly | disturbe       | d? Are "                   | "Normal Cir          | cumstance                | es" present?                          | •                     | Yes            | $\boxtimes$     | No         |       |
| Are Vegetation $\square$ ,                      | Soil □,                             | or Hydrology                                                                 | ⊠, nat                    | urally pro | blematic       | ? (If ne                   | eeded, expl          | ain any an               | swers in Re                           | marks.)               |                |                 |            |       |
| SUMMARY OF FIND                                 | INGS – Attac                        | ch site map sh                                                               | nowing                    | samplin    | g poin         | t locations,               | , transect           | s, impor                 | tant featu                            | res, etc.             |                |                 |            |       |
| Hydrophytic Vegetation I                        | Present?                            |                                                                              | Yes                       | ⊠ No       |                | la tha Cana                |                      |                          |                                       |                       |                |                 |            |       |
| Hydric Soil Present?                            |                                     |                                                                              | Yes                       | ⊠ No       |                | Is the Samp<br>within a We |                      |                          |                                       |                       | Yes            | $\boxtimes$     | No         |       |
| Wetland Hydrology Pres                          | ent?                                |                                                                              | Yes                       | ⊠ No       |                |                            |                      |                          |                                       |                       |                |                 |            |       |
| south end.<br>current logg                      | It passes prima<br>ing practices, a | r encompasses a<br>urily through unde<br>and a large syste<br>g Service Road | eveloped t<br>m of trails | timberlan  | d owned        | by OPG; mo                 | ost of which         | is woven                 | with interlac                         | ing logging           | roads due      | to hist         | oric a     | nd    |
| VEGETATION - Use                                | scientific na                       | ames of plants                                                               | s                         |            |                |                            |                      |                          |                                       |                       |                |                 |            |       |
| Tree Stratum (Plot size:                        | 30' diameter)                       |                                                                              | Absolute % Cover          |            | inant<br>cies? | Indicator<br>Status        | Dominar              | nce Test V               | Vorksheet:                            |                       |                |                 |            |       |
| 1                                               |                                     |                                                                              |                           |            | -              |                            |                      |                          | nt Species<br>CW, or FAC:             |                       | <u>2</u>       |                 |            | (A)   |
| 2                                               |                                     |                                                                              |                           |            | -              |                            | That Ale             | OBL, I AC                | , or 1 AC.                            |                       |                |                 |            |       |
| 3                                               |                                     |                                                                              |                           |            | =              |                            |                      | mber of Do<br>Across All |                                       |                       | <u>6</u>       |                 |            | (B)   |
| 4                                               |                                     |                                                                              |                           |            | tal Caus       |                            |                      |                          |                                       |                       |                |                 |            |       |
| 50% =, 20% =                                    |                                     | iamatar)                                                                     |                           | = 10       | tal Cove       | ŧI                         |                      |                          | nt Species<br>CW, or FAC:             |                       | <u>33</u>      |                 |            | (A/B) |
| Sapling/Shrub Stratum (                         | FIOI SIZE. <u>30 U</u>              | <u>iameter</u> )                                                             | 10                        |            |                | FACIL                      |                      |                          |                                       |                       |                |                 |            |       |
| Vaccinium ovatum                                |                                     |                                                                              | <u>10</u>                 | <u>yes</u> |                | <u>FACU</u>                | Prevalen             |                          | worksheet:                            |                       | Multipl        |                 |            |       |
| 2. <u>Ilex aquilinum</u>                        |                                     |                                                                              | <u>5</u>                  | <u>yes</u> |                | <u>FACU</u>                | OPI opo              |                          | % Cover of:                           |                       | <u>Multipl</u> | <u>y by:</u>    |            |       |
| 3                                               |                                     |                                                                              |                           | -          | -              |                            | OBL spe              |                          |                                       |                       | x1 =           |                 | _          |       |
| 4                                               |                                     |                                                                              |                           | -          | -              |                            | FACW sp              |                          |                                       |                       | x2 =           |                 | _          |       |
| 5                                               |                                     |                                                                              | 45                        |            | -<br>4-1 O     |                            | FAC spe              |                          |                                       |                       | x3 =           | -               | _          |       |
| 50% = <u>7.5</u> , 20% = <u>3</u>               |                                     |                                                                              | <u>15</u>                 | = 10       | tal Cove       | er<br>·                    | FACU sp              |                          |                                       |                       | x4 =           |                 | _          |       |
| Herb Stratum (Plot size:                        | •                                   |                                                                              |                           |            |                |                            | UPL spec             | cies                     |                                       |                       | x5 =           |                 |            |       |
| 1. Polystichum munitur                          | <u>m</u>                            |                                                                              | <u>10</u>                 | <u>yes</u> |                | <u>FACU</u>                | Column 7             |                          | · · · · · · · · · · · · · · · · · · · | (A)                   |                |                 | (E         | 5)    |
| 2. <u>Dryopteris expansa</u>                    |                                     |                                                                              | <u>5</u>                  | <u>yes</u> |                | <u>FACW</u>                |                      |                          | Prevalence                            | Index = B/A           | A =            |                 |            |       |
| 3. <u>Tiarella trifoliata</u>                   |                                     |                                                                              | <u>5</u>                  | <u>yes</u> |                | FAC                        | Hydroph              | ytic Vege                | tation Indic                          | ators:                |                |                 |            |       |
| 4. Rubus ursinus                                |                                     |                                                                              | <u>5</u>                  | <u>yes</u> |                | FACU                       | □ 1-                 | Rapid Tes                | st for Hydrop                         | ohytic Vege           | etation        |                 |            |       |
| 5                                               |                                     |                                                                              |                           |            | -              |                            | □ 2-                 | Dominanc                 | e Test is >5                          | 0%                    |                |                 |            |       |
| 6                                               |                                     |                                                                              |                           |            | -              |                            | □ 3-                 | Prevalenc                | e Index is <                          | 3.0 <sup>1</sup>      |                |                 |            |       |
| 7                                               |                                     |                                                                              |                           |            | =              |                            |                      |                          | gical Adapta                          |                       |                | ting            |            |       |
| 8                                               |                                     |                                                                              |                           |            | =              |                            |                      | data in Re               | marks or on                           | a separate            | e sheet)       |                 |            |       |
| 9                                               |                                     |                                                                              |                           |            | =              |                            | □ 5-                 | Wetland N                | lon-Vascula                           | r Plants <sup>1</sup> |                |                 |            |       |
| 10                                              |                                     |                                                                              |                           |            | _              |                            | ⊠ Pro                | blematic F               | -<br>Hydrophytic                      | Vegetation            | 1 (Explain)    |                 |            |       |
| 11                                              |                                     |                                                                              |                           |            | _              |                            | 1                    |                          |                                       |                       |                |                 |            |       |
| $50\% = \underline{12.5}, 20\% = \underline{5}$ |                                     |                                                                              | <u>25</u>                 | = To       | tal Cove       | er                         |                      |                          | c soil and we<br>disturbed or         |                       |                |                 |            |       |
| Woody Vine Stratum (PI                          | ot size: 15' diar                   | meter)                                                                       |                           |            |                |                            | bo proces            | in, unicoo               | alotalboa oi                          | problemat             |                |                 |            |       |
| 1                                               |                                     |                                                                              |                           |            | =              |                            |                      |                          |                                       |                       |                |                 |            |       |
| 2                                               |                                     |                                                                              |                           |            | _              |                            | Hydroph              | -                        | .,                                    |                       | -              |                 |            |       |
| 50% =, 20% =                                    |                                     |                                                                              |                           | = To       | tal Cove       | er                         | Vegetati<br>Present? |                          | Ye                                    | es                    |                | No              |            |       |
| % Bare Ground in Herb                           | Stratum <u>75</u>                   |                                                                              |                           |            |                |                            | i ioseiiti           |                          |                                       |                       |                |                 |            |       |
| Remarks.                                        |                                     | s very narrow an                                                             | •                         |            |                |                            | •                    |                          | •                                     |                       |                | nd veg          | etatio     | n     |
| was recor                                       | raea in the wetl                    | and. The hydrop                                                              | onytic veg                | etation cr | iterion is     | met because                | e nyarıc soi         | ı and wetla              | and hydrolog                          | gy indicator          | s are met.     |                 |            |       |

SOIL Sampling Point: TP 17 - H Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Redox Features Remarks (inches) Color (moist) % Color (moist) % Type<sup>1</sup> Loc<sup>2</sup> Texture 10YR 2/1 100 No redoximorphic features 0-10 sa si lo <u>10-16</u> 10YR 5/1 100 gr sa lo No redoximorphic concentrations sa - sand gr - gravelly si - silt lo - loam <sup>1</sup>Type: C= Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. <sup>2</sup>Location: PL=Pore Lining, M=Matrix, RC=Root Channel Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils3: Histosol (A1) Sandy Redox (S5) 2 cm Muck (A10) Histic Epipedon (A2) П Stripped Matrix (S6)  $\Box$ Red Parent Material (TF2) Black Histic (A3) Loamy Mucky Mineral (F1) (except MLRA 1) Very Shallow Dark Surface (TF12) Loamy Gleyed Matrix (F2) Hydrogen Sulfide (A4) Other (Explain in Remarks)  $\boxtimes$ Depleted Below Dark Surface (A11) Depleted Matrix (F3) Thick Dark Surface (A12) Redox Dark Surface (F6) <sup>3</sup>Indicators of hydrophytic vegetation and П Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) wetland hydrology must be present, П Sandy Gleyed Matrix (S4) Redox Depressions (F8) unless disturbed or problematic. Restrictive Layer (if present): Type: **Hydric Soils Present?** Yes  $\boxtimes$ Depth (inches): No Remarks: The soil profile contains a depleted layer with dark chromas above that meet the indicator Depleted Below Dark Surface. The hydric soil criteria is met. **HYDROLOGY** Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (2 or more required) П Surface Water (A1) Water-Stained Leaves (B9) Water-Stained Leaves (B9)  $\boxtimes$ High Water Table (A2) (except MLRA 1, 2, 4A, and 4B) (MLRA 1, 2, 4A, and 4B) Saturation (A3) Salt Crust (B11) Drainage Patterns (B10) П Water Marks (B1) Aquatic Invertebrates (B13) П Dry-Season Water Table (C2) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Drift Deposits (B3) Oxidized Rhizospheres along Living Roots (C3) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aguitard (D3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) FAC-Neutral Test (D5) Stunted or Stresses Plants (D1) (LRR A) П Surface Soil Cracks (B6) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Frost-Heave Hummocks (D7) Sparsely Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes  $\boxtimes$ No Depth (inches): surface Water Table Present? Yes  $\boxtimes$ No Depth (inches): Saturation Present? Wetland Hydrology Present? Yes  $\boxtimes$ No Yes No  $\boxtimes$ Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks: Hydrology was present during the field visit observed as saturation at the surface. Therefore the wetland hydrology indicator is met.

| Project Site:              | Port Gamble           | Trail Feasibility                                                                        |                         |             |                  |         | City/Coun                  | ty: <u>Po</u>                          | rt Gamble   | e/Kitsap                       | Samplin          | g Date:       | 2/22          | 2/17     |          |
|----------------------------|-----------------------|------------------------------------------------------------------------------------------|-------------------------|-------------|------------------|---------|----------------------------|----------------------------------------|-------------|--------------------------------|------------------|---------------|---------------|----------|----------|
| Applicant/Owner:           | Fischer Bour          | ma Partnership                                                                           |                         |             |                  |         |                            |                                        | 5           | State: WA                      | Samplin          | g Point:      | TP1           | 8 - I    |          |
| Investigator(s):           | J. Bartlett, L.       | Westervelt, K. Boa                                                                       | :                       |             |                  |         |                            | ;                                      | Section, 7  | Γownship, Rai                  | nge: <u>S7 T</u> | 727N R2E      |               |          |          |
| Landform (hillslope, ter   | race, etc.):          | <u>hillslope</u>                                                                         |                         |             |                  | Loca    | I relief (conca            | ave, con                               | vex, none   | e): <u>convex</u>              |                  | Slop          | e (%):        | 6-15     | <u>i</u> |
| Subregion (LRR):           | MLRA 2                |                                                                                          | Lat:                    |             |                  |         |                            | Long                                   | j:          |                                |                  | Datum:        | <u>Trimbl</u> | <u>e</u> |          |
| Soil Map Unit Name:        | Poulsbo-Ra            | agnar Complex, 6 to                                                                      | 15 perce                | ent slop    | es_              |         |                            |                                        |             | NWI cla                        | ssification      |               |               |          |          |
| Are climatic / hydrologi   | c conditions o        | on the site typical fo                                                                   | r this time             | of year     | ?                | Y       | es 🛛                       | No                                     |             | (If no, explain                | in Remark        | (s.)          |               |          |          |
| Are Vegetation $\square$ , | Soil 🗌                | , or Hydrology                                                                           | □, sig                  | nificant    | y distu          | ırbed   | ? Are "I                   | Normal (                               | Circumsta   | inces" presen                  | t?               | Yes           | $\boxtimes$   | No       |          |
| Are Vegetation $\square$ , | Soil 🗌                | , or Hydrology                                                                           | □, nat                  | turally p   | roblem           | natic   | ? (If ne                   | eded, ex                               | plain any   | answers in R                   | Remarks.)        |               |               |          |          |
| SUMMARY OF FIN             | DINGS – At            | tach site map s                                                                          | howing                  | sampl       | ing p            | oint    | locations,                 | transe                                 | cts, imp    | ortant feat                    | ures, etc        |               |               |          |          |
| Hydrophytic Vegetation     | Present?              |                                                                                          | Yes                     | $\boxtimes$ | No [             |         |                            |                                        |             |                                |                  |               |               |          |          |
| Hydric Soil Present?       |                       |                                                                                          | Yes                     | $\boxtimes$ | No [             |         | Is the Samp<br>within a We |                                        | a           |                                |                  | Yes           | $\boxtimes$   | No       |          |
| Wetland Hydrology Pre      | esent?                |                                                                                          | Yes                     | $\boxtimes$ | No [             |         |                            | ······································ |             |                                |                  |               |               |          |          |
| south end<br>current log   | . It passes pri       | oility encompasses a<br>imarily through und<br>s, and a large syste<br>ng Lower Mirkwood | eveloped<br>m of trails | timberla    | and ow           | vned    | by OPG; mos                | st of whi                              | ch is wov   | en with interla                | acing loggir     | ng roads due  | to his        | toric a  | nd       |
| VEGETATION - Us            | e scientific          | names of plant                                                                           |                         |             |                  |         |                            |                                        |             |                                |                  |               |               |          |          |
| Tree Stratum (Plot size    | e: <u>30' diamete</u> | <u>er</u> )                                                                              | Absolut<br>% Cove       |             | ominar<br>oecies |         | Indicator<br>Status        | Domin                                  | ance Tes    | st Worksheet                   | ::               |               |               |          |          |
| 1. Alnus rubra             |                       |                                                                                          | <u>5</u>                | ye          |                  | -       | FAC                        | Numbe                                  | er of Dom   | inant Species                  | ;                | _             |               |          |          |
| 2. Thuja plicata           |                       |                                                                                          | <u>5</u>                | ye          | <u>s</u>         |         | FAC                        |                                        |             | ACW, or FAC                    |                  | <u>5</u>      |               |          | (A)      |
| 3                          |                       |                                                                                          |                         | _           |                  |         |                            | Total N                                | lumber of   | f Dominant                     |                  | -             |               |          | (D)      |
| 4                          |                       |                                                                                          |                         |             |                  |         |                            | Specie                                 | s Across    | All Strata:                    |                  | <u>5</u>      |               |          | (B)      |
| 50% =, 20% = _             |                       |                                                                                          |                         | =           | Total C          | Cove    | r                          | Percer                                 | nt of Domi  | inant Species                  |                  | 400           |               |          | (A /D)   |
| Sapling/Shrub Stratum      | (Plot size: 30        | O' diameter)                                                                             |                         |             |                  |         |                            | That A                                 | re OBL, F   | FACW, or FAC                   | D:               | <u>100</u>    |               |          | (A/B)    |
| 1. Rubus spectabilis       |                       |                                                                                          | <u>10</u>               | ye          | <u>s</u>         |         | <u>FAC</u>                 | Preval                                 | ence Ind    | ex workshee                    | t:               |               |               |          |          |
| 2                          |                       |                                                                                          |                         | _           |                  |         |                            |                                        | <u>Tot</u>  | al % Cover of                  | <u>f:</u>        | Multip        | ly by:        |          |          |
| 3                          |                       |                                                                                          |                         | _           |                  |         |                            | OBL s                                  | pecies      |                                | _                | x1 =          |               |          |          |
| 4                          |                       |                                                                                          |                         |             |                  |         |                            | FACW                                   | species     |                                | <u>.</u>         | x2 =          |               |          |          |
| 5                          |                       |                                                                                          |                         |             |                  |         |                            | FAC sp                                 | oecies      |                                | <b>=</b> -       | x3 =          |               |          |          |
| 50% =, 20% = _             |                       |                                                                                          |                         | =           | Total C          | Cove    | r                          | FACU                                   | species     |                                | _                | x4 =          |               |          |          |
| Herb Stratum (Plot size    | e: 15' diamete        | <u>er</u> )                                                                              |                         |             |                  |         |                            | UPL sp                                 | oecies      | <u></u>                        | <u> </u>         | x5 =          |               |          |          |
| 1. Athyrium cyclospor      | rum                   |                                                                                          | <u>10</u>               | ye          | s                |         | FAC                        | Colum                                  | n Totals:   |                                | _(A)             |               |               | (E       | 3)       |
| Oenanthe sarment           |                       |                                                                                          | 10                      | ye          |                  |         | OBL                        | Coldini                                | ii i otalo. | Prevalence                     |                  | 3/A =         |               |          | ,        |
| 3.                         |                       |                                                                                          |                         |             | _                |         |                            | Hvdro                                  | phytic Ve   | egetation Ind                  |                  |               |               |          |          |
| 4.                         |                       |                                                                                          |                         |             |                  |         |                            |                                        |             | Test for Hydr                  |                  | getation      |               |          |          |
| 5.                         |                       |                                                                                          |                         |             |                  |         |                            |                                        |             | ance Test is >                 |                  | gotation      |               |          |          |
| 6.                         |                       |                                                                                          |                         |             |                  |         |                            |                                        |             |                                |                  |               |               |          |          |
| <del></del>                |                       |                                                                                          | -                       | _           | _                |         |                            |                                        |             | ence Index is                  |                  |               |               |          |          |
| 7                          |                       |                                                                                          |                         | _           | _                |         |                            |                                        |             | ological Adapt<br>Remarks or o |                  |               | rting         |          |          |
| 8<br>9.                    |                       |                                                                                          |                         |             |                  |         |                            | □ 5                                    |             | d Non-Vascu                    | ٠.               | ,             |               |          |          |
| ·                          |                       |                                                                                          |                         |             |                  |         |                            |                                        |             |                                |                  | 1             |               |          |          |
| 10                         |                       |                                                                                          |                         | _           | _                |         |                            | □ F                                    | roblemat    | tic Hydrophyti                 | c Vegetation     | on' (Explain) |               |          |          |
| 11                         |                       |                                                                                          |                         | _           | —<br>T-4-1 C     | <b></b> |                            | 1Indica                                | tors of hy  | dric soil and v                | wetland hy       | drology mus   | t             |          |          |
| 50% =, 20% = _             |                       | P ( )                                                                                    |                         | =           | Total C          | Jovei   | r                          | be pres                                | sent, unle  | ess disturbed                  | or problem       | atic.         |               |          |          |
| Woody Vine Stratum (I      | Plot size: 15 (       | <u>diameter</u> )                                                                        |                         |             |                  |         |                            |                                        |             |                                |                  |               |               | ····     |          |
| 1                          |                       |                                                                                          |                         | _           | _                |         |                            | Hydro                                  | phytic      |                                |                  |               |               |          |          |
| 2                          |                       |                                                                                          |                         | _           |                  | _       |                            | Vegeta                                 |             | ,                              | Yes              | $\boxtimes$   | No            |          |          |
| 50% =, 20% = _             |                       |                                                                                          |                         | = '         | Total C          | oveiر   | r                          | Preser                                 | nt?         |                                |                  |               |               |          |          |
| % Bare Ground in Herl      |                       |                                                                                          |                         |             |                  |         |                            |                                        |             |                                |                  |               |               |          |          |
| Remarks:                   | he hydrophyti         | ic vegetation criterio                                                                   | on is met               | becaus      | e there          | is gi   | reater than 50             | 0% domi                                | inance by   | FAC or OBL                     | species.         |               |               |          |          |
|                            |                       |                                                                                          |                         |             |                  |         |                            |                                        |             |                                |                  |               |               |          |          |
|                            |                       |                                                                                          |                         |             |                  |         |                            |                                        |             |                                |                  |               |               |          |          |

| SOIL                           |                                               |          |             |          |             |                                                  |                   |                            | Sampling Point: ]        | Г <u>Р18 - І</u> |           |          |
|--------------------------------|-----------------------------------------------|----------|-------------|----------|-------------|--------------------------------------------------|-------------------|----------------------------|--------------------------|------------------|-----------|----------|
| Profile Desc                   | ription: (Descril                             | be to th | ne depth    | neede    | ed to de    | ocument the indicator or conf                    | firm the absen    | nce of indicate            | ors.)                    |                  |           |          |
| Depth                          | Mat                                           | rix      |             |          |             | Redox Features                                   |                   |                            |                          |                  |           |          |
| (inches)                       | Color (moist)                                 |          | %           | Co       | lor (mo     | ist) % Type <sup>1</sup>                         | Loc <sup>2</sup>  | Texture                    |                          | Remark           | S         |          |
|                                |                                               |          |             | -        |             |                                                  |                   |                            |                          |                  |           |          |
|                                |                                               | _        |             |          |             |                                                  |                   |                            |                          |                  |           |          |
|                                |                                               | _        |             |          |             |                                                  |                   |                            | _                        |                  |           |          |
|                                |                                               | _        |             |          |             |                                                  |                   |                            | _                        |                  |           |          |
|                                |                                               | _        |             |          |             |                                                  |                   |                            |                          |                  |           |          |
| <u></u>                        |                                               | _        |             |          |             |                                                  |                   |                            |                          |                  |           |          |
| <u></u>                        |                                               | _        |             |          |             |                                                  |                   |                            |                          |                  |           |          |
|                                |                                               | _        |             |          |             |                                                  | · <u></u>         |                            | <del>-</del>             |                  |           |          |
| <sup>1</sup> Type: C= Co       | oncentration. D=[                             | Depletio | n. RM=      | Reduce   | ed Matri    | ix, CS=Covered or Coated San                     | d Grains.         | <sup>2</sup> Location: PL= | =Pore Lining, M=Matri    | k. RC=Roo        | t Channel | ı        |
|                                |                                               | •        |             |          |             | otherwise noted.)                                |                   |                            | cators for Problemati    |                  |           |          |
| ☐ Histoso                      |                                               |          |             | ,        |             | Sandy Redox (S5)                                 |                   |                            | 2 cm Muck (A10)          | ,                |           |          |
|                                | Epipedon (A2)                                 |          |             |          |             | Stripped Matrix (S6)                             |                   |                            | Red Parent Materia       | I (TF2)          |           |          |
| _                              | Histic (A3)                                   |          |             |          |             | Loamy Mucky Mineral (F1) (e:                     | xcept MLRA 1      | _                          | Very Shallow Dark        |                  | F12)      |          |
|                                | en Sulfide (A4)                               |          |             |          |             | Loamy Gleyed Matrix (F2)                         | Koopt III Liter 1 | , –                        | Other (Explain in R      | ,                | 1 12)     |          |
|                                | ed Below Dark S                               | urfaca ( | (Δ11)       |          |             | Depleted Matrix (F3)                             |                   | Ц                          | Other (Explain in It     | emarks)          |           |          |
|                                |                                               |          | (A11)       |          |             |                                                  |                   |                            |                          |                  |           |          |
|                                | Dark Surface (A1:                             | •        |             |          |             | Redox Dark Surface (F6)                          |                   | <sup>3</sup> Indi          | cators of hydrophytic v  | enetation.       | and       |          |
| -                              | Mucky Mineral (S                              | -        |             |          |             | Depleted Dark Surface (F7)                       |                   | W                          | etland hydrology mus     | be preser        |           |          |
| <u> </u>                       | Gleyed Matrix (S                              |          |             |          |             | Redox Depressions (F8)                           |                   | u                          | nless disturbed or prol  | olematic.        |           |          |
|                                | ayer (if present                              | ):       |             |          |             |                                                  |                   |                            |                          |                  |           |          |
| Type:                          |                                               |          |             |          |             |                                                  |                   |                            | v.                       |                  |           | _        |
| Depth (inches                  |                                               |          |             |          |             |                                                  | Hydric Soils      |                            | Yes                      |                  | No        |          |
| Remarks:                       | NO Soil Hole was                              | s uug. c | JUII Was    | assum    | eu io bi    | e hydric due to presence of sea                  | Sorially llowing  | sileaili.                  |                          |                  |           |          |
|                                |                                               |          |             |          |             |                                                  |                   |                            |                          |                  |           |          |
|                                |                                               |          |             |          |             |                                                  |                   |                            |                          |                  |           |          |
|                                |                                               |          |             |          |             |                                                  |                   |                            |                          |                  |           |          |
|                                |                                               |          |             |          |             |                                                  |                   |                            |                          |                  |           | <u> </u> |
| LIVEROLO                       | ov.                                           |          |             |          |             |                                                  |                   |                            |                          |                  |           |          |
| HYDROLO                        |                                               |          |             |          |             |                                                  |                   |                            |                          |                  |           |          |
| _                              | drology Indicato                              |          | roquirod    | . ohook  | all that    | annly                                            |                   | Sacar                      | dan Indicatora (2 or n   | ooro roquir      | od)       |          |
|                                | ators (minimum                                | or one r | equirea     | , cneck  |             | ,                                                |                   |                            | ndary Indicators (2 or n | -                | ea)       |          |
| _                              | e Water (A1)                                  |          |             |          |             | Water-Stained Leaves (B9)                        |                   |                            | Water-Stained Leaves     |                  |           |          |
|                                | Vater Table (A2)                              |          |             |          | _           | (except MLRA 1, 2, 4A, and                       | 4B)               |                            | (MLRA 1, 2, 4A, and 4    | -                |           |          |
|                                | tion (A3)                                     |          |             |          |             | Salt Crust (B11)                                 |                   |                            | Drainage Patterns (B1    | •                |           |          |
|                                | Marks (B1)                                    |          |             |          |             | Aquatic Invertebrates (B13)                      |                   |                            | Dry-Season Water Tal     | ole (C2)         |           |          |
| ☐ Sedim                        | ent Deposits (B2                              | 2)       |             |          |             | Hydrogen Sulfide Odor (C1)                       |                   |                            | Saturation Visible on A  | verial Imag      | ery (C9)  |          |
| ☐ Drift D                      | eposits (B3)                                  |          |             |          |             | Oxidized Rhizospheres along                      | Living Roots (0   | C3)                        | Geomorphic Position (    | D2)              |           |          |
| ☐ Algal N                      | Mat or Crust (B4)                             |          |             |          |             | Presence of Reduced Iron (Ca                     | 4)                |                            | Shallow Aquitard (D3)    |                  |           |          |
| ☐ Iron De                      | eposits (B5)                                  |          |             |          |             | Recent Iron Reduction in Tille                   | d Soils (C6)      |                            | FAC-Neutral Test (D5)    |                  |           |          |
| ☐ Surfac                       | e Soil Cracks (B                              | 6)       |             |          |             | Stunted or Stresses Plants (D                    | 1) <b>(LRR A)</b> |                            | Raised Ant Mounds (D     | 6) (LRR A        | )         |          |
| ☐ Inunda                       | ation Visible on A                            | erial Im | agery (E    | 37)      |             | Other (Explain in Remarks)                       |                   |                            | Frost-Heave Hummoc       | ks (D7)          |           |          |
| ☐ Sparse                       | ely Vegetated Co                              | ncave \$ | Surface     | (B8)     |             |                                                  |                   |                            |                          |                  |           |          |
| Field Observ                   | ations:                                       |          |             |          |             |                                                  |                   |                            |                          |                  |           |          |
| Surface Water                  | er Present?                                   | Yes      | $\boxtimes$ | No       |             | Depth (inches): 1                                |                   |                            |                          |                  |           |          |
| Water Table                    |                                               | Yes      |             | No       | ⊠           | Depth (inches):                                  |                   |                            |                          |                  |           |          |
|                                |                                               |          |             |          |             |                                                  |                   |                            |                          |                  |           |          |
| Saturation Pr                  |                                               |          |             |          |             |                                                  |                   |                            |                          |                  |           | _        |
| Saturation Pr<br>(includes cap | esent?                                        | Yes      |             | No       | $\boxtimes$ | Depth (inches):                                  | v                 | Wetland Hydr               | ology Present?           | Yes              | ⊠ N       | lo 🗆     |
| (includes cap                  | esent?<br>illary fringe)                      |          |             |          |             | Depth (inches):erial photos, previous inspection |                   |                            | ology Present?           | Yes              | ⊠ N       | lo 🗆     |
| (includes cap                  | esent?<br>illary fringe)                      |          |             |          |             |                                                  |                   |                            | ology Present?           | Yes              | ⊠ N       | lo 🗆     |
| (includes cap                  | esent?<br>illary fringe)<br>corded Data (stre | am gau   | uge, moi    | nitoring | well, a     | erial photos, previous inspection                | ns), if available | ):<br>:                    | ology Present?           | Yes              | ⊠ N       | lo 🗆     |
| (includes cap                  | esent?<br>illary fringe)<br>corded Data (stre | am gau   | uge, moi    | nitoring | well, a     |                                                  | ns), if available | ):<br>:                    | ology Present?           | Yes              | ⊠ N       | lo 🗆     |
| (includes cap                  | esent?<br>illary fringe)<br>corded Data (stre | am gau   | uge, moi    | nitoring | well, a     | erial photos, previous inspection                | ns), if available | ):<br>:                    | ology Present?           | Yes              | ⊠ N       | lo 🗆     |

| Project Site: Port Gamble Trail Feasibility                                                                                                                                        |                                   |                      | City/Cour           | nty: Port Gamble/Kitsap                       | Sampling Date:                    | 2/22/17            |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|----------------------|---------------------|-----------------------------------------------|-----------------------------------|--------------------|
| Applicant/Owner: <u>Fischer Bouma Partnership</u>                                                                                                                                  |                                   |                      |                     | State: WA                                     | Sampling Point:                   | <u>TP19 - I</u>    |
| Investigator(s): <u>J. Bartlett, L. Westervelt, K. Boa</u>                                                                                                                         | <u> </u>                          |                      |                     | Section, Township, Rang                       | je: <u>S7 T27N R2E</u>            |                    |
| Landform (hillslope, terrace, etc.): <u>hillslope</u>                                                                                                                              |                                   | Loca                 | al relief (conc     | cave, convex, none): <u>convex</u>            | Slop                              | e (%): <u>6-15</u> |
| Subregion (LRR): MLRA 2                                                                                                                                                            | Lat:                              | _                    |                     | Long:                                         | Datum:                            | <u>Trimble</u>     |
| Soil Map Unit Name: Poulsbo-Ragnar complex, 6 to                                                                                                                                   | 15 percent s                      | lopes                |                     | NWI class                                     | sification:                       |                    |
| Are climatic / hydrologic conditions on the site typical for                                                                                                                       | r this time of                    | year? Y              | es 🛚                | No 🗌 (If no, explain in                       | ı Remarks.)                       |                    |
| Are Vegetation □, Soil □, or Hydrology                                                                                                                                             | ☐, signific                       | antly disturbed      | d? Are "            | "Normal Circumstances" present?               | Yes                               | ⊠ No □             |
| Are Vegetation □, Soil □, or Hydrology                                                                                                                                             | ☐, natura                         | lly problematic      | ? (If ne            | eeded, explain any answers in Re              | marks.)                           |                    |
| SUMMARY OF FINDINGS – Attach site map s                                                                                                                                            | howing sar                        | nnling noint         | locations           | transacts important featur                    | res etc                           |                    |
| Hydrophytic Vegetation Present?                                                                                                                                                    | Yes                               |                      | . iocations,        | , transects, important reatur                 | es, etc.                          |                    |
| Hydric Soil Present?                                                                                                                                                               | Yes 🗆                             |                      | Is the Samp         |                                               | Yes                               | □ No ⊠             |
| Wetland Hydrology Present?                                                                                                                                                         | Yes 🛛                             |                      | within a We         | etland?                                       | 103                               |                    |
|                                                                                                                                                                                    |                                   |                      | and a saline of he  |                                               |                                   | Deed NE et the     |
| Remarks: The scope of this feasibility encompasses south end. It passes primarily through und current logging practices, and a large syste the South Segment, along Lower Mirkwood | eveloped timb<br>em of trails uti | berland owned        | by OPG; mo          | ost of which is woven with interlaci          | ing logging roads due             | to historic and    |
| VEGETATION – Use scientific names of plant                                                                                                                                         | s                                 |                      |                     |                                               |                                   |                    |
| Tree Stratum (Plot size: 10' diameter)                                                                                                                                             | Absolute<br>% Cover               | Dominant<br>Species? | Indicator<br>Status | Dominance Test Worksheet:                     |                                   |                    |
| 1. <u>Alnus rubra</u>                                                                                                                                                              | <u>10</u>                         | <u>yes</u>           | FAC                 | Number of Dominant Species                    |                                   | (4)                |
| 2                                                                                                                                                                                  |                                   |                      |                     | That Are OBL, FACW, or FAC:                   | <u>2</u>                          | (A)                |
| 3                                                                                                                                                                                  |                                   |                      |                     | Total Number of Dominant                      | 7                                 | (D)                |
| 4                                                                                                                                                                                  |                                   |                      |                     | Species Across All Strata:                    | <u>7</u>                          | (B)                |
| 50% = <u>5</u> , 20% = <u>2</u>                                                                                                                                                    | <u>10</u>                         | = Total Cove         | r                   | Percent of Dominant Species                   | 20                                | (A/D)              |
| Sapling/Shrub Stratum (Plot size: 10' diameter)                                                                                                                                    |                                   |                      |                     | That Are OBL, FACW, or FAC:                   | <u>29</u>                         | (A/B)              |
| 1. <u>Sambucus racemosa</u>                                                                                                                                                        | <u>10</u>                         | <u>yes</u>           | <u>FACU</u>         | Prevalence Index worksheet:                   |                                   |                    |
| 2. <u>Vaccinium ovatum</u>                                                                                                                                                         | <u>5</u>                          | <u>yes</u>           | <u>FACU</u>         | Total % Cover of:                             | Multip                            | ly by:             |
| 3. <u>Gaultheria shallon</u>                                                                                                                                                       | <u>5</u>                          | <u>ves</u>           | <u>FACU</u>         | OBL species                                   | x1 =                              |                    |
| 4                                                                                                                                                                                  |                                   |                      |                     | FACW species                                  | x2 =                              |                    |
| 5                                                                                                                                                                                  |                                   |                      |                     | FAC species                                   | x3 =                              |                    |
| 50% = <u>10</u> , 20% = <u>4</u>                                                                                                                                                   | <u>20</u>                         | = Total Cove         | r                   | FACU species                                  | x4 =                              |                    |
| Herb Stratum (Plot size: 10' diameter)                                                                                                                                             |                                   |                      |                     | UPL species                                   | x5 =                              |                    |
| 1. Rubus ursinus                                                                                                                                                                   | <u>10</u>                         | <u>yes</u>           | <u>FACU</u>         | Column Totals:                                | (A)                               | (B)                |
| 2. Polystichum munitum                                                                                                                                                             | <u>10</u>                         | <u>yes</u>           | <u>FACU</u>         | Prevalence                                    | Index = B/A =                     |                    |
| 3. <u>Dryopteris expansa</u>                                                                                                                                                       | <u>5</u>                          | <u>yes</u>           | FACW                | Hydrophytic Vegetation Indic                  | ators:                            |                    |
| 4                                                                                                                                                                                  |                                   |                      |                     | ☐ 1 – Rapid Test for Hydrop                   | hytic Vegetation                  |                    |
| 5                                                                                                                                                                                  |                                   |                      |                     | ☐ 2 - Dominance Test is >50                   | 0%                                |                    |
| 6                                                                                                                                                                                  |                                   |                      |                     | ☐ 3 - Prevalence Index is <3                  | 3.0 <sup>1</sup>                  |                    |
| 7                                                                                                                                                                                  |                                   |                      |                     | 4 Morphological Adaptat                       |                                   | rting              |
| 8                                                                                                                                                                                  |                                   | <u> </u>             |                     | data in Remarks or on                         | a separate sheet)                 | illig              |
| 9                                                                                                                                                                                  |                                   |                      |                     | 5 - Wetland Non-Vascular                      | r Plants <sup>1</sup>             |                    |
| 10                                                                                                                                                                                 |                                   |                      |                     | ☐ Problematic Hydrophytic \                   | Vegetation <sup>1</sup> (Explain) |                    |
| 11.                                                                                                                                                                                |                                   |                      |                     | 1 Toblemane Tryanophryne                      | regeration (Explain)              |                    |
| 50% = 12.5, 20% = 5                                                                                                                                                                | 25                                | = Total Cove         | <br>r               | <sup>1</sup> Indicators of hydric soil and we |                                   | •                  |
| Woody Vine Stratum (Plot size: 10' diameter)                                                                                                                                       | <del>_</del>                      |                      |                     | be present, unless disturbed or               | problematic.                      |                    |
| 1                                                                                                                                                                                  |                                   |                      |                     |                                               |                                   | <del></del>        |
| 2                                                                                                                                                                                  |                                   |                      |                     | Hydrophytic                                   |                                   |                    |
| 50% =, 20% =                                                                                                                                                                       |                                   | = Total Cove         | <br>r               | Vegetation Ye                                 | es 🗆                              | No 🛚               |
| % Bare Ground in Herb Stratum 75                                                                                                                                                   |                                   |                      |                     | Present?                                      |                                   |                    |
| The hydrophytic vegetation criteri                                                                                                                                                 | on is not met                     | because there        | is not greate       | than 50% dominance by FAC or                  | FACW species.                     |                    |
| Remarks: The hydrophytic vegetation citient                                                                                                                                        |                                   |                      | 3. 2.40             |                                               | ,                                 |                    |
|                                                                                                                                                                                    |                                   |                      |                     |                                               |                                   |                    |
|                                                                                                                                                                                    |                                   |                      |                     |                                               |                                   |                    |

| HYDROLOGY  Wetland Hydrology Indicators:  Primary Indicators (minimum of one required; check all that apply)  Secondary Indicators (2 or more required)  Surface Water (A1)  Water-Stained Leaves (B9)  (MLRA 1, 2, 4A, and 4B)  Saturation (A3)  Saturation (A3)  Aquatic Invertebrates (B13)  Pry-Season Water Table (C2)  Sediment Deposits (B2)  Hydrogen Sulfide Odor (C1)  Atgal Mat or Crust (B4)  Presence of Reduced Iron (C4)  Sturtace Soil Cracks (B6)  Recent Iron Reduction in Tilled Soils (C6)  Inudation Visible on Aerial Imagery (B7)  Other (Explain in Remarks)  Field Observations:  Surface Water Present?  Water Table Present?  Yes No Depth (inches):  Water Table Present?  Water Table Present?  Yes No Depth (inches):  Secondary Indicators (2 or more required)  Water-Stained Leaves (B9)  (MLRA 1, 2, 4A, and 4B)  ( | SOIL                                                                                                                                                                |                                                                                                                                                                                                                                                                                            |                                             |                                      |             |                                                                                                                                                                                                                        |                                                                                                                           |                                    |               | Sampling Point: <u>T</u>                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |            |  |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|--------------------------------------|-------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|------------------------------------|---------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------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| Color (most)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Profile Desc                                                                                                                                                        | ription: (Describe                                                                                                                                                                                                                                                                         | to the d                                    | epth nee                             | ded to d    | locument the indica                                                                                                                                                                                                    | tor or confirm                                                                                                            | n the absence                      | of indicato   | ors.)                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |            |  |
| 0-12    10YR 3/3    100                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Depth                                                                                                                                                               | Matrix                                                                                                                                                                                                                                                                                     |                                             |                                      |             | Redox Fea                                                                                                                                                                                                              | atures                                                                                                                    |                                    |               |                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |            |  |
| Type: C= Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.  Type: C= Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.  Type: C= Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.  Type: C= Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.  Type: C= Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.  Type: C= Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.  Type: C= Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.  Thick Cappillary Sand Sand Sand Sand Sand Sand Sand Sand                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | (inches)                                                                                                                                                            | Color (moist)                                                                                                                                                                                                                                                                              | %                                           |                                      | Color (m    | oist) %                                                                                                                                                                                                                | Type <sup>1</sup>                                                                                                         | Loc <sup>2</sup>                   | Texture       |                                                                                                                                                                                                                                                                                  | Remarks                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |            |  |
| Sale - Sand   Ib - Iolann      | <u>0-12</u>                                                                                                                                                         | 10YR 3/3                                                                                                                                                                                                                                                                                   | 100                                         | <u>)</u>                             |             |                                                                                                                                                                                                                        |                                                                                                                           |                                    | <u>sa lo</u>  | no redoximorph                                                                                                                                                                                                                                                                   | ic concentration                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | <u>ons</u> |  |
| Type: C= Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.   D=Depleted Indicators: (Applicable to all LRRs, unless otherwise noted.)   Indicators for Problematic Hydric Soils.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <u>12-16</u>                                                                                                                                                        | 10yR 4/3                                                                                                                                                                                                                                                                                   | <u>100</u>                                  | <u>)</u>                             | -           | · ——                                                                                                                                                                                                                   |                                                                                                                           |                                    | <u>sa lo</u>  | no redoximorph                                                                                                                                                                                                                                                                   | ic concentration                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | ons        |  |
| Type: C= Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.  **Location: PL=Pore Lining, M=Matrix, RC=Root Channel lydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)    Histoso (A1)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                     |                                                                                                                                                                                                                                                                                            |                                             | <del>-</del><br>-                    |             |                                                                                                                                                                                                                        |                                                                                                                           |                                    |               | sa - sand                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |            |  |
| Histics (A)   Sandy Redox (SS)   2 cm Muck (A10)   Sladk (A15)   Sladk (A15)   Cam Muck (A10)   Sladk (A16)   Sladk (A16)   Sladk (A16)   Sladk (A16)   Sladk (A16)   Cam Muck (A10)   Cam Muck   |                                                                                                                                                                     |                                                                                                                                                                                                                                                                                            | -                                           | _                                    | -           |                                                                                                                                                                                                                        |                                                                                                                           |                                    |               | <u>lo - loam</u>                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |            |  |
| Histoso (A1)   Sandy Redox (S5)   2 cm Muck (A10)   Sandy Redox Matrix (S6)   Sandy Redox Matrix (S6)   Sandy Redox Dark Surface (F1)   Sandy Mucky Mineral (S1)   Depleted Matrix (F2)   Sandy Mucky Mineral (S1)   Depleted Dark Surface (F6)   Sandy Mucky Matrix (S4)   Depleted Dark Surface (F7)   Sandy Gleyed Matrix (S4)   Redox Dark Surface (F7)   Sandy Gleyed Matrix (S4)   Redox Dark Surface (F7)   Sandy Gleyed Matrix (S4)   Redox Dark Surface (F7)   Hydric Soils Present?   Yes   No Sandy Gleyed Matrix (S4)   Redox Dark Surface (F7)   Present (F7)     |                                                                                                                                                                     |                                                                                                                                                                                                                                                                                            |                                             | _                                    |             | · ——                                                                                                                                                                                                                   |                                                                                                                           |                                    |               |                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |            |  |
| Hydric Soll Indicators: (Applicable to all LRRs, unless otherwise noted.)  Histoce (A1)  Histoce (A1)  Histoce (A1)  Histoce (A2)  Black Histoc (A3)  Hydrogen Sulfide (A4)  Loamy Mucky Mineral (F1) (except MLRA 1)  Depleted Boark Surface (F12)  Thick Dark Surface (A12)  Redox Dark Surface (F3)  Thick Dark Surface (A12)  Redox Dark Surface (F7)  Sandy (Reyed Matrix (F3)  Thick Dark Surface (A12)  Redox Dark Surface (F7)  Pepleted Dark Surface (F7)  Sandy (Reyed Matrix (F3)  Thick Dark Surface (A12)  Redox Dark Surface (F7)  Pepleted Dark Surface (F7)  Pepleted Dark Surface (F8)  Restrictive Layer (if present):  Yoe:  Pepth (inches):  Hydric Soils Present?  Water Stained Leaves (B9)  Water Stained Leaves (B9)  Water Stained Leaves (B9)  Water Marks (B1)  Water Marks (B1)  Aquatic invertebrates (B13)  Water Marks (B1)  Aquatic invertebrates (B13)  Dirth Deposits (B2)  Hydrogen Sulfide Odor (C1)  Sediment Deposits (B3)  Oxidized Rhzospheres along Living Roots (C3)  Sediment Deposits (B3)  Oxidized Rhzospheres along Living Roots (C3)  Recent Iron Reduction in Tilled Soils (C6)  Sauface Water (A1)  Presence of Reduced Iron (C4)  Seturation (Present):  Sediment Deposits (B3)  Oxidized Rhzospheres along Living Roots (C3)  Sediment Deposits (B3)  Oxidized Rhzospheres along Living Roots (C3)  Recent Iron Reduction in Tilled Soils (C6)  Surface Water (A1)  Presence of Reduced Iron (C4)  Shallow Aquitard (D3)  Frost-Heave Hummocks (D7)                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                     |                                                                                                                                                                                                                                                                                            |                                             | _                                    |             |                                                                                                                                                                                                                        |                                                                                                                           |                                    |               |                                                                                                                                                                                                                                                                                  | 50 5 . 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |            |  |
| Histosol (A1)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | ••                                                                                                                                                                  | · · · · · · · · · · · · · · · · · · ·                                                                                                                                                                                                                                                      |                                             |                                      |             |                                                                                                                                                                                                                        | oated Sand G                                                                                                              | Frains. Lo                         |               |                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | _          |  |
| Histic Epipedon (A2)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   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| Black Histic (A3)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      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| Hydrogen Sulfide (A4)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  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| Depleted Below Dark Surface (A11)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | _                                                                                                                                                                   | ,                                                                                                                                                                                                                                                                                          |                                             |                                      |             |                                                                                                                                                                                                                        |                                                                                                                           | ept wicka i)                       |               | - 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| Thick Dark Surface (A12)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               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(Explain in Re                                                                                                                                                                                                                                                             | emarks)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     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| Sandy Mucky Mineral (S1)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               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| Sandy Gleyed Matrix (S4)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               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of hydrophytic v                                                                                                                                                                                                                                                          | agatation and                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                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| Restrictive Layer (if present):                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | _                                                                                                                                                                   | - 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| Papth (inches):                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        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disturbed or prob                                                                                                                                                                                                                                                           | lematic.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   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| Surface Water (A1)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     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| Surface Water (A1)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Remarks:                                                                                                                                                            | Neither of the soil                                                                                                                                                                                                                                                                        | layers m                                    | eet the de                           | efinition   | of a depleted matrix s                                                                                                                                                                                                 |                                                                                                                           |                                    |               |         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| High Water Table (A2)  Saturation (A3)  Water Marks (B1)  Aquatic Invertebrates (B13)  Drift Deposits (B2)  Algal Mat or Crust (B4)  Iron Deposits (B5)  Surface Soil Cracks (B6)  Surface Soil Cracks (B6)  Inundation Visible on Aerial Imagery (B7)  Sparsely Vegetated Concave Surface (B8)  Saturation (A3)  Saturation (A3)  Aquatic Invertebrates (B13)  Drift Deposits (B2)  Aquatic Invertebrates (B13)  Drift Deposits (B2)  Aquatic Invertebrates (B13)  Drift Deposits (B3)  Drift Deposits (B3)  Aquatic Invertebrates (B13)  Drift Deposits (B3)  Drift Deposits (B3)  Drift Deposits (B3)  Aquatic Invertebrates (B13)  Drift Deposits (B3)  Drift Deposits (B2)  Drift Deposits (B10)  Drift Deposits (B1)  Drift Deposits (B10)  D | Remarks:                                                                                                                                                            | Neither of the soil                                                                                                                                                                                                                                                                        |                                             | eet the de                           | efinition   | of a depleted matrix s                                                                                                                                                                                                 |                                                                                                                           |                                    |               |                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |            |  |
| Saturation (A3)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Remarks: HYDROLOG Vetland Hyd                                                                                                                                       | Neither of the soil  GY  rology Indicators                                                                                                                                                                                                                                                 | :                                           |                                      |             |                                                                                                                                                                                                                        |                                                                                                                           |                                    | ed to meet r  | none of the hydric soil                                                                                                                                                                                                                                                          | indicators.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   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| Water Marks (B1)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | HYDROLOO<br>Wetland Hyd<br>Primary Indic                                                                                                                            | Neither of the soil  GY  Irology Indicators ators (minimum of                                                                                                                                                                                                                              | :                                           |                                      | ck all tha  | it apply)                                                                                                                                                                                                              | so this soil pro                                                                                                          |                                    | Second        | none of the hydric soil                                                                                                                                                                                                                                                          | indicators.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   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| Sediment Deposits (B2)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | HYDROLOG<br>Vetland Hyd<br>Primary Indica                                                                                                                           | GY<br>rology Indicators<br>ators (minimum of<br>e Water (A1)                                                                                                                                                                                                                               | :                                           |                                      | ck all tha  | it apply)<br>Water-Stained Lea                                                                                                                                                                                         | so this soil pro                                                                                                          | file is determine                  | Second        | none of the hydric soil dary Indicators (2 or m                                                                                                                                                                                                                                  | indicators.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   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| Drift Deposits (B3)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | HYDROLOG<br>Vetland Hyd<br>Primary Indicated Surface                                                                                                                | GY Irology Indicators ators (minimum of e Water (A1) //ater Table (A2)                                                                                                                                                                                                                     | :                                           |                                      | ck all tha  | it apply)<br>Water-Stained Lea<br>(except MLRA 1, 2                                                                                                                                                                    | so this soil pro                                                                                                          | file is determine                  | Second        | dary Indicators (2 or m<br>Vater-Stained Leaves                                                                                                                                                                                                                                  | indicators.  nore required) (B9)  B)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       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| Algal Mat or Crust (B4)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | HYDROLOG<br>Vetland Hyd<br>Primary Indica<br>Surface<br>High W                                                                                                      | GY rology Indicators ators (minimum of e Water (A1) /ater Table (A2) tion (A3)                                                                                                                                                                                                             | :                                           |                                      | ck all tha  | water-Stained Lea<br>(except MLRA 1, 2<br>Salt Crust (B11)                                                                                                                                                             | ves (B9)                                                                                                                  | file is determine                  | Second (      | dary Indicators (2 or m<br>Vater-Stained Leaves<br>MLRA 1, 2, 4A, and 4<br>Drainage Patterns (B10                                                                                                                                                                                | nore required) (B9) B)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     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| Iron Deposits (B5)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | HYDROLOG Vetland Hyd Primary Indic Surface High W Satura Water                                                                                                      | GY Irology Indicators ators (minimum of e Water (A1) /ater Table (A2) tion (A3) Marks (B1)                                                                                                                                                                                                 | :                                           |                                      | ck all tha  | water-Stained Lea<br>(except MLRA 1, 2<br>Salt Crust (B11)<br>Aquatic Invertebrat                                                                                                                                      | oves (B9)  2, 4A, and 4B  tes (B13)                                                                                       | file is determine                  | Second (      | dary Indicators (2 or m<br>Vater-Stained Leaves<br>MLRA 1, 2, 4A, and 4<br>Orainage Patterns (B10<br>Ory-Season Water Tab                                                                                                                                                        | indicators.  sore required) (B9)  B) 0) ble (C2)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | (C9)       |  |
| Surface Soil Cracks (B6)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | HYDROLOO Wetland Hyd Primary Indic: Surface High W Satura Water Sedime                                                                                              | GY Irology Indicators ators (minimum of e Water (A1) /ater Table (A2) tion (A3) Marks (B1) ent Deposits (B2)                                                                                                                                                                               | :                                           |                                      | ck all tha  | water-Stained Lea<br>(except MLRA 1, 2<br>Salt Crust (B11)<br>Aquatic Invertebrat<br>Hydrogen Sulfide C                                                                                                                | ves (B9) 2, 4A, and 4B tes (B13) Odor (C1)                                                                                | file is determine                  | Second ()     | dary Indicators (2 or m<br>Vater-Stained Leaves<br>MLRA 1, 2, 4A, and 4<br>Drainage Patterns (B10<br>Dry-Season Water Tab<br>Saturation Visible on A                                                                                                                             | indicators.  nore required) (B9)  B) (D) (Be) (C2) (B) (B) (B) (B) (B) (B) (B) (B) (B) (B                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | (C9)       |  |
| Inundation Visible on Aerial Imagery (B7)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | HYDROLOG Vetland Hyd Primary Indica Surface High W Satura Water Sedime                                                                                              | Reither of the soil  GY  rology Indicators ators (minimum of e Water (A1) /ater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3)                                                                                                                                             | :                                           |                                      | ck all tha  | water-Stained Lea<br>(except MLRA 1, 2<br>Salt Crust (B11)<br>Aquatic Invertebrat<br>Hydrogen Sulfide C<br>Oxidized Rhizosph                                                                                           | ves (B9)  2, 4A, and 4B  tes (B13)  Odor (C1)  eres along Liv                                                             | file is determine                  | Second ()     | dary Indicators (2 or m<br>Vater-Stained Leaves<br>MLRA 1, 2, 4A, and 4<br>Orainage Patterns (B10<br>Ory-Season Water Tab<br>Saturation Visible on A                                                                                                                             | indicators.  nore required) (B9)  B) (D) (Be) (C2) (B) (B) (B) (B) (B) (B) (B) (B) (B) (B                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | (C9)       |  |
| Sparsely Vegetated Concave Surface (B8)  Field Observations:  Surface Water Present? Yes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | HYDROLOG Vetland Hyd Primary Indication High Water Water Sedimed Drift De                                                                                           | Reither of the soil  GY  Prology Indicators ators (minimum of e Water (A1) /ater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) /at or Crust (B4)                                                                                                                          | :                                           |                                      | ck all tha  | water-Stained Lea<br>(except MLRA 1, 2<br>Salt Crust (B11)<br>Aquatic Invertebrat<br>Hydrogen Sulfide C<br>Oxidized Rhizosph<br>Presence of Reduc                                                                      | oves (B9)  2, 4A, and 4B  des (B13)  Dodor (C1)  deres along Liveled Iron (C4)                                            | ving Roots (C3)                    | Second ()     | dary Indicators (2 or m<br>Vater-Stained Leaves<br>MLRA 1, 2, 4A, and 4<br>Orainage Patterns (B10<br>Ory-Season Water Tab<br>Saturation Visible on A<br>Geomorphic Position (I<br>Shallow Aquitard (D3)                                                                          | indicators.  nore required) (B9)  B) (D) (Be) (C2) (B) (B) (B) (B) (B) (B) (B) (B) (B) (B                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | (C9)       |  |
| Field Observations:  Surface Water Present? Yes No Depth (inches):  Vater Table Present? Yes No Depth (inches): 3  Saturation Present? Yes No Depth (inches): Wetland Hydrology Present? Yes No Depth (inches): Wetland Hydrology Present? Yes No Depth (inches): Wetland Hydrology Present?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | HYDROLOG  Wetland Hyd  Primary Indic:  Surface  High W  Satura:  Water  Sedime  Algal M  Iron De                                                                    | Neither of the soil  Arclogy Indicators ators (minimum of e Water (A1) /ater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) /at or Crust (B4) eposits (B5)                                                                                                                 | :                                           |                                      | ck all tha  | water-Stained Lea<br>(except MLRA 1, 2<br>Salt Crust (B11)<br>Aquatic Invertebrat<br>Hydrogen Sulfide C<br>Oxidized Rhizosph<br>Presence of Reduc<br>Recent Iron Reduc                                                 | ves (B9)  2, 4A, and 4B  tes (B13)  Odor (C1) teres along Lived Iron (C4)  tion in Tilled S                               | ving Roots (C3)                    | Second ()     | dary Indicators (2 or m<br>Vater-Stained Leaves<br>MLRA 1, 2, 4A, and 4<br>Orainage Patterns (B10<br>Ory-Season Water Tab<br>Saturation Visible on A<br>Geomorphic Position (I<br>Shallow Aquitard (D3)<br>FAC-Neutral Test (D5)                                                 | indicators.  sore required) (B9)  B) (C2) erial Imagery (C2)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | (C9)       |  |
| Surface Water Present? Yes No Depth (inches):  Vater Table Present? Yes No Depth (inches): 3  Saturation Present? Yes No Depth (inches): Wetland Hydrology Present?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | HYDROLOG  Wetland Hyd  Primary Indic.  High W  Satura  Water  Sedime  Drift De  Algal M  Iron De                                                                    | GY Irology Indicators ators (minimum of e Water (A1) /ater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) /at or Crust (B4) eposits (B5) e Soil Cracks (B6)                                                                                                                | :<br>one requ                               | uired; ched                          | ck all tha  | water-Stained Lea<br>(except MLRA 1, 2<br>Salt Crust (B11)<br>Aquatic Invertebrat<br>Hydrogen Sulfide C<br>Oxidized Rhizosph<br>Presence of Reduc<br>Recent Iron Reduc<br>Stunted or Stresses                          | ves (B9)  2, 4A, and 4B  des (B13)  Odor (C1)  deres along Live along Live del Iron (C4)  tion in Tilled S  s Plants (D1) | ving Roots (C3)                    | Second  V ((  | dary Indicators (2 or m<br>Vater-Stained Leaves<br>MLRA 1, 2, 4A, and 4<br>Orainage Patterns (B10<br>Ory-Season Water Tab<br>Saturation Visible on A<br>Geomorphic Position (I<br>Shallow Aquitard (D3)<br>FAC-Neutral Test (D5)<br>Raised Ant Mounds (D                         | indicators.  indic | (C9)       |  |
| Vater Table Present?  Yes No Depth (inches): 3  Saturation Present?  Yes No Depth (inches): Wetland Hydrology Present?  Yes No Depth (inches): Wetland Hydrology Present?  Yes No Depth (inches): Wetland Hydrology Present?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | HYDROLOU Wetland Hyd Primary Indica High W Satura Water Sedime Drift De Algal M Iron De Surface                                                                     | GY  Irology Indicators ators (minimum of e Water (A1) /ater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) /at or Crust (B4) eposits (B5) e Soil Cracks (B6) tion Visible on Aer                                                                                           | :<br>one requ                               | uired; chec                          | ck all tha  | water-Stained Lea<br>(except MLRA 1, 2<br>Salt Crust (B11)<br>Aquatic Invertebrat<br>Hydrogen Sulfide C<br>Oxidized Rhizosph<br>Presence of Reduc<br>Recent Iron Reduc<br>Stunted or Stresses                          | ves (B9)  2, 4A, and 4B  des (B13)  Odor (C1)  deres along Live along Live del Iron (C4)  tion in Tilled S  s Plants (D1) | ving Roots (C3)                    | Second  V ((  | dary Indicators (2 or m<br>Vater-Stained Leaves<br>MLRA 1, 2, 4A, and 4<br>Orainage Patterns (B10<br>Ory-Season Water Tab<br>Saturation Visible on A<br>Geomorphic Position (I<br>Shallow Aquitard (D3)<br>FAC-Neutral Test (D5)<br>Raised Ant Mounds (D                         | indicators.  indic | (C9)       |  |
| Saturation Present? Yes D No D Depth (inches): Wetland Hydrology Present? Yes D No D                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | HYDROLOG Vetland Hyd Primary Indica Surface High W Satura Water Sedime Drift De Algal M Iron De Surface                                                             | GY  rology Indicators ators (minimum of e Water (A1) /ater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) /at or Crust (B4) eposits (B5) e Soil Cracks (B6) tion Visible on Aer                                                                                            | :<br>one requ                               | uired; chec                          | ck all tha  | water-Stained Lea<br>(except MLRA 1, 2<br>Salt Crust (B11)<br>Aquatic Invertebrat<br>Hydrogen Sulfide C<br>Oxidized Rhizosph<br>Presence of Reduc<br>Recent Iron Reduc<br>Stunted or Stresses                          | ves (B9)  2, 4A, and 4B  des (B13)  Odor (C1)  deres along Live along Live del Iron (C4)  tion in Tilled S  s Plants (D1) | ving Roots (C3)                    | Second  V ((  | dary Indicators (2 or m<br>Vater-Stained Leaves<br>MLRA 1, 2, 4A, and 4<br>Orainage Patterns (B10<br>Ory-Season Water Tab<br>Saturation Visible on A<br>Geomorphic Position (I<br>Shallow Aquitard (D3)<br>FAC-Neutral Test (D5)<br>Raised Ant Mounds (D                         | indicators.  indic | (C9)       |  |
| Saturation Present? Yes D No D Depth (inches): Wetland Hydrology Present? Yes D No D                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | HYDROLOG Vetland Hyd Primary Indica Surface High W Satura Sedime Sedime Iron De Surface Inunda Sparse                                                               | rology Indicators ators (minimum of e Water (A1) /ater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) /at or Crust (B4) eposits (B5) e Soil Cracks (B6) tion Visible on Aerally Vegetated Concrations:                                                                     | :<br>one requ<br>ial Image<br>eave Surf     | uired; chec<br>ery (B7)<br>face (B8) | ck all tha  | water-Stained Lea<br>(except MLRA 1, 2<br>Salt Crust (B11)<br>Aquatic Invertebrat<br>Hydrogen Sulfide C<br>Oxidized Rhizosph<br>Presence of Reduc<br>Recent Iron Reduc<br>Stunted or Stresses<br>Other (Explain in R   | oves (B9)  2, 4A, and 4B  des (B13)  Odor (C1)  deres along Liv  ced Iron (C4)  tion in Tilled S  s Plants (D1)           | ving Roots (C3)                    | Second  V ((  | dary Indicators (2 or m<br>Vater-Stained Leaves<br>MLRA 1, 2, 4A, and 4<br>Orainage Patterns (B10<br>Ory-Season Water Tab<br>Saturation Visible on A<br>Geomorphic Position (I<br>Shallow Aquitard (D3)<br>FAC-Neutral Test (D5)<br>Raised Ant Mounds (D                         | indicators.  indic | (C9)       |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | HYDROLOG Vetland Hyd Vetland Hyd Surface High W Satura Veter Sedime Iron De Surface Inunda Sparse Surface Surface                                                   | Reither of the soil  Prology Indicators ators (minimum of e Water (A1) /ater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) /at or Crust (B4) eposits (B5) e Soil Cracks (B6) tion Visible on Aer ely Vegetated Concrations:                                               | :<br>one required<br>ial Image<br>cave Surf | ery (B7)<br>face (B8)                | ck all that | water-Stained Lea<br>(except MLRA 1, 2<br>Salt Crust (B11)<br>Aquatic Invertebrat<br>Hydrogen Sulfide C<br>Oxidized Rhizosph<br>Presence of Reduc<br>Recent Iron Reduc<br>Stunted or Stresses<br>Other (Explain in R   | ves (B9) 2, 4A, and 4B des (B13) Ddor (C1) deres along Lived Iron (C4) dition in Tilled S s Plants (D1) demarks)          | ving Roots (C3)                    | Second  V ((  | dary Indicators (2 or m<br>Vater-Stained Leaves<br>MLRA 1, 2, 4A, and 4<br>Orainage Patterns (B10<br>Ory-Season Water Tab<br>Saturation Visible on A<br>Geomorphic Position (I<br>Shallow Aquitard (D3)<br>FAC-Neutral Test (D5)<br>Raised Ant Mounds (D                         | indicators.  indic | (C9)       |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | HYDROLOG Wetland Hyd Primary Indic: High W Satura: Water Sedimm Iron De Surface Inunda Sparse Field Observ Sourface Water Water Table F Saturation Pro Includes cap | Reither of the soil  Prology Indicators ators (minimum of e Water (A1) //ater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) //at or Crust (B4) eposits (B5) e Soil Cracks (B6) tion Visible on Aer ely Vegetated Conc rations: er Present? Present? esent? illary fringe) | : one requ ial Image ave Surf res res       | ery (B7) face (B8) No                | ck all that | water-Stained Lea<br>(except MLRA 1, 2<br>Salt Crust (B11)<br>Aquatic Invertebrat<br>Hydrogen Sulfide C<br>Oxidized Rhizosph<br>Presence of Reduct<br>Recent Iron Reduct<br>Stunted or Stresses<br>Other (Explain in R | ves (B9)  2, 4A, and 4B  tes (B13)  Odor (C1) teres along Lived Iron (C4) tion in Tilled S s Plants (D1) temarks)  1: 1:  | ving Roots (C3) Soils (C6) (LRR A) | Second  V (() | dary Indicators (2 or m<br>Vater-Stained Leaves<br>MLRA 1, 2, 4A, and 4<br>Orginage Patterns (B10<br>Ory-Season Water Tab<br>Saturation Visible on A<br>Geomorphic Position (I<br>Shallow Aquitard (D3)<br>FAC-Neutral Test (D5)<br>Raised Ant Mounds (Di<br>Frost-Heave Hummock | indicators.  indic |            |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | HYDROLOG Wetland Hyd Primary Indic: High W Satura: Water Sedime Iron De Surface Inunda Sparse Field Observ Surface Water Vater Table F Saturation Preincludes cap   | Reither of the soil  Prology Indicators ators (minimum of e Water (A1) //ater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) //at or Crust (B4) eposits (B5) e Soil Cracks (B6) tion Visible on Aer ely Vegetated Conc rations: er Present? Present? esent? illary fringe) | : one requ ial Image ave Surf res res       | ery (B7) face (B8) No                | ck all that | water-Stained Lea<br>(except MLRA 1, 2<br>Salt Crust (B11)<br>Aquatic Invertebrat<br>Hydrogen Sulfide C<br>Oxidized Rhizosph<br>Presence of Reduc<br>Recent Iron Reduc<br>Stunted or Stresses<br>Other (Explain in R   | ves (B9)  2, 4A, and 4B  tes (B13)  Odor (C1) teres along Lived Iron (C4) tion in Tilled S s Plants (D1) temarks)  1: 1:  | ving Roots (C3) Soils (C6) (LRR A) | Second  V (() | dary Indicators (2 or m<br>Vater-Stained Leaves<br>MLRA 1, 2, 4A, and 4<br>Orginage Patterns (B10<br>Ory-Season Water Tab<br>Saturation Visible on A<br>Geomorphic Position (I<br>Shallow Aquitard (D3)<br>FAC-Neutral Test (D5)<br>Raised Ant Mounds (Di<br>Frost-Heave Hummock | indicators.  indic |            |  |

| Project Site: Port Gamble Trail Feasibility                  |                                   |                               | City/Coun                  | nty: <u>Port Gamble/Kitsap</u> Sampling                                                                                                    | Date: <u>2/2</u>       | 22/17         |
|--------------------------------------------------------------|-----------------------------------|-------------------------------|----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|------------------------|---------------|
| Applicant/Owner: Fischer Bouma Partnership                   |                                   |                               |                            | State: WA Sampling                                                                                                                         | Point: <u>TP</u>       | 20 - J        |
| Investigator(s): <u>J. Bartlett, L. Westervelt, K. Boa</u>   | <u>l</u>                          |                               |                            | Section, Township, Range: S7 T2                                                                                                            | <u>7N R2E</u>          |               |
| Landform (hillslope, terrace, etc.): <u>hillslope</u>        |                                   | Loca                          | al relief (conc            | ave, convex, none): <u>convex</u>                                                                                                          | Slope (%)              | : <u>6-15</u> |
| Subregion (LRR): MLRA 2                                      | Lat:                              | _                             |                            | Long:                                                                                                                                      | Datum: Trimb           | <u>ole</u>    |
| Soil Map Unit Name: Poulsbo-Ragnar Complex, 6 to             | 15 percent s                      | slopes                        |                            | NWI classification:                                                                                                                        |                        |               |
| Are climatic / hydrologic conditions on the site typical for | r this time of                    | year? Y                       | es 🛚                       | No                                                                                                                                         | .)                     |               |
| Are Vegetation ☐, Soil ☐, or Hydrology                       | ☐, signific                       | antly disturbed               | l? Are "                   | Normal Circumstances" present?                                                                                                             | Yes 🛛                  | No 🗆          |
| Are Vegetation □, Soil □, or Hydrology                       | ☐, natura                         | lly problematic               | ? (If ne                   | eded, explain any answers in Remarks.)                                                                                                     |                        |               |
| SUMMARY OF FINDINGS – Attach site map s                      | howing sar                        | npling point                  | locations,                 | transects, important features, etc.                                                                                                        |                        |               |
| Hydrophytic Vegetation Present?                              | Yes 🛚                             | No 🗆                          |                            |                                                                                                                                            |                        | <del></del>   |
| Hydric Soil Present?                                         | Yes 🗵                             | No 🗆                          | Is the Samp<br>within a We |                                                                                                                                            | Yes 🛚                  | No 🗆          |
| Wetland Hydrology Present?                                   | Yes 🛛                             | No 🗆                          |                            |                                                                                                                                            |                        |               |
| south end. It passes primarily through und                   | eveloped timl<br>em of trails uti | berland owned                 | by OPG; mo                 | etween Port Gamble at the north end and St<br>ist of which is woven with interlacing logging<br>d equestrian hobbyists weave between the l | roads due to his       | storic and    |
| VEGETATION – Use scientific names of plant                   | s                                 |                               |                            |                                                                                                                                            |                        |               |
| Tree Stratum (Plot size: 30' diameter)                       | Absolute                          | Dominant<br>Species?          | Indicator                  | Dominance Test Worksheet:                                                                                                                  |                        |               |
| 1. <u>Alnus rubra</u>                                        | <u>% Cover</u><br>20              | <u>Species?</u><br><u>yes</u> | Status<br>FAC              | Number of Dominant Species                                                                                                                 |                        |               |
| 2                                                            | _                                 |                               |                            | That Are OBL, FACW, or FAC:                                                                                                                | <u>4</u>               | (A)           |
| 3                                                            |                                   |                               |                            | Total Number of Dominant                                                                                                                   |                        |               |
| 4                                                            |                                   |                               |                            | Species Across All Strata:                                                                                                                 | <u>5</u>               | (B)           |
| 50% = <u>10</u> , 20% = <u>4</u>                             | <u>20</u>                         | = Total Cove                  | r                          | Percent of Dominant Species                                                                                                                |                        | (A /D)        |
| Sapling/Shrub Stratum (Plot size: 30' diameter)              |                                   |                               |                            | That Are OBL, FACW, or FAC:                                                                                                                | <u>80</u>              | (A/B)         |
| 1. Rubus spectabilis                                         | <u>15</u>                         | <u>yes</u>                    | FAC                        | Prevalence Index worksheet:                                                                                                                |                        | ·             |
| 2. Thuja plicata (sapling)                                   | <u>10</u>                         | <u>yes</u>                    | FAC                        | Total % Cover of:                                                                                                                          | Multiply by:           | <u>.</u>      |
| 3. <u>Gaultheria shallon</u>                                 | <u>10</u>                         | <u>yes</u>                    | <u>FACU</u>                | OBL species                                                                                                                                | x1 =                   |               |
| 4                                                            |                                   |                               |                            | FACW species                                                                                                                               | x2 =                   |               |
| 5                                                            |                                   |                               |                            | FAC species                                                                                                                                | x3 =                   |               |
| 50% = <u>17.5</u> , 20% = <u>7</u>                           | <u>35</u>                         | = Total Cove                  | r                          | FACU species                                                                                                                               | x4 =                   |               |
| Herb Stratum (Plot size: 15' diameter)                       |                                   |                               |                            | UPL species                                                                                                                                | x5 =                   |               |
| 1. Athyrium cyclosorum                                       | <u>15</u>                         | <u>yes</u>                    | FAC                        | Column Totals:(A)                                                                                                                          | _                      | (B)           |
| 2                                                            |                                   |                               |                            | Prevalence Index = B/A                                                                                                                     | A =                    |               |
| 3                                                            |                                   |                               |                            | Hydrophytic Vegetation Indicators:                                                                                                         |                        |               |
| 4                                                            |                                   |                               |                            | ☐ 1 – Rapid Test for Hydrophytic Vege                                                                                                      | etation                |               |
| 5                                                            |                                   |                               |                            | ☑ 2 - Dominance Test is >50%                                                                                                               |                        |               |
| 6                                                            |                                   |                               |                            | ☐ 3 - Prevalence Index is ≤3.0 <sup>1</sup>                                                                                                |                        |               |
| 7                                                            |                                   |                               |                            | 4 - Morphological Adaptations (Pro-                                                                                                        | vide supporting        |               |
| 8                                                            |                                   |                               |                            | data in Remarks or on a separate                                                                                                           |                        |               |
| 9                                                            |                                   |                               |                            | ☐ 5 - Wetland Non-Vascular Plants <sup>1</sup>                                                                                             |                        |               |
| 10                                                           |                                   |                               |                            | ☐ Problematic Hydrophytic Vegetation                                                                                                       | <sup>1</sup> (Explain) |               |
| 11                                                           |                                   |                               |                            |                                                                                                                                            |                        |               |
| 50% = <u>7.5</u> , 20% = <u>3</u>                            | <u>15</u>                         | = Total Cove                  | r                          | <sup>1</sup> Indicators of hydric soil and wetland hydr<br>be present, unless disturbed or problemat                                       |                        |               |
| Woody Vine Stratum (Plot size: 15' diameter)                 |                                   |                               |                            | be present, unless distarbed of problemat                                                                                                  | 10.                    |               |
| 1                                                            |                                   |                               |                            |                                                                                                                                            |                        | <del></del>   |
| 2                                                            |                                   |                               |                            | Hydrophytic                                                                                                                                | M N.                   |               |
| 50% =, 20% =                                                 |                                   | = Total Cove                  | r                          | Vegetation Yes Present?                                                                                                                    | ⊠ No                   | • 🗆           |
| % Bare Ground in Herb Stratum 85                             |                                   |                               |                            |                                                                                                                                            |                        |               |
| Remarks: The hydrophytic vegetation criteri                  | on is met bec                     | ause there is g               | reater than 5              | 0% dominance by FAC species.                                                                                                               |                        |               |
|                                                              |                                   |                               |                            |                                                                                                                                            |                        |               |
|                                                              |                                   |                               |                            |                                                                                                                                            |                        |               |

| SOIL                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                       |                       |                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                           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| HYDROLOG Vetland Hydro Primary Indicat Surface                                                                                                                                                                                                          | o soil hole was dug  Y  Dlogy Indicators: ors (minimum of one                                                                                                                                                                                         |                       | ; check all                                      | that apply                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                       | ce of seaso                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                           | Sec          | -                                                                                                                                            | l Leaves (E                                                                                                               | 39)                            | ed)                  |              |
| HYDROLOG Wetland Hydro rimary Indicat Surface High Wa                                                                                                                                                                                                   | Y  Pology Indicators: ors (minimum of one Water (A1) tter Table (A2)                                                                                                                                                                                  |                       | ; check all                                      | that apply                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | er-Stained Leave                                                                                                                                                                                      | ce of seaso                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 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                                                                   | Leaves (E                                                                                                                 | 39)                            | ed)                  |              |
| HYDROLOG<br>Vetland Hydro<br>Primary Indicat<br>☑ Surface<br>☐ High Wa                                                                                                                                                                                  | Y  Pology Indicators: ors (minimum of one Water (A1) tter Table (A2)                                                                                                                                                                                  |                       | ; check all                                      | that apply  Wate  (exce                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | or-Stained Leave                                                                                                                                                                                      | ce of seaso<br>es (B9)<br>4A, and 4E                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                           | Sec          | Water-Stained                                                                                                                                | Leaves (E<br>A, and 4B<br>erns (B10)                                                                                      | 39)                            | ed)                  |              |
| HYDROLOG Vetland Hydro Surface High Wa Saturatio Water M                                                                                                                                                                                                | Y  Dlogy Indicators: ors (minimum of one Water (A1) ter Table (A2) on (A3)                                                                                                                                                                            |                       | ; check all<br>[                                 | that apply  Wate (exc. Salt (                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | er-Stained Leave<br>ept MLRA 1, 2, 4<br>Crust (B11)                                                                                                                                                   | es (B9)  4A, and 4E                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                           | Sec          | Water-Stained (MLRA 1, 2, 4 Drainage Patte                                                                                                   | A, and 4B<br>erns (B10)<br>dater Table                                                                                    | 39)<br>3)<br>e (C2)            |                      |              |
| HYDROLOG  Vetland Hydro  Primary Indicat  Surface High Wa Saturatic Water M Sedimer                                                                                                                                                                     | Y Dlogy Indicators: ors (minimum of one Water (A1) ter Table (A2) on (A3) arks (B1)                                                                                                                                                                   |                       | ; check all<br>[<br>[                            | that apply<br>Wate<br>(exce<br>Salt of<br>Aqua                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | er-Stained Leave<br>ept MLRA 1, 2, 4<br>Crust (B11)<br>titc Invertebrates                                                                                                                             | es (B9)  4A, and 4E  s (B13)  lor (C1)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 3)                                        | Sec          | Water-Stained (MLRA 1, 2, 4 Drainage Patte Dry-Season W                                                                                      | A Leaves (EA, and 4B)<br>erns (B10)<br>atter Table                                                                        | 39)  (C2)  (C3)                |                      |              |
| HYDROLOG  Vetland Hydro  Primary Indicat  Surface  High Wa  Saturatio  Water M  Sedimer  Drift Dep                                                                                                                                                      | Y Dlogy Indicators: ors (minimum of one Water (A1) ter Table (A2) on (A3) arks (B1) at Deposits (B2)                                                                                                                                                  |                       | ; check all<br>[<br>[<br>[                       | that apply<br>Wate<br>(exce<br>Salt of<br>Aqua<br>Hydr<br>Oxid                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | er-Stained Leave<br>ept MLRA 1, 2, 4<br>Crust (B11)<br>titc Invertebrates<br>ogen Sulfide Od                                                                                                          | es (B9)  4A, and 4E  s (B13)  lor (C1)  es along Li                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | <b>3)</b><br>iving Roots (C               | Sec          | Water-Stained (MLRA 1, 2, 4 Drainage Patte Dry-Season W Saturation Vis                                                                       | A., and 4B<br>erns (B10)<br>dater Table<br>ible on Aei                                                                    | 39)  (C2)  (C3)                |                      |              |
| HYDROLOG Vetland Hydro Primary Indicat Surface High Wa Saturatio Water M Sedimer Drift Dep                                                                                                                                                              | Y  Dlogy Indicators: ors (minimum of one Water (A1) ter Table (A2) on (A3) arks (B1) ott Deposits (B2) ossits (B3)                                                                                                                                    |                       | ; check all<br>[<br>[<br>[<br>[                  | that apply Wate (exc: Salt ( Aqua Hydr Oxid)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | er-Stained Leave<br>ept MLRA 1, 2, 4<br>Crust (B11)<br>titic Invertebrates<br>ogen Sulfide Od<br>zed Rhizospher                                                                                       | es (B9)  4A, and 4E  s (B13) lor (C1) res along Li d Iron (C4)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 3)<br>iving Roots (C                      | Sec          | Water-Stained (MLRA 1, 2, 4 Drainage Patte Dry-Season W Saturation Vis Geomorphic P                                                          | d Leaves (EA, and 4B)<br>erns (B10)<br>dater Table<br>ible on Aer<br>Position (D2)<br>ard (D3)                            | 39)  (C2)  (C3)                |                      |              |
| HYDROLOG Vetland Hydro Primary Indicat Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma                                                                                                                                                     | Y Dology Indicators: ors (minimum of one Water (A1) ter Table (A2) on (A3) arks (B1) at Deposits (B2) posits (B3) at or Crust (B4)                                                                                                                    |                       | ; check all<br>[<br>[<br>[<br>[<br>[             | that apply  Wate  (exc.  Salt (  Aqua  Hydr  Oxid  Presi  Rece                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | er-Stained Leave<br>ept MLRA 1, 2, 4<br>Crust (B11)<br>tic Invertebrates<br>ogen Sulfide Od<br>zed Rhizospher<br>ence of Reduced                                                                      | es (B9)  4A, and 4E  s (B13)  lor (C1)  es along Li  d Iron (C4)  on in Tilled                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | iving Roots (C<br>Soils (C6)              | Sec          | Water-Stained (MLRA 1, 2, 4 Drainage Patte Dry-Season W Saturation Vis Geomorphic P Shallow Aquita                                           | d Leaves (E.A., and 4B)<br>erns (B10)<br>/ater Table<br>ible on Aei<br>Position (D2)<br>ard (D3)<br>Fest (D5)             | 39)  (C2)  (C3)  (C3)          | ery (C9)             |              |
| HYDROLOG  Vetland Hydro  Primary Indicat  Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep Surface                                                                                                                                 | Y Dology Indicators: ors (minimum of one Water (A1) ter Table (A2) on (A3) arks (B1) at Deposits (B2) posits (B3) at or Crust (B4) osits (B5)                                                                                                         | e required            | ; check all<br>[<br>C<br>C<br>C<br>C<br>C        | that apply  Wate  (excellance)  Aqua  Hydr  Oxid  Prese  Rece  Sturn                                                                                                                                                                                                                                                                                                                                                                      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Geomorphic P Shallow Aquita FAC-Neutral T                             | I Leaves (E.A., and 4B<br>erns (B10)<br>Vater Table<br>ible on Aer<br>Position (D2<br>ard (D3)<br>Fest (D5)<br>bunds (D6) | B39)  Pe (C2)  rial Imag  2)   | ery (C9)             |              |
| HYDROLOG  Vetland Hydro  Primary Indicat  Surface  High Wa  Saturatic  Water M  Sedimer  Drift Dep  Algal Ma  Iron Dep  Surface  Inundation                                                                                                             | Y Dlogy Indicators: ors (minimum of one Water (A1) ter Table (A2) on (A3) arks (B1) at Deposits (B2) sosits (B3) at or Crust (B4) osits (B5) Soil Cracks (B6)                                                                                         | e required            | ; check all                                      | that apply  Wate (excellance)  Salt of Aqua Hydra  Oxid Prese Rece Sturn                                                                                                                                                                                                                                                                                                                                                                  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Geomorphic P Shallow Aquite FAC-Neutral T Raised Ant Mo               | I Leaves (E.A., and 4B<br>erns (B10)<br>Vater Table<br>ible on Aer<br>Position (D2<br>ard (D3)<br>Fest (D5)<br>bunds (D6) | B39)  Pe (C2)  rial Imag  2)   | ery (C9)             |              |
| HYDROLOG  Vetland Hydro  Primary Indicat  Surface High Wa Saturatic Water M Sedimer Drift Dep Algal Ma Iron Dep Surface                                                                                                                                 | Y  Dlogy Indicators: ors (minimum of one Water (A1) ter Table (A2) on (A3) arks (B1) ott Deposits (B2) osits (B3) ot or Crust (B4) osits (B5) Soil Cracks (B6) on Visible on Aerial I v Vegetated Concave                                             | e required            | ; check all                                      | that apply  Wate (excellance)  Salt of Aqua Hydra  Oxid Prese Rece Sturn                                                                                                                                                                                                                                                                                                                                                                  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Geomorphic P Shallow Aquite FAC-Neutral T Raised Ant Mo               | I Leaves (E.A., and 4B<br>erns (B10)<br>Vater Table<br>ible on Aer<br>Position (D2<br>ard (D3)<br>Fest (D5)<br>bunds (D6) | B39)  Pe (C2)  rial Imag  2)   | ery (C9)             |              |
| HYDROLOG  Vetland Hydro  Primary Indicat  Surface  High Wa  Saturatio  Water M  Sedimer  Drift Dep  Algal Ma  Iron Dep  Surface  Inundatio                                                                                                              | Y  Dlogy Indicators: ors (minimum of one Water (A1) ter Table (A2) on (A3) arks (B1) at Deposits (B2) osits (B3) at or Crust (B4) osits (B5) Soil Cracks (B6) on Visible on Aerial in Vegetated Concave tions:                                        | required<br>magery (I | ; check all                                      | that apply  Wate (exc. Salt (  Aqua  Hydr  Oxid  Pres  Rece  Stunt  Othe                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | er-Stained Leave<br>ept MLRA 1, 2, 4<br>Crust (B11)<br>tic Invertebrates<br>ogen Sulfide Od<br>zed Rhizospher<br>ence of Reduced<br>ent Iron Reductio                                                 | es (B9)  4A, and 4E  s (B13)  lor (C1)  res along Li  d Iron (C4)  on in Tilled                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | iving Roots (C<br>Soils (C6)              | Sec          | Water-Stained (MLRA 1, 2, 4 Drainage Patte Dry-Season W Saturation Vis Geomorphic P Shallow Aquite FAC-Neutral T Raised Ant Mo               | I Leaves (E.A., and 4B<br>erns (B10)<br>Vater Table<br>ible on Aer<br>Position (D2<br>ard (D3)<br>Fest (D5)<br>bunds (D6) | B39)  Pe (C2)  rial Imag  2)   | ery (C9)             |              |
| HYDROLOG Vetland Hydro Primary Indicat Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep Surface Inundatio Sparsely                                                                                                                 | Y Dology Indicators: ors (minimum of one Water (A1) ter Table (A2) on (A3) arks (B1) at Deposits (B2) oosits (B3) at or Crust (B4) oosits (B5) Soil Cracks (B6) on Visible on Aerial In Vegetated Concave tions: Present? Yes                         | magery (les Surface   | ; check all  [ [ [ [ [ [ [ [ [ [ [ [ [ [ [ [ [ [ | that apply Wate (exc. Salt (  Aqua Hydr  Coxid Rece Stun  Othe                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | er-Stained Leave<br>ept MLRA 1, 2, 4<br>Crust (B11)<br>tic Invertebrates<br>ogen Sulfide Od<br>ized Rhizospher<br>ence of Reduced<br>ent Iron Reduction<br>ted or Stresses For (Explain in Rer        | es (B9)  4A, and 4E  s (B13) lor (C1) res along Li d Iron (C4) on in Tilled : Plants (D1) marks)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | iving Roots (C<br>Soils (C6)              | Sec          | Water-Stained (MLRA 1, 2, 4 Drainage Patte Dry-Season W Saturation Vis Geomorphic P Shallow Aquite FAC-Neutral T Raised Ant Mo               | I Leaves (E.A., and 4B<br>erns (B10)<br>Vater Table<br>ible on Aer<br>Position (D2<br>ard (D3)<br>Fest (D5)<br>bunds (D6) | B39)  Pe (C2)  rial Imag  2)   | ery (C9)             |              |
| HYDROLOG Vetland Hydro Primary Indicat Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep Iron Dep Inundatio Sparsely Surface Water Water Water M                                                                                    | Y Dology Indicators: ors (minimum of one Water (A1) ter Table (A2) on (A3) arks (B1) at Deposits (B2) oosits (B3) at or Crust (B4) oosits (B5) Soil Cracks (B6) on Visible on Aerial I v Vegetated Concave tions: Present? Yes esent? Yes             | magery (less Surface  | ; check all                                      | that apply Wate (exc. Salt u Aqua Hydr Oxid Press Stun Othe                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | er-Stained Leave ept MLRA 1, 2, 4 Crust (B11) tic Invertebrates ogen Sulfide Od zed Rhizosphere ence of Reduced ent Iron Reductio ted or Stresses F r (Explain in Rer                                 | es (B9)  4A, and 4E  s (B13) lor (C1) res along Li d Iron (C4) on in Tilled : Plants (D1) marks)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | iving Roots (C<br>Soils (C6)              | Sec          | Water-Stained (MLRA 1, 2, 4 Drainage Patte Dry-Season W Saturation Vis Geomorphic P Shallow Aquite FAC-Neutral T Raised Ant Mo               | d Leaves (EA, and 4B) erns (B10) /ater Table ible on Ael Position (D2 ard (D3) Fest (D5) bounds (D6) Hummocks             | B39)  Pe (C2)  rial Imag  2)   | ery (C9)             | No [         |
| HYDROLOG Vetland Hydro Primary Indicat Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep Inundatio Sparsely Field Observar Surface Water Vater Table Pr Saturation Pres Includes capilla                                            | Y Dology Indicators: ors (minimum of one Water (A1) ter Table (A2) on (A3) arks (B1) at Deposits (B2) oosits (B3) at or Crust (B4) oosits (B5) Soil Cracks (B6) on Visible on Aerial I v Vegetated Concave tions: Present? Yes esent? Yes             | magery (I             | ; check all  [  [  [  [  [  [  [  [  [  [  [  [  | that apply Wate (excelled a Salt of Sa | er-Stained Leave ept MLRA 1, 2, 4 Crust (B11) tic Invertebrates ogen Sulfide Od zed Rhizosphere ence of Reduced ent Iron Reductio ted or Stresses for (Explain in Rer Depth (inches): Depth (inches): | es (B9)  4A, and 4E  s (B13)  lor (C1)  es along Li  d Iron (C4)  on in Tilled :  Plants (D1)  marks)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | iving Roots (C<br>Soils (C6)<br>) (LRR A) | Sec          | Water-Stained (MLRA 1, 2, 4 Drainage Patte Dry-Season W Saturation Vis Geomorphic P Shallow Aquita FAC-Neutral T Raised Ant Mo Frost-Heave H | d Leaves (EA, and 4B) erns (B10) /ater Table ible on Ael Position (D2 ard (D3) Fest (D5) bounds (D6) Hummocks             | 39) e (C2) rial Imag 2) (LRR A | ery (C9)             | No [         |
| HYDROLOG Vetland Hydro Primary Indicat Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep Inundatio Sparsely Field Observar Surface Water Vater Table Pr Saturation Pres Includes capilla                                            | Y Dology Indicators: ors (minimum of one Water (A1) ter Table (A2) on (A3) arks (B1) at Deposits (B2) oosits (B3) at or Crust (B4) oosits (B5) Soil Cracks (B6) on Visible on Aerial I v Vegetated Concave tions: Present? Yes esent? Yes ary fringe) | magery (I             | ; check all  [  [  [  [  [  [  [  [  [  [  [  [  | that apply Wate (excelled a Salt of Sa | er-Stained Leave ept MLRA 1, 2, 4 Crust (B11) tic Invertebrates ogen Sulfide Od zed Rhizosphere ence of Reduced ent Iron Reductio ted or Stresses for (Explain in Rer Depth (inches): Depth (inches): | es (B9)  4A, and 4E  s (B13)  lor (C1)  es along Li  d Iron (C4)  on in Tilled :  Plants (D1)  marks)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | iving Roots (C<br>Soils (C6)<br>) (LRR A) | Sec          | Water-Stained (MLRA 1, 2, 4 Drainage Patte Dry-Season W Saturation Vis Geomorphic P Shallow Aquita FAC-Neutral T Raised Ant Mo Frost-Heave H | d Leaves (EA, and 4B) erns (B10) /ater Table ible on Ael Position (D2 ard (D3) Fest (D5) bounds (D6) Hummocks             | 39) e (C2) rial Imag 2) (LRR A | ery (C9)             | No I         |
| HYDROLOG  Vetland Hydro  Primary Indicat  Surface  High Wa  Saturatio  Water M  Sedimer  Drift Dep  Algal Ma  Iron Dep  Surface  Inundatio  Sparsely  Field Observar  Surface Water  Vater Table Pr  Saturation Pres  Includes capilla  Describe Record | Y Dology Indicators: ors (minimum of one Water (A1) ter Table (A2) on (A3) arks (B1) at Deposits (B2) oosits (B3) at or Crust (B4) oosits (B5) Soil Cracks (B6) on Visible on Aerial I v Vegetated Concave tions: Present? Yes esent? Yes ary fringe) | magery (I             | ; check all                                      | that apply Wate (exc. Salt ( Aqua Hydr Oxid Pres Stun Othe                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | er-Stained Leave ept MLRA 1, 2, 4 Crust (B11) tic Invertebrates ogen Sulfide Od ized Rhizospher ence of Reducer ent Iron Reductio ded or Stresses F r (Explain in Rer Depth (inches): Depth (inches): | es (B9)  4A, and 4E  s (B13)  lor (C1)  res along Li d Iron (C4) on in Tilled in the control of | iving Roots (C<br>Soils (C6)<br>) (LRR A) | Sec          | Water-Stained (MLRA 1, 2, 4 Drainage Patte Dry-Season W Saturation Vis Geomorphic P Shallow Aquita FAC-Neutral T Raised Ant Mo Frost-Heave H | d Leaves (EA, and 4B) erns (B10) /ater Table ible on Ael Position (D2 ard (D3) Fest (D5) bounds (D6) Hummocks             | 39) e (C2) rial Imag 2) (LRR A | ery (C9)             | No [         |

| Project Site:                   | Port Gamble Trail Feasibil     | ity                         |                  | City/Cour                  | nty: Port Gamble/Kitsap                                                  | Sampling Date:                    | 2/22/17              |
|---------------------------------|--------------------------------|-----------------------------|------------------|----------------------------|--------------------------------------------------------------------------|-----------------------------------|----------------------|
| Applicant/Owner:                | Fischer Bouma Partnershi       | <u>p</u>                    |                  |                            | State: WA                                                                | Sampling Point:                   | <u>TP 21 - J</u>     |
| Investigator(s):                | J. Bartlett, L. Westervelt, K  | <u>C. Boa</u>               |                  |                            | Section, Township, Rang                                                  | e: <u>S7 T27N R2E</u>             |                      |
| Landform (hillslope, te         | rrace, etc.): <u>hillslope</u> |                             | Loca             | al relief (cond            | ave, convex, none): <u>convex</u>                                        | Slope                             | e (%): <u>6-15</u>   |
| Subregion (LRR):                | MLRA 2                         | Lat:                        | _                |                            | Long:                                                                    | Datum: ]                          | <u> Frimble</u>      |
| Soil Map Unit Name:             | Poulsbo-Ragnar Comple          | x, 6 to 15 percent s        | <u>slopes</u>    |                            | NWI class                                                                | ification:                        |                      |
| Are climatic / hydrolog         | ic conditions on the site typi | cal for this time of        | year? Y          | ′es ⊠                      | No 🔲 (If no, explain in                                                  | Remarks.)                         |                      |
| Are Vegetation ☐,               | Soil □, or Hydrold             | ogy 🔲, signific             | cantly disturbed | d? Are '                   | Normal Circumstances" present?                                           | Yes                               | ⊠ No □               |
| Are Vegetation ☐,               | Soil □, or Hydrold             | ogy 🔲, natura               | lly problematic  | ? (If ne                   | eeded, explain any answers in Re                                         | narks.)                           |                      |
|                                 |                                |                             |                  |                            |                                                                          |                                   |                      |
| SUMMARY OF FIN                  | IDINGS – Attach site m         | ap showing sar              | mpling point     | locations                  | transects, important featur                                              | es, etc.                          |                      |
| Hydrophytic Vegetatio           | n Present?                     | Yes 🗆                       | No ⊠             | la tha Cami                | alad Araa                                                                |                                   |                      |
| Hydric Soil Present?            |                                | Yes 🗆                       | No ⊠             | Is the Samp<br>within a We |                                                                          | Yes                               | □ No ⊠               |
| Wetland Hydrology Pr            | esent?                         | Yes 🗆                       | No ⊠             |                            |                                                                          |                                   |                      |
|                                 |                                |                             |                  |                            | etween Port Gamble at the north of                                       |                                   |                      |
|                                 |                                |                             |                  |                            | est of which is woven with interlaci<br>d equestrian hobbyists weave bet |                                   |                      |
|                                 | Segment, along Lower Mirk      |                             | iizca by waike   | 13, bike13, arr            | a equestrial mossylsis weave set                                         | ween the logging road             | is. Wettaria 6 is in |
| VEGETATION – Us                 | se scientific names of         | olants                      |                  |                            |                                                                          |                                   |                      |
| Tree Stratum (Plot siz          |                                | Absolute                    | Dominant         | Indicator                  | Dominance Test Worksheet:                                                |                                   |                      |
| 1. Alnus rubra                  |                                | <u>% Cover</u><br><u>20</u> | Species?         | Status<br>FAC              |                                                                          |                                   |                      |
| 2                               |                                | <u>20</u>                   | <u>yes</u>       | IAC                        | Number of Dominant Species That Are OBL, FACW, or FAC:                   | <u>2</u>                          | (A)                  |
| 3                               |                                |                             |                  |                            |                                                                          |                                   |                      |
| 4                               |                                |                             |                  |                            | Total Number of Dominant<br>Species Across All Strata:                   | <u>4</u>                          | (B)                  |
| 50% = 10, 20% = 4               |                                | 20                          | = Total Cove     |                            | Demonstrat Demoissant Consiss                                            |                                   |                      |
|                                 | n (Plot size: 30' diameter)    | 20                          | = 10tai 00v0     | •                          | Percent of Dominant Species That Are OBL, FACW, or FAC:                  | <u>50</u>                         | (A/B)                |
| Vaccinium ovatum                |                                | <u>10</u>                   | <u>yes</u>       | FACU                       | Prevalence Index worksheet:                                              |                                   |                      |
| 2                               | !                              | <u>10</u>                   | <u>ycs</u>       | 17100                      | Total % Cover of:                                                        | Multipl                           | v hv                 |
| 3                               |                                |                             |                  |                            | OBL species                                                              | x1 =                              | <del>y 0y.</del>     |
| 4.                              |                                |                             |                  | <del></del>                | FACW species                                                             | x2 =                              |                      |
| 5.                              |                                |                             |                  |                            | FAC species                                                              | x3 =                              |                      |
| 50% = <u>5</u> , 20% = <u>2</u> |                                | 10                          | = Total Cove     | er                         | FACU species                                                             | x4 =                              |                      |
| Herb Stratum (Plot siz          | e: 15' diameter)               | <u></u>                     | . 0.0            | •                          | UPL species                                                              | x5 =                              |                      |
|                                 | •                              | 10                          | 1/00             | EACH                       |                                                                          |                                   | (P)                  |
| 1. Polystichum munit            |                                | <u>10</u>                   | <u>yes</u>       | FACU<br>FACU               |                                                                          | (A)                               | (B)                  |
| 2. <u>Dryopteris expans</u>     | <u>'a</u>                      | <u>5</u>                    | <u>yes</u>       | FACW                       |                                                                          | Index = B/A =                     |                      |
| 3                               |                                |                             |                  |                            | Hydrophytic Vegetation Indic                                             |                                   |                      |
| 4                               |                                |                             |                  | —                          | 1 – Rapid Test for Hydrop                                                |                                   |                      |
| 5                               |                                |                             |                  | —                          | 2 - Dominance Test is >50                                                | 4                                 |                      |
| 6                               |                                |                             |                  |                            | ☐ 3 - Prevalence Index is <3                                             |                                   |                      |
| 7                               |                                |                             |                  |                            | 4 - Morphological Adaptat<br>data in Remarks or on                       |                                   | ting                 |
| 8                               |                                |                             |                  |                            |                                                                          |                                   |                      |
| 9                               |                                |                             |                  |                            | 5 - Wetland Non-Vascular                                                 | Plants                            |                      |
| 10                              |                                |                             |                  |                            | ☐ Problematic Hydrophytic                                                | /egetation <sup>1</sup> (Explain) |                      |
| 11                              |                                |                             |                  |                            | <sup>1</sup> Indicators of hydric soil and we                            | etland hydrology must             |                      |
| 50% = 7.5, 20% = 3              |                                | <u>15</u>                   | = Total Cove     | er                         | be present, unless disturbed or                                          |                                   |                      |
| Woody Vine Stratum (            | Plot size: 15' diameter)       |                             |                  |                            |                                                                          |                                   |                      |
| 1                               |                                |                             |                  |                            | Uvdranhytia                                                              |                                   |                      |
| 2                               |                                |                             |                  |                            | Hydrophytic<br>Vegetation Ye                                             | es 🗆                              | No 🖂                 |
| 50% =, 20% =                    |                                |                             | = Total Cove     | r                          | Present?                                                                 | _                                 | _                    |
| % Bare Ground in Her            | b Stratum <u>85</u>            |                             |                  |                            |                                                                          |                                   |                      |
| Remarks:                        | The hydrophytic vegetation of  | criterion is not met        | because there    | is not greate              | r than 50% dominance by FAC or                                           | FACW species.                     |                      |
|                                 |                                |                             |                  |                            |                                                                          |                                   |                      |
|                                 |                                |                             |                  |                            |                                                                          |                                   |                      |

| Profile Descr<br>Depth<br>(inches)                                                                                                                                           | iption: (Describe t                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     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| (inches)                                                                                                                                                                     | Matrix                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  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| ( /                                                                                                                                                                          | Color (moist)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           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   | s        |      |  |
| <u>0-2</u>                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         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| <u>2-8</u>                                                                                                                                                                   | 10YR 2/2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                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   | trations | į    |  |
| <u>8-16</u>                                                                                                                                                                  | 10YR 4/6                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | <u>100</u>                           | - 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loar</u>                                                                                                                                                  |                                                                                                                                              |                                                                    |          |      |  |
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                                         | gr - gra                                                                                                                                                          | vel                                                                                                                                          |                                                                    |          |      |  |
| <br>Type: C= Cor                                                                                                                                                             | ncentration, D=Dep                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      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   | t Chan   | nal  |  |
| **                                                                                                                                                                           | ndicators: (Applica                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                      |                 | -                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                 | su Sanu Gra                                                                  | all 15. L                     |                                            | cators for Pro                                                                                                                                                    |                                                                                                                                              |                                                                    |          | ilei |  |
| ☐ Histosol                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | DIC to all E                         |                 | Sandy Red                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | - 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|                                                                                                                                                                              | pipedon (A2)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            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   |          |      |  |
| _                                                                                                                                                                            | istic (A3)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              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   | F12)     |      |  |
| _                                                                                                                                                                            | en Sulfide (A4)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                      |                 | Loamy Gley                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                 |                                                                              | ,                             |                                            | Other (Expla                                                                                                                                                      |                                                                                                                                              | - 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|                                                                                                                                                                              | d Below Dark Surfa                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | ce (A11)                             |                 | Depleted M                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | - 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| _                                                                                                                                                                            | ark Surface (A12)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       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| _                                                                                                                                                                            | Mucky Mineral (S1)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                      | _               | Depleted D                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | -                                                                                                                                               | •                                                                            |                               | <sup>3</sup> Indio                         | cators of hydro                                                                                                                                                   | phytic ve                                                                                                                                    | getation                                                           | and      |      |  |
| _                                                                                                                                                                            | Gleyed Matrix (S4)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      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   | nt,      |      |  |
|                                                                                                                                                                              | ayer (if present):                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      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   |          |      |  |
| Depth (inches                                                                                                                                                                | ):<br>Neither of the soil la                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            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| Depth (inches<br>Remarks:                                                                                                                                                    | Neither of the soil la                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  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| Depth (inches<br>Remarks:                                                                                                                                                    | Neither of the soil la                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  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| Depth (inches<br>Remarks:<br>HYDROLOG<br>Vetland Hydi                                                                                                                        | Neither of the soil la                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  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   |          |      |  |
| Depth (inches<br>Remarks:<br>HYDROLOG<br>Vetland Hydi<br>Primary Indica                                                                                                      | Neither of the soil li                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  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| HYDROLOG Vetland Hydi Surface High W                                                                                                                                         | Neither of the soil li                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                      | d; check all th | at apply)<br>Water-Stair<br>(except ML                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | ned Leaves<br>RA 1, 2, 4A                                                                                                                       | is soil profile                                                              | ·                             | Secon                                      | dary Indicators<br>Water-Stained<br>(MLRA 1, 2, 4,4                                                                                                               | s (2 or mo<br>Leaves (I<br>A, and 4B                                                                                                         | ore requir                                                         |          |      |  |
| HYDROLOG Wetland Hydr Surface High W Saturat                                                                                                                                 | Neither of the soil la<br>GY<br>rology Indicators:<br>ators (minimum of one Water (A1)<br>ater Table (A2)<br>ion (A3)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                      | i; check all th | at apply)  Water-Stair  (except ML  Salt Crust (                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | ned Leaves<br>RA 1, 2, 4A<br>B11)                                                                                                               | is soil profile (B9) A, and 4B)                                              | ·                             | Secon                                      | dary Indicators<br>Water-Stained<br>MLRA 1, 2, 4<br>Drainage Patte                                                                                                | s (2 or mo<br>Leaves (I<br>A, and 4B<br>erns (B10)                                                                                           | ore requir                                                         |          |      |  |
| HYDROLOG Vetland Hydr Surface High W Saturat Water M                                                                                                                         | Neither of the soil la<br>GY<br>rology Indicators:<br>ators (minimum of one Water (A1)<br>later Table (A2)<br>ion (A3)<br>Marks (B1)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                      | t; check all tr | at apply)  Water-Stair  (except ML  Salt Crust ()  Aquatic Invo                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | ned Leaves<br>R <b>A 1, 2, 4A</b><br>B11)<br>ertebrates (F                                                                                      | (B9) A, and 4B)                                                              | ·                             | Secon                                      | dary Indicators<br>Water-Stained<br>(MLRA 1, 2, 4,<br>Drainage Patte<br>Dry-Season W                                                                              | s (2 or mo<br>Leaves (I<br>A, and 4B<br>erns (B10)                                                                                           | ore requir<br>B9)                                                  | ed)      |      |  |
| AYDROLOG Vetland Hydr Primary Indica High W Saturat Water M Sedime                                                                                                           | Neither of the soil la<br>GY<br>rology Indicators:<br>ators (minimum of one<br>Water (A1)<br>later Table (A2)<br>ion (A3)<br>Marks (B1)<br>ent Deposits (B2)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                      | d; check all th | at apply)  Water-Stair  (except ML  Salt Crust (I  Aquatic Invo                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | ned Leaves (<br>RA 1, 2, 4A<br>B11)<br>ertebrates (foulfide Odor                                                                                | (B9) A, and 4B) B13)                                                         | e is determin                 | Secon.                                     | dary Indicators<br>Water-Stained<br>(MLRA 1, 2, 4,<br>Drainage Patte<br>Dry-Season W<br>Saturation Visi                                                           | s (2 or mo<br>Leaves (I<br>A, and 4B<br>erns (B10)<br>ater Table<br>ble on Ae                                                                | ore requir<br>B9)                                                  | ed)      |      |  |
| HYDROLOG Wetland Hydi Primary Indica High W Saturat Water N Sedime Drift De                                                                                                  | Neither of the soil lands and the soil lands are reported by Water (A1) after Table (A2) ion (A3) Marks (B1) and Deposits (B2) apposits (B3)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                      | t; check all tr | at apply)  Water-Stair  (except ML  Salt Crust (i)  Aquatic Invi  Hydrogen S  Oxidized RI                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | ned Leaves<br>RA 1, 2, 4A<br>B11)<br>ertebrates (I<br>Gulfide Odor<br>nizospheres                                                               | (B9) A, and 4B)  B13) C(C1) S along Livir                                    | ·                             | Secon                                      | dary Indicators Water-Stained IMLRA 1, 2, 4,4 Drainage Patte Dry-Season W Saturation Visil                                                                        | s (2 or mo<br>Leaves (t<br>A, and 4B<br>erns (B10)<br>ater Table<br>ble on Ae<br>osition (D:                                                 | ore requir<br>B9)                                                  | ed)      |      |  |
| HYDROLOG Vetland Hydr Primary Indicator High W Saturat Water M Sedime Drift De Algal M                                                                                       | Neither of the soil lands and the soil lands are reported by t |                                      | d; check all th | at apply)  Water-Stair (except ML Salt Crust (I Aquatic Invo Hydrogen S Oxidized RI Presence o                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | ned Leaves<br>RA 1, 2, 4A<br>B11)<br>ertebrates (I<br>sulfide Odor<br>nizospheres<br>f Reduced I                                                | (B9) A, and 4B) B13) C(C1) S along Livin                                     | e is determin                 | Secon (                                    | dary Indicators Water-Stained (MLRA 1, 2, 4,4) Drainage Patte Dry-Season W Saturation Visil Geomorphic Po                                                         | s (2 or mo<br>Leaves (I<br>A, and 4B<br>erns (B10)<br>later Table<br>ble on Ae<br>osition (Di<br>ard (D3)                                    | ore requir<br>B9)                                                  | ed)      |      |  |
| HYDROLOG Wetland Hydr Surface High W Saturat Water N Sedime Drift De Algal M                                                                                                 | Neither of the soil la<br>Prology Indicators:<br>ators (minimum of one Water (A1)<br>ater Table (A2)<br>ion (A3)<br>Marks (B1)<br>ent Deposits (B2)<br>eposits (B3)<br>lat or Crust (B4)<br>eposits (B5)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                      | d; check all tr | at apply)  Water-Stair (except ML Salt Crust (included the continuous continu | ned Leaves<br>.RA 1, 2, 4A<br>B11)<br>ertebrates (I<br>sulfide Odor<br>nizospheres<br>f Reduced II<br>Reduction                                 | (B9) A, and 4B) B13) (C1) s along Livir Iron (C4) in Tilled So               | e is determin                 | Secon                                      | dary Indicators Water-Stained MLRA 1, 2, 4 Drainage Patte Dry-Season W Saturation Visit Geomorphic Po Shallow Aquita FAC-Neutral To                               | s (2 or mo<br>Leaves (FA, and 4Berns (B10)<br>ater Table<br>ble on Ae<br>osition (D:<br>urd (D3)<br>est (D5)                                 | ore requir<br>B9)<br>3)<br>e (C2)<br>vrial Imag                    | ery (C9  |      |  |
| HYDROLOG Wetland Hydr Surface High W Saturat Water M Sedime Drift De Algal M Iron De Surface                                                                                 | Neither of the soil la<br>rology Indicators:<br>ators (minimum of or<br>2 Water (A1)<br>dater Table (A2)<br>ion (A3)<br>Marks (B1)<br>ent Deposits (B2)<br>eposits (B3)<br>lat or Crust (B4)<br>eposits (B5)<br>e Soil Cracks (B6)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | ne required                          | t; check all tr | at apply)  Water-Stair (except ML Salt Crust ( Aquatic Invo Hydrogen S Oxidized RI Presence o Recent Iron Stunted or S                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | ned Leaves (RA 1, 2, 4A B11) ertebrates (Foulfide Odornizospheres of Reduced In Reduction Stresses Pla                                          | (B9) A, and 4B) B13) C(C1) S along Livir Fron (C4) in Tilled So ants (D1) (L | e is determin                 | Secon                                      | dary Indicators Water-Stained MLRA 1, 2, 4, Drainage Patte Dry-Season W Saturation Visil Geomorphic Po Shallow Aquita FAC-Neutral To Raised Ant Mo                | s (2 or mo<br>Leaves (I<br>A, and 4B<br>erns (B10)<br>ater Table<br>ble on Ae<br>osition (D:<br>ard (D3)<br>est (D5)                         | pore requir<br>B9)<br>3)<br>)<br>e (C2)<br>rial Image<br>2)        | ery (C9  |      |  |
| AYDROLOG Vetland Hydr Primary Indica High W Saturat Water M Sedime Drift De Algal M Iron De Surface                                                                          | Neither of the soil lands and the soil lands are rology Indicators: ators (minimum of or the water (A1) ator Table (A2) ator (A3) ator Table (A2) ator (A3) ator Deposits (B2) ator Crust (B4) aposits (B5) at Soil Cracks (B6) ator Visible on Aeria                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | ne required                          | d; check all tr | at apply)  Water-Stair (except ML Salt Crust (included the continuous continu | ned Leaves (RA 1, 2, 4A B11) ertebrates (Foulfide Odornizospheres of Reduced In Reduction Stresses Pla                                          | (B9) A, and 4B) B13) C(C1) S along Livir Fron (C4) in Tilled So ants (D1) (L | e is determin                 | Secon                                      | dary Indicators Water-Stained MLRA 1, 2, 4 Drainage Patte Dry-Season W Saturation Visit Geomorphic Po Shallow Aquita FAC-Neutral To                               | s (2 or mo<br>Leaves (I<br>A, and 4B<br>erns (B10)<br>ater Table<br>ble on Ae<br>osition (D:<br>ard (D3)<br>est (D5)                         | pore requir<br>B9)<br>3)<br>)<br>e (C2)<br>rial Image<br>2)        | ery (C9  |      |  |
| HYDROLOG Wetland Hydri Surface High W Saturat Water N Sedime Drift De Algal M Iron De Surface                                                                                | Neither of the soil lands and the soil lands are reported by t | ne required                          | d; check all tr | at apply)  Water-Stair (except ML Salt Crust ( Aquatic Invo Hydrogen S Oxidized RI Presence o Recent Iron Stunted or S                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | ned Leaves (RA 1, 2, 4A B11) ertebrates (Foulfide Odornizospheres of Reduced In Reduction Stresses Pla                                          | (B9) A, and 4B) B13) C(C1) S along Livir Fron (C4) in Tilled So ants (D1) (L | e is determin                 | Secon                                      | dary Indicators Water-Stained MLRA 1, 2, 4, Drainage Patte Dry-Season W Saturation Visil Geomorphic Po Shallow Aquita FAC-Neutral To Raised Ant Mo                | s (2 or mo<br>Leaves (I<br>A, and 4B<br>erns (B10)<br>ater Table<br>ble on Ae<br>osition (D:<br>ard (D3)<br>est (D5)                         | pore requir<br>B9)<br>3)<br>)<br>e (C2)<br>rial Image<br>2)        | ery (C9  |      |  |
| HYDROLOG Vetland Hydi Primary Indica Surface High W Saturat Sedime Drift De Algal M Iron De Surface Inundat Inundat Sparsel                                                  | Neither of the soil lands and the soil lands are reported by the soil lands are reported by the soil cracks (B4) and the soil cracks (B6) are soil cracks (B6) are soil cracks (B6) at or Crust (B4) are soil cracks (B6) at or Crust (B6) at or Crust (B6) at or Cr | ne required                          | d; check all th | at apply)  Water-Stair (except ML Salt Crust (I Aquatic Invo Hydrogen S Oxidized RI Presence o Recent Iron Stunted or S Other (Expl                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | ned Leaves (<br>RA 1, 2, 4A<br>B11)<br>ertebrates (I<br>sulfide Odor<br>nizospheres<br>f Reduced II<br>Reduction<br>Stresses Pla<br>ain in Rema | (B9) A, and 4B) B13) C(C1) S along Livir Fron (C4) in Tilled So ants (D1) (L | e is determin                 | Secon                                      | dary Indicators Water-Stained MLRA 1, 2, 4, Drainage Patte Dry-Season W Saturation Visil Geomorphic Po Shallow Aquita FAC-Neutral To Raised Ant Mo                | s (2 or mo<br>Leaves (I<br>A, and 4B<br>erns (B10)<br>ater Table<br>ble on Ae<br>osition (D:<br>ard (D3)<br>est (D5)                         | pore requir<br>B9)<br>3)<br>)<br>e (C2)<br>rial Image<br>2)        | ery (C9  |      |  |
| HYDROLOG Wetland Hydr Primary Indica Surface High W Saturat Sedime Drift De Surface Inundat Sparsei                                                                          | Neither of the soil lands in t | ne required al Imagery ( ave Surface | d; check all tr | at apply)  Water-Stair (except ML Salt Crust (in Aquatic Invertible of Standard of Standar | ned Leaves RA 1, 2, 4A B11) ertebrates (I sulfide Odor nizospheres f Reduced II Reduction Stresses Pla ain in Rema                              | (B9) A, and 4B) B13) C(C1) S along Livir Fron (C4) in Tilled So ants (D1) (L | e is determin                 | Secon                                      | dary Indicators Water-Stained MLRA 1, 2, 4, Drainage Patte Dry-Season W Saturation Visil Geomorphic Po Shallow Aquita FAC-Neutral To Raised Ant Mo                | s (2 or mo<br>Leaves (I<br>A, and 4B<br>erns (B10)<br>ater Table<br>ble on Ae<br>osition (D:<br>ard (D3)<br>est (D5)                         | pore requir<br>B9)<br>3)<br>)<br>e (C2)<br>rial Image<br>2)        | ery (C9  |      |  |
| HYDROLOG Wetland Hydro Primary Indica Surface High W Saturat Sedime Drift De Surface Inundat Sparsel Field Observa Surface Water Water Table F                               | Neither of the soil lands and the soil lands are rable (A2) ion (A3) Marks (B1) and Deposits (B2) and or Crust (B4) aposits (B5) a Soil Cracks (B6) at or Crust (B4) aposits (B5) a Soil Cracks (B6) at or Crust (B4) aposits (B5) a Soil Cracks (B6) at or Crust (B4) aposits (B5) a Soil Cracks (B6) at or Crust (B4) aposits (B5) a Soil Cracks (B6) at or Crust (B4) aposits (B5) a Soil Cracks (B6) at or Crust (B4) aposits (B5) are reserved at the soil of | ne required                          | d; check all th | at apply)  Water-Stair (except ML Salt Crust (in Aquatic Invertible of Standard of Standar | ned Leaves (<br>RA 1, 2, 4A<br>B11)<br>ertebrates (I<br>sulfide Odor<br>nizospheres<br>f Reduced II<br>Reduction<br>Stresses Pla<br>ain in Rema | (B9) A, and 4B) B13) C(C1) S along Livir Fron (C4) in Tilled So ants (D1) (L | e is determin                 | Secon  C C C C C C C C C C C C C C C C C C | dary Indicators Water-Stained IMLRA 1, 2, 4, Drainage Patte Dry-Season W Saturation Visil Geomorphic Po Shallow Aquita FAC-Neutral To Raised Ant Mo Frost-Heave H | s (2 or mo<br>Leaves (i<br>A, and 4B<br>erns (B10)<br>ater Table<br>ble on Ae<br>osition (D:<br>urd (D3)<br>est (D5)<br>unds (D6)<br>ummocks | pore requir<br>B9)<br>3)<br>)<br>e (C2)<br>rial Image<br>2)        | ery (C9  | ))   |  |
| HYDROLOG Wetland Hydi Primary Indica Surface High W Saturat Water M Sedime Drift De Algal M Iron De Surface                                                                  | Neither of the soil lands and the soil lands are respectively lands at lands are respectively lands at lands are respectively lands at lan | ne required al Imagery ( ave Surface | d; check all tr | at apply)  Water-Stair (except ML Salt Crust (i Aquatic Invu Hydrogen S Oxidized RI Presence o Recent Iron Stunted or S Other (Expl                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | ned Leaves RA 1, 2, 4A B11) ertebrates (I sulfide Odor nizospheres f Reduced II Reduction Stresses Pla ain in Rema                              | (B9) A, and 4B) B13) C(C1) S along Livir Fron (C4) in Tilled So ants (D1) (L | e is determin                 | Secon  C C C C C C C C C C C C C C C C C C | dary Indicators Water-Stained MLRA 1, 2, 4, Drainage Patte Dry-Season W Saturation Visil Geomorphic Po Shallow Aquita FAC-Neutral To Raised Ant Mo                | s (2 or mo<br>Leaves (i<br>A, and 4B<br>erns (B10)<br>ater Table<br>ble on Ae<br>osition (D:<br>urd (D3)<br>est (D5)<br>unds (D6)<br>ummocks | pore requir<br>B9)<br>3)<br>)<br>e (C2)<br>rial Image<br>2)        | ery (C9  |      |  |
| HYDROLOG Wetland Hydr Primary Indica Surface High W Saturat Sedime Drift De Surface Inundat Sparsel Field Observa Surface Water Water Table P Saturation Pre includes capil  | Neither of the soil lands and the soil lands are respectively lands at lands are respectively lands at lands are respectively lands at lan | al Imagery ( ave Surface es  es  es  | d; check all tr | at apply)  Water-Stair (except ML Salt Crust (in Aquatic Inverse) Aquatic Inverse of Control of Stunted or Stu | ned Leaves RA 1, 2, 4A B11) ertebrates (If sulfide Odor nizospheres f Reduced In Reduction Stresses Pla ain in Rema (inches): (inches):         | (B9) A, and 4B) B13) C(C1) S along Livir Iron (C4) in Tilled So ents (D1) (L | e is determin                 | Secon  C C C C C C C C C C C C C C C C C C | dary Indicators Water-Stained IMLRA 1, 2, 4, Drainage Patte Dry-Season W Saturation Visil Geomorphic Po Shallow Aquita FAC-Neutral To Raised Ant Mo Frost-Heave H | s (2 or mo<br>Leaves (i<br>A, and 4B<br>erns (B10)<br>ater Table<br>ble on Ae<br>osition (D:<br>urd (D3)<br>est (D5)<br>unds (D6)<br>ummocks | pre requir<br>B9)  (a)  (b)  (c)  (c)  (c)  (d)  (d)  (d)  (d)  (d | ery (C9  | ))   |  |
| HYDROLOG Wetland Hydro Primary Indica Surface High W Saturat Sedime Drift De Surface Inundat Sparsel Field Observa Surface Water Water Table P Saturation Pre includes capil | Neither of the soil lands in t | al Imagery ( ave Surface es  es  es  | d; check all tr | at apply)  Water-Stair (except ML Salt Crust (in Aquatic Inverse) Aquatic Inverse of Control of Stunted or Stu | ned Leaves RA 1, 2, 4A B11) ertebrates (If sulfide Odor nizospheres f Reduced In Reduction Stresses Pla ain in Rema (inches): (inches):         | (B9) A, and 4B) B13) C(C1) S along Livir Iron (C4) in Tilled So ents (D1) (L | e is determin                 | Secon  C C C C C C C C C C C C C C C C C C | dary Indicators Water-Stained IMLRA 1, 2, 4, Drainage Patte Dry-Season W Saturation Visil Geomorphic Po Shallow Aquita FAC-Neutral To Raised Ant Mo Frost-Heave H | s (2 or mo<br>Leaves (i<br>A, and 4B<br>erns (B10)<br>ater Table<br>ble on Ae<br>osition (D:<br>urd (D3)<br>est (D5)<br>unds (D6)<br>ummocks | pre requir<br>B9)  (a)  (b)  (c)  (c)  (c)  (d)  (d)  (d)  (d)  (d | ery (C9  | ))   |  |

| Project Site:                          | Port Gamble                                                                                                    |                                   |                      | City/Coun           | nty: Port Gamble/Kitsap                                 | Sampling Date:         | 3/24/17            |
|----------------------------------------|----------------------------------------------------------------------------------------------------------------|-----------------------------------|----------------------|---------------------|---------------------------------------------------------|------------------------|--------------------|
| Applicant/Owner:                       | Fischer Bouma Partnership                                                                                      |                                   |                      |                     | State: WA                                               | Sampling Point:        | <u>TP1K</u>        |
| Investigator(s):                       | J. Bartlett, L. Westervelt, K. Boa                                                                             |                                   |                      |                     | Section, Township, Rang                                 | ge: <u>S7 T27N R2E</u> |                    |
| Landform (hillslope, te                | errace, etc.): <u>hillslope</u>                                                                                |                                   | Loca                 | I relief (conc      | eave, convex, none): <u>concave</u>                     | Slope                  | e (%): <u>6-15</u> |
| Subregion (LRR):                       | MLRA 2                                                                                                         | Lat:                              | _                    |                     | Long:                                                   | Datum:                 | <u>Trimble</u>     |
| Soil Map Unit Name:                    | Kapowsin gravelly ashy loam, (                                                                                 | 6 to 15 percer                    | nt slopes            |                     | NWI clas                                                | sification:            |                    |
| Are climatic / hydrolog                | ic conditions on the site typical for                                                                          | this time of y                    | rear? Ye             | es 🛚                | No                                                      | n Remarks.)            |                    |
| Are Vegetation                         | , Soil □, or Hydrology                                                                                         | ☐, signific                       | antly disturbed      | ? Are "             | 'Normal Circumstances" present?                         | ? Yes                  | ⊠ No □             |
| Are Vegetation                         | , Soil □, or Hydrology                                                                                         | ☐, natural                        | y problematic?       | (If ne              | eeded, explain any answers in Re                        | marks.)                |                    |
| SUMMARY OF FIN                         | IDINGS – Attach site map sl                                                                                    | nowing san                        | nnling noint         | locations           | transects important featu                               | res etc.               |                    |
| Hydrophytic Vegetation                 | ·                                                                                                              | Yes 🗆                             | No 🗵                 | 1004110110,         | Transoute, important route                              | 100, 0101              |                    |
| Hydric Soil Present?                   |                                                                                                                | Yes 🏻                             | No □                 | Is the Samp         |                                                         | Yes                    | ⊠ No □             |
| Wetland Hydrology Pr                   | esent?                                                                                                         | Yes 🛛                             | No 🗆                 | within a We         | mand?                                                   |                        |                    |
|                                        | e of this feasibility encompasses a                                                                            | section abou                      | ıt 6 miles long      | extending be        | etween Port Gamble at the north                         | end and Stottlemever   | Road NF at the     |
| south end<br>current lo                | d. It passes primarily through unden<br>gging practices, and a large syste<br>ntral Segment, along Service Roa | eveloped timb<br>m of trails util | erland owned         | by OPG; mo          | est of which is woven with interlac                     | cing logging roads due | to historic and    |
| VEGETATION – U                         | se scientific names of plant                                                                                   |                                   |                      |                     |                                                         |                        |                    |
| Tree Stratum (Plot siz                 | e: 30' diameter)                                                                                               | Absolute<br>% Cover               | Dominant<br>Species? | Indicator<br>Status | Dominance Test Worksheet:                               |                        |                    |
| 1                                      |                                                                                                                |                                   |                      |                     | Number of Dominant Species                              | <u>1</u>               | (A)                |
| 2                                      |                                                                                                                |                                   |                      |                     | That Are OBL, FACW, or FAC:                             | <u>-</u>               | (7.)               |
| 3                                      |                                                                                                                |                                   |                      |                     | Total Number of Dominant                                | <u>2</u>               | (B)                |
| 4                                      |                                                                                                                |                                   |                      |                     | Species Across All Strata:                              | _                      | , ,                |
| 50% =, 20% =                           |                                                                                                                |                                   | = Total Cover        | •                   | Percent of Dominant Species That Are OBL, FACW, or FAC: | . <u>50</u>            | (A/B)              |
|                                        | n (Plot size: 30' diameter)                                                                                    |                                   |                      | =10                 |                                                         |                        |                    |
| Rubus spectabilis                      |                                                                                                                | <u>20</u>                         | <u>yes</u>           | <u>FAC</u>          | Prevalence Index worksheet:                             |                        |                    |
| 2                                      |                                                                                                                |                                   |                      |                     | Total % Cover of:                                       | -                      | <u>ly by:</u>      |
| 3                                      |                                                                                                                |                                   |                      |                     | OBL species                                             | x1 =<br>x2 =           |                    |
| 4<br>5                                 |                                                                                                                |                                   |                      |                     | FACW species                                            | x2 =<br>x3 =           |                    |
| 50% = <u>10</u> , 20% = <u>4</u>       |                                                                                                                | 20                                | = Total Cover        | . <del></del>       | FACU species                                            | x4 =                   |                    |
|                                        | ro: 10' diameter\                                                                                              | <u>20</u>                         | = Total Cover        |                     |                                                         | x5 =                   |                    |
| Herb Stratum (Plot siz                 | •                                                                                                              | 20                                |                      | FACIL               | UPL species                                             |                        | (D)                |
| 1. Polystichum muni                    | <u>lum</u>                                                                                                     | <u>20</u>                         | <u>yes</u>           | <u>FACU</u>         |                                                         | (A)                    | (B)                |
| 2                                      |                                                                                                                | <del></del>                       |                      |                     |                                                         | Index = B/A =          |                    |
| 3                                      |                                                                                                                |                                   |                      |                     | Hydrophytic Vegetation India                            |                        |                    |
| 4                                      |                                                                                                                |                                   |                      |                     | 1 – Rapid Test for Hydro                                |                        |                    |
| 5                                      |                                                                                                                |                                   |                      |                     | 2 - Dominance Test is >5                                |                        |                    |
| 6                                      |                                                                                                                |                                   |                      |                     | ☐ 3 - Prevalence Index is <                             |                        |                    |
| 7                                      |                                                                                                                |                                   |                      |                     | 4 - Morphological Adapta<br>data in Remarks or or       |                        | rting              |
| 8<br>9.                                |                                                                                                                |                                   |                      |                     |                                                         |                        |                    |
| 10                                     |                                                                                                                |                                   |                      |                     |                                                         |                        |                    |
|                                        |                                                                                                                |                                   |                      |                     | ☐ Problematic Hydrophytic                               | Vegetation' (Explain)  |                    |
| 11<br>50% = <u>10</u> , 20% = <u>4</u> |                                                                                                                | 20                                | = Total Cover        |                     | <sup>1</sup> Indicators of hydric soil and w            | etland hydrology must  |                    |
|                                        | (Plot size: 10' diameter)                                                                                      | <u>20</u>                         | = Total Cover        |                     | be present, unless disturbed or                         | r problematic.         |                    |
|                                        | (Plot size: 10' diameter)                                                                                      |                                   |                      |                     |                                                         | <del></del>            |                    |
| 1<br>2.                                |                                                                                                                |                                   |                      |                     | Hydrophytic                                             |                        |                    |
| 50% =, 20% =                           |                                                                                                                |                                   | = Total Cover        | <del></del>         | Vegetation Y                                            | es 🗆                   | No 🗵               |
| % Bare Ground in He                    |                                                                                                                |                                   | - i olai Covel       |                     | Present?                                                |                        |                    |
| -                                      | rb Stratum <u>80</u><br>The hydrophytic vegetation criteric                                                    | n is not met b                    | ecause there i       | s not greate        | r than 50% dominance by FAC s                           | species, however the v | vetland is a       |
| foreste                                | d mosaic and the presence of swo                                                                               |                                   |                      |                     |                                                         |                        |                    |
| spectar                                | oilis, FAC) for wetland vegetation.                                                                            |                                   |                      |                     |                                                         |                        |                    |

SOIL Sampling Point: TP1K Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Redox Features (inches) Color (moist) % Color (moist) % Type<sup>1</sup> Loc<sup>2</sup> Texture Remarks 10YR 4/2 100 0-4 gr sa lo no redoximorphic concentrations <u>4-8</u> 7.5YR 3/4 100 gr sa lo sulfidic odor 8-16 10YR 4/3 100 no redoximorphic concentrations gr sa lo <sup>1</sup>Type: C= Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. <sup>2</sup>Location: PL=Pore Lining, M=Matrix, RC=Root Channel Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils3: Histosol (A1) Sandy Redox (S5) 2 cm Muck (A10) Histic Epipedon (A2) П Stripped Matrix (S6) Red Parent Material (TF2) Black Histic (A3) Loamy Mucky Mineral (F1) (except MLRA 1) Very Shallow Dark Surface (TF12)  $\boxtimes$ Loamy Gleyed Matrix (F2) Hydrogen Sulfide (A4) Other (Explain in Remarks) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Thick Dark Surface (A12) Redox Dark Surface (F6) <sup>3</sup>Indicators of hydrophytic vegetation and П Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) wetland hydrology must be present, П Sandy Gleyed Matrix (S4) Redox Depressions (F8) unless disturbed or problematic. Restrictive Layer (if present): Type: **Hydric Soils Present?** Yes  $\boxtimes$ No Depth (inches): Remarks: Presence of Hydrogen Sulfide odor meets indicator for A4. **HYDROLOGY** Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (2 or more required) Surface Water (A1) Water-Stained Leaves (B9) Water-Stained Leaves (B9) High Water Table (A2) (except MLRA 1, 2, 4A, and 4B) (MLRA 1, 2, 4A, and 4B) Saturation (A3) Salt Crust (B11) Drainage Patterns (B10) П Water Marks (B1) Aquatic Invertebrates (B13) П Dry-Season Water Table (C2) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Drift Deposits (B3) Oxidized Rhizospheres along Living Roots (C3) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aguitard (D3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) FAC-Neutral Test (D5) П Surface Soil Cracks (B6) Stunted or Stresses Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Frost-Heave Hummocks (D7) Sparsely Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes  $\boxtimes$ No Depth (inches): 3 Water Table Present? Yes  $\boxtimes$ No Depth (inches): Saturation Present? Wetland Hydrology Present? Yes  $\boxtimes$ No Yes No  $\boxtimes$ Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Surface water was observed at 3 inches depth and is a primary indicator for wetland hydrology. Remarks:

| Project Site:                      | Port Gamble                         |                                                                                 |                    |        |                 |           | City/Coun           | nty:    | Port (    | Gamble/   | Kitsap        | 5           | Sampling [             | Date:      | 3/24        | <u>/17</u>  |             |
|------------------------------------|-------------------------------------|---------------------------------------------------------------------------------|--------------------|--------|-----------------|-----------|---------------------|---------|-----------|-----------|---------------|-------------|------------------------|------------|-------------|-------------|-------------|
| Applicant/Owner:                   | Fischer Bouma                       | Partnership                                                                     |                    |        |                 |           |                     |         |           | St        | ate: <u>V</u> | <u>VA</u> S | Sampling F             | Point:     | TP2I        | <u> </u>    |             |
| Investigator(s):                   | J. Bartlett, L. W                   | estervelt, K. Boa                                                               |                    |        |                 |           |                     |         | Se        | ction, To | ownship       | o, Range    | : <u>S7 T27</u>        | N R2E      |             |             |             |
| Landform (hillslope, te            | rrace, etc.): <u>h</u>              | <u>nillslope</u>                                                                |                    |        |                 | Loca      | I relief (conc      | ave, c  | conve     | x, none)  | cor           | ncave       |                        | Slope      | e (%):      | <u>6-15</u> | <u>!</u>    |
| Subregion (LRR):                   | MLRA 2                              |                                                                                 | Lat: _             |        | _               |           |                     | Lo      | ong:      |           |               |             |                        | Datum:     | Trimble     | <u>)</u>    |             |
| Soil Map Unit Name:                | Kapowsin gra                        | velly ashy loam, 6                                                              | 6 to 15 pe         | rcen   | t slope         | es .      |                     |         |           |           | NV            | VI classif  | ication:               |            |             |             |             |
| Are climatic / hydrolog            | ic conditions on t                  | the site typical for                                                            | this time          | of ye  | ear?            | Ye        | es 🛚                | N       | ٧o        | ☐ (I      | f no, ex      | plain in f  | Remarks.)              |            |             |             |             |
| Are Vegetation ☐,                  | Soil □,                             | or Hydrology                                                                    | ☐, sigr            | nifica | ntly di         | sturbed   | ? Are "             | Norm    | al Cir    | cumstan   | ces" pr       | esent?      |                        | Yes        | $\boxtimes$ | No          |             |
| Are Vegetation □,                  | Soil □,                             | or Hydrology                                                                    | □, nat             | urally | / probl         | ematic?   | (If ne              | eded,   | , expla   | ain any a | answers       | s in Rem    | arks.)                 |            |             |             |             |
| SUMMARY OF FIN                     | IDINGS - Atta                       | ch eita man el                                                                  | owina              | eam    | nlina           | noint     | locations           | tran    | soct      | e imne    | ortant        | foaturo     | s etc                  |            |             |             |             |
| Hydrophytic Vegetation             |                                     | cii site iliap si                                                               | Yes                |        | No<br>No        |           | iocations,          | uan     | 13661     | s, iiiipc | n tarit       | reature     | 3, 610.                |            |             |             |             |
| Hydric Soil Present?               | iii icaciii:                        |                                                                                 | Yes                |        | No              | $\square$ | Is the Samp         |         |           |           |               |             |                        | Yes        |             | No          | $\boxtimes$ |
| Wetland Hydrology Pre              | esent?                              |                                                                                 | Yes                |        | No              |           | within a We         | etland  | l?        |           |               |             |                        | 103        |             |             |             |
|                                    |                                     |                                                                                 |                    |        |                 | 1         |                     | . 4     | - D       |           | 4 41          |             |                        | 441        | D I N       | IT -4       | 41          |
| south end<br>current log           | . It passes primagging practices, a | y encompasses a<br>arily through unde<br>and a large systel<br>ong Service Road | eveloped of trails | timbe  | erland          | owned     | by OPG; mo          | st of v | which     | is wove   | n with ii     | nterlacin   | g logging              | roads due  | to histo    | oric a      | ınd         |
| VEGETATION – Us                    | se scientific n                     | ames of plants                                                                  | 8                  |        |                 |           |                     |         |           |           |               |             |                        |            |             |             |             |
| Tree Stratum (Plot size            | e: 30' diameter)                    |                                                                                 | Absolute<br>% Cove |        | Domir<br>Specie |           | Indicator<br>Status | Dor     | minar     | nce Test  | Works         | sheet:      |                        |            |             |             |             |
| 1. Pseudotsuga men                 | <u>ziesii</u>                       |                                                                                 | <u>25</u>          |        | <u>yes</u>      | <u> </u>  | FACU                | Nun     | mber o    | of Domir  | ant Sp        | ecies       |                        |            |             |             |             |
| 2                                  |                                     |                                                                                 |                    |        |                 |           |                     |         |           | OBL, FA   |               |             |                        | <u>1</u>   |             |             | (A)         |
| 3                                  |                                     |                                                                                 |                    |        |                 |           |                     | Tota    | al Nur    | mber of I | Domina        | ınt         |                        |            |             |             | (D)         |
| 4                                  |                                     |                                                                                 |                    |        |                 |           |                     | Spe     | ecies /   | Across A  | II Strata     | a:          |                        | <u>4</u>   |             |             | (B)         |
| 50% = <u>12.5</u> , 20% = <u>5</u> |                                     |                                                                                 | <u>25</u>          |        | = Tota          | al Cover  | •                   | Per     | cent c    | of Domin  | ant Spe       | ecies       |                        | 25         |             |             | (           |
| Sapling/Shrub Stratum              | n (Plot size: <u>30' d</u>          | <u>diameter</u> )                                                               |                    |        |                 |           |                     | Tha     | at Are    | OBL, FA   | ACW, o        | r FAC:      |                        | <u>25</u>  |             |             | (A/B)       |
| 1. Rubus spectabilis               |                                     |                                                                                 | <u>20</u>          |        | <u>yes</u>      |           | FAC                 | Pre     | valen     | ce Inde   | x work        | sheet:      |                        |            |             |             |             |
| 2                                  |                                     |                                                                                 |                    |        |                 |           |                     |         |           | Tota      | I % Cov       | ver of:     |                        | Multipl    | ly by:      |             |             |
| 3                                  |                                     |                                                                                 |                    |        |                 |           |                     | OBI     | L spe     | cies      | _             |             |                        | x1 =       |             | _           |             |
| 4                                  |                                     |                                                                                 |                    |        |                 |           |                     | FAC     | CW sp     | oecies    | _             |             |                        | x2 =       |             | _           |             |
| 5                                  |                                     |                                                                                 |                    |        |                 |           |                     | FAC     | C spe     | cies      | _             |             |                        | x3 =       |             | _           |             |
| 50% = <u>10</u> , 20% = <u>4</u>   |                                     |                                                                                 | <u>20</u>          |        | = Tota          | al Cover  |                     | FAC     | CU sp     | ecies     | _             |             |                        | x4 =       |             | _           |             |
| Herb Stratum (Plot siz             | e: 10' diameter)                    |                                                                                 |                    |        |                 |           |                     | UPL     | L spec    | cies      | _             |             |                        | x5 =       |             | _           |             |
| 1. Polystichum munit               | <u>tum</u>                          |                                                                                 | <u>20</u>          |        | <u>yes</u>      |           | <u>FACU</u>         | Colu    | umn 1     | Γotals:   | _             | (A          | ۸)                     |            |             | (E          | 3)          |
| 2. Rubus ursinus                   |                                     |                                                                                 | <u>15</u>          |        | yes             |           | <u>FACU</u>         |         |           |           | Preva         | alence In   | dex = B/A              | =          |             |             |             |
| 3                                  |                                     |                                                                                 |                    |        |                 |           |                     | Hyd     | droph     | ytic Veg  | getation      | n Indica    | ors:                   |            |             |             |             |
| 4                                  |                                     |                                                                                 |                    |        |                 |           |                     |         | 1 –       | Rapid T   | est for       | Hydroph     | ytic Veget             | tation     |             |             |             |
| 5                                  |                                     |                                                                                 |                    |        |                 |           |                     |         | 2 -       | Domina    | nce Tes       | st is >509  | %                      |            |             |             |             |
| 6                                  |                                     |                                                                                 |                    |        |                 |           |                     |         | 3 -       | Prevaler  | nce Inde      | ex is <3.   | 0 <sup>1</sup>         |            |             |             |             |
| 7                                  |                                     |                                                                                 |                    |        |                 |           |                     | _       |           |           |               | _           |                        | ide suppor | rtina       |             |             |
| 8                                  |                                     |                                                                                 |                    |        |                 |           |                     |         |           | data in F | Remark        | s or on a   | separate               | sheet)     | 9           |             |             |
| 9                                  |                                     |                                                                                 |                    |        |                 |           |                     |         | 5 -       | Wetland   | Non-V         | ascular l   | Plants <sup>1</sup>    |            |             |             |             |
| 10                                 |                                     |                                                                                 |                    |        |                 |           |                     |         | Pro       | blematio  | : Hvdro       | phytic V    | egetation <sup>1</sup> | (Explain)  |             |             |             |
| 11                                 |                                     |                                                                                 |                    |        |                 |           |                     |         |           |           | ,             | , , , ,     | 9                      | ( 1 - 7    |             |             |             |
| 50% = <u>17.5</u> , 20% = <u>7</u> |                                     |                                                                                 | <u>35</u>          |        | = Tota          | al Cover  |                     |         |           |           |               |             |                        | logy must  |             |             |             |
| Woody Vine Stratum (               | Plot size: 10' dia                  | <u>imeter</u> )                                                                 |                    |        |                 |           |                     | be p    | presei    | nt, unies | s aistui      | rbed or p   | roblemation            | J.         |             |             |             |
| 1                                  |                                     |                                                                                 |                    |        |                 |           |                     |         |           |           |               |             |                        |            |             |             |             |
| 2.                                 |                                     |                                                                                 |                    |        |                 |           |                     |         | droph     |           |               |             |                        | _          |             |             | _           |
| 50% =, 20% =                       |                                     |                                                                                 |                    |        | = Tota          | al Cover  |                     |         | getations |           |               | Yes         |                        |            | No          |             | $\boxtimes$ |
| % Bare Ground in Her               |                                     |                                                                                 |                    |        |                 |           |                     | rie     | SCIIL I   | ı         |               |             |                        |            |             |             |             |
|                                    |                                     | vegetation criterio                                                             | n is not m         | net be | ecause          | e there i | s not greate        | r than  | 50%       | domina    | nce by I      | FAC spe     | ecies.                 |            |             |             |             |
| iveillaiks.                        |                                     | -                                                                               |                    |        |                 |           | <u> </u>            |         |           |           | ,             | •           |                        |            |             |             |             |
|                                    |                                     |                                                                                 |                    |        |                 |           |                     |         |           |           |               |             |                        |            |             |             |             |

SOIL Sampling Point: TP2K Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Redox Features (inches) Color (moist) % Color (moist) % Type<sup>1</sup> Loc<sup>2</sup> Texture Remarks 10YR 2/2 100 0-4 gr sa lo no redoximorphic concentrations 4-1 7.5YR 3/4 100 gr sa lo no redoximiorphic concentrations 10-16 7.5YR 3/3 100 no redoximorphic concentrations gr sa lo <sup>1</sup>Type: C= Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. <sup>2</sup>Location: PL=Pore Lining, M=Matrix, RC=Root Channel Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils3: Histosol (A1) Sandy Redox (S5) 2 cm Muck (A10) Histic Epipedon (A2) П Stripped Matrix (S6)  $\Box$ Red Parent Material (TF2) Black Histic (A3) Loamy Mucky Mineral (F1) (except MLRA 1) Very Shallow Dark Surface (TF12) Loamy Gleyed Matrix (F2) Hydrogen Sulfide (A4) Other (Explain in Remarks) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Thick Dark Surface (A12) Redox Dark Surface (F6) <sup>3</sup>Indicators of hydrophytic vegetation and П Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) wetland hydrology must be present, П Sandy Gleyed Matrix (S4) Redox Depressions (F8) unless disturbed or problematic. Restrictive Layer (if present): Type: **Hydric Soils Present?** Yes No  $\boxtimes$ Depth (inches): Remarks: None of the soil layers meet the definition of a depleted matrix so this soil profile is determined to meet none of the hydric soil indicators. **HYDROLOGY** Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (2 or more required) П Surface Water (A1) Water-Stained Leaves (B9) Water-Stained Leaves (B9) High Water Table (A2) (except MLRA 1, 2, 4A, and 4B) (MLRA 1, 2, 4A, and 4B) Saturation (A3) Salt Crust (B11) Drainage Patterns (B10) П Water Marks (B1) Aquatic Invertebrates (B13) П Dry-Season Water Table (C2) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Drift Deposits (B3) Oxidized Rhizospheres along Living Roots (C3) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aguitard (D3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) FAC-Neutral Test (D5) Stunted or Stresses Plants (D1) (LRR A) П Surface Soil Cracks (B6) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Frost-Heave Hummocks (D7) Sparsely Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes No  $\boxtimes$ Depth (inches): Water Table Present? Yes  $\boxtimes$ No Depth (inches): 12 Saturation Present? Wetland Hydrology Present? Yes No  $\boxtimes$ Yes No  $\boxtimes$ Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Water table was below 12 inches so hydrology was not present during the field visit and there was no evidence of wetland hydrology. Remarks:

| Project Site:                    | Port Gamble                                                                                                                   |                                    |                               | City/Cour       | nty: Port Gamble/Kitsap                               | Sampling Date:         | 3/24              | <u>4/17</u> |
|----------------------------------|-------------------------------------------------------------------------------------------------------------------------------|------------------------------------|-------------------------------|-----------------|-------------------------------------------------------|------------------------|-------------------|-------------|
| Applicant/Owner:                 | Fischer Bouma Partnership                                                                                                     |                                    |                               |                 | State: WA                                             | Sampling Point         | :: <u>TP</u>      | <u>1L</u>   |
| Investigator(s):                 | J. Bartlett, L. Westervelt, K. Boa                                                                                            | <u>l</u>                           |                               |                 | Section, Township, Rar                                | ige: <u>S7 T27N R</u>  | <u> 2E</u>        |             |
| Landform (hillslope, te          | rrace, etc.): <u>hillslope</u>                                                                                                |                                    | Loc                           | al relief (conc | ave, convex, none): concave                           |                        | Slope (%):        | <u>6-15</u> |
| Subregion (LRR):                 | MLRA 2                                                                                                                        | Lat:                               |                               |                 | Long:                                                 | Dat                    | um: <u>Trimbl</u> | <u>le</u>   |
| Soil Map Unit Name:              | Kapowsin gravelly ashy loam,                                                                                                  | 6 to 15 perce                      | nt slopes                     |                 | NWI clas                                              | ssification:           |                   |             |
| Are climatic / hydrolog          | ic conditions on the site typical fo                                                                                          | r this time of                     | year? Y                       | ′es ⊠           | No                                                    | in Remarks.)           |                   |             |
| Are Vegetation ☐,                | Soil   , or Hydrology                                                                                                         | ☐, signific                        | antly disturbed               | d? Are "        | Normal Circumstances" present                         | ?                      | Yes 🛛             | No 🗆        |
| Are Vegetation □,                | Soil □, or Hydrology                                                                                                          | ☐, natura                          | lly problematio               | ? (If ne        | eeded, explain any answers in R                       | emarks.)               |                   |             |
| SUMMARY OF FIN                   | IDINGS – Attach site map s                                                                                                    | howing sar                         | npling poin                   | t locations,    | transects, important featu                            | ıres, etc.             |                   |             |
| Hydrophytic Vegetatio            | n Present?                                                                                                                    | Yes 🗆                              | No ⊠                          |                 |                                                       |                        |                   |             |
| Hydric Soil Present?             |                                                                                                                               | Yes 🗆                              | No 🛛                          | Is the Samp     |                                                       |                        | Yes 🗌             | No 🛛        |
| Wetland Hydrology Pr             | esent?                                                                                                                        | Yes 🗆                              | No ⊠                          | within a vve    | riana:                                                |                        |                   |             |
| Remarks: The scope               | e of this feasibility encompasses                                                                                             | a section abo                      | ut 6 miles long               | extending be    | etween Port Gamble at the north                       | end and Stottlen       | neyer Road        | NE at the   |
| south end<br>current lo          | <ol> <li>It passes primarily through und<br/>gging practices, and a large syste<br/>al Segment, along Service Road</li> </ol> | leveloped timb<br>em of trails uti | berland owned                 | by OPG; mo      | st of which is woven with interla                     | cing logging road      | s due to his      | toric and   |
| VEGETATION – Us                  | se scientific names of plant                                                                                                  | s                                  |                               |                 |                                                       |                        |                   |             |
| Tree Stratum (Plot siz           | •                                                                                                                             | Absolute                           | Dominant                      | Indicator       | Dominance Test Worksheet                              | :                      |                   |             |
| 1. Alnus rubra                   |                                                                                                                               | <u>% Cover</u><br>20               | <u>Species?</u><br><u>yes</u> | Status<br>FAC   | Number of Deminent Chasins                            |                        |                   |             |
| Pseudotsuga men                  | nziesii                                                                                                                       | <u>10</u>                          | <u>yes</u>                    | FACU            | Number of Dominant Species That Are OBL, FACW, or FAC | : 4                    | <u>2</u>          | (A)         |
| 3                                | <del></del>                                                                                                                   |                                    |                               |                 | Total Number of Dominant                              |                        |                   |             |
| 4.                               |                                                                                                                               |                                    |                               | <del></del>     | Species Across All Strata:                            | <u> </u>               | <u>5</u>          | (B)         |
| 50% = <u>15</u> , 20% = <u>6</u> |                                                                                                                               | 30                                 | = Total Cove                  | er              | Percent of Dominant Species                           |                        |                   |             |
| Sapling/Shrub Stratun            | n (Plot size: 30' diameter)                                                                                                   |                                    |                               |                 | That Are OBL, FACW, or FAC                            | : 4                    | <u>40</u>         | (A/B)       |
| Rubus spectabilis                |                                                                                                                               | <u>20</u>                          | <u>yes</u>                    | FAC             | Prevalence Index worksheet                            | <br>::                 |                   |             |
| 2                                |                                                                                                                               |                                    |                               |                 | Total % Cover of                                      |                        | Multiply by:      |             |
| 3                                |                                                                                                                               |                                    |                               |                 | OBL species                                           | >                      | x1 =              |             |
| 4                                |                                                                                                                               |                                    |                               |                 | FACW species                                          | >                      | x2 =              |             |
| 5                                |                                                                                                                               |                                    |                               |                 | FAC species                                           | ,                      | x3 =              |             |
| 50% = <u>10</u> , 20% = <u>4</u> |                                                                                                                               | <u>20</u>                          | = Total Cove                  | r               | FACU species                                          | >                      | x4 =              |             |
| Herb Stratum (Plot siz           | e: 10' diameter)                                                                                                              |                                    |                               |                 | UPL species                                           | ,                      | x5 =              |             |
| 1. Polystichum munit             | tum                                                                                                                           | <u>25</u>                          | <u>yes</u>                    | FACU            | Column Totals:                                        | (A)                    |                   | (B)         |
| 2. Rubus ursinus                 |                                                                                                                               | <u>10</u>                          | <u>yes</u>                    | FACU            |                                                       | e Index = B/A =        |                   |             |
| Sambucus raceme                  | osa*                                                                                                                          | <u></u>                            | no                            | FACU            | Hydrophytic Vegetation Indi                           |                        | <u></u>           |             |
| Digitalis purpurea               |                                                                                                                               | _<br><u>I</u>                      |                               | · <del></del>   | ☐ 1 – Rapid Test for Hydro                            | phytic Vegetation      | n                 |             |
| 5                                |                                                                                                                               |                                    |                               |                 | 2 - Dominance Test is >                               |                        |                   |             |
| 6.                               |                                                                                                                               |                                    |                               |                 | 3 - Prevalence Index is                               | <3.0 <sup>1</sup>      |                   |             |
| 7.                               |                                                                                                                               | · ·                                |                               | · <del></del>   | 4 Morphological Adapt                                 | _                      | supporting        |             |
| 8                                |                                                                                                                               |                                    |                               | · <del></del>   | data in Remarks or o                                  |                        |                   |             |
| 9                                |                                                                                                                               |                                    |                               |                 | 5 - Wetland Non-Vascul                                | ar Plants <sup>1</sup> |                   |             |
| 10                               |                                                                                                                               |                                    |                               |                 | ☐ Problematic Hydrophytic                             | : Vegetation¹ (Ex      | olain)            |             |
| 11.                              |                                                                                                                               |                                    |                               |                 |                                                       | 7 0g0.ao (=/,          | p.u)              |             |
| 50% = <u>20</u> , 20% = <u>8</u> |                                                                                                                               | 40                                 | = Total Cove                  | er              | <sup>1</sup> Indicators of hydric soil and w          |                        | must              |             |
|                                  | (Plot size: 10' diameter)                                                                                                     |                                    |                               |                 | be present, unless disturbed of                       | r problematic.         |                   |             |
| 1                                |                                                                                                                               |                                    |                               |                 |                                                       |                        |                   |             |
| 2.                               |                                                                                                                               |                                    |                               |                 | Hydrophytic                                           |                        |                   |             |
| 50% =, 20% =                     |                                                                                                                               |                                    | = Total Cove                  | r               |                                                       | res □                  | No                |             |
| % Bare Ground in Hei             |                                                                                                                               |                                    |                               |                 | Present?                                              |                        |                   |             |
|                                  | seedlings                                                                                                                     |                                    |                               |                 |                                                       |                        |                   |             |
|                                  | drophytic vegetation criterion is no                                                                                          | ot met becaus                      | se there is not               | greater than    | 50% dominance by FAC specie                           | S.                     |                   |             |
|                                  |                                                                                                                               |                                    |                               |                 |                                                       |                        |                   |             |
|                                  |                                                                                                                               |                                    |                               |                 |                                                       |                        |                   |             |

SOIL Sampling Point: TP1L Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Redox Features Texture (inches) Color (moist) % Color (moist) % Type<sup>1</sup> Loc<sup>2</sup> Remarks 10YR 2/2 100 0-10 sa lo no redoximorphic concentrations <u>10-14</u> 7.5YR 4/6 100 sa lo no redoximiorphic concentrations 14-16 Charcoal <sup>1</sup>Type: C= Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. <sup>2</sup>Location: PL=Pore Lining, M=Matrix, RC=Root Channel Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils3: Histosol (A1) Sandy Redox (S5) 2 cm Muck (A10) Histic Epipedon (A2) П Stripped Matrix (S6)  $\Box$ Red Parent Material (TF2) Black Histic (A3) Loamy Mucky Mineral (F1) (except MLRA 1) Very Shallow Dark Surface (TF12) Loamy Gleyed Matrix (F2) Hydrogen Sulfide (A4) Other (Explain in Remarks) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Thick Dark Surface (A12) Redox Dark Surface (F6) <sup>3</sup>Indicators of hydrophytic vegetation and П Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) wetland hydrology must be present, П Sandy Gleyed Matrix (S4) Redox Depressions (F8) unless disturbed or problematic. Restrictive Layer (if present): Type: **Hydric Soils Present?** Yes No  $\boxtimes$ Depth (inches): Remarks: None of the soil layers meet the definition of a depleted matrix so this soil profile is determined to meet none of the hydric soil indicators. **HYDROLOGY** Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (2 or more required) П Surface Water (A1) Water-Stained Leaves (B9) Water-Stained Leaves (B9) High Water Table (A2) (except MLRA 1, 2, 4A, and 4B) (MLRA 1, 2, 4A, and 4B) Saturation (A3) Salt Crust (B11) Drainage Patterns (B10) П Water Marks (B1) Aquatic Invertebrates (B13) П Dry-Season Water Table (C2) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Drift Deposits (B3) Oxidized Rhizospheres along Living Roots (C3) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aguitard (D3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) FAC-Neutral Test (D5) П Surface Soil Cracks (B6) Stunted or Stresses Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Frost-Heave Hummocks (D7) Sparsely Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes No  $\boxtimes$ Depth (inches): Water Table Present? Yes  $\boxtimes$ No Depth (inches): Saturation Present? Wetland Hydrology Present? Yes No  $\boxtimes$ Yes No  $\boxtimes$ Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Hydrology was not present during the field visit and there was no evidence of wetland hydrology. Remarks:

| Project Site:                     | Port Gamble                                                                                     |                                         |                        |             |                |                | City/Coun           | nty: <u>P</u> | ort Gam   | ble/Kits | sap           | Sampling            | Date:       | 3/24/           | <u> 17</u>  |       |
|-----------------------------------|-------------------------------------------------------------------------------------------------|-----------------------------------------|------------------------|-------------|----------------|----------------|---------------------|---------------|-----------|----------|---------------|---------------------|-------------|-----------------|-------------|-------|
| Applicant/Owner:                  | Fischer Bouma Pa                                                                                | <u>artnership</u>                       |                        |             |                |                |                     |               |           | State    | : <u>WA</u>   | Sampling            | Point:      | TP2l            | =           |       |
| Investigator(s):                  | J. Bartlett, L. Wes                                                                             | tervelt, K. Boa                         |                        |             |                |                |                     |               | Section   | n, Town  | iship, Rang   | e: <u>S7 T27</u>    | 7N R2E      |                 |             |       |
| Landform (hillslope, te           | rrace, etc.): hills                                                                             | <u>slope</u>                            |                        |             |                | Loca           | I relief (conc      | ave, co       | nvex, no  | ne):     | concave       |                     | Slope       | e (%):          | <u>6-15</u> |       |
| Subregion (LRR):                  | MLRA 2                                                                                          |                                         | Lat:                   |             | _              |                |                     | Lon           | ng:       | _        |               |                     | Datum:      | <u> Frimble</u> | !           |       |
| Soil Map Unit Name:               | Kapowsin gravel                                                                                 | lly ashy loam, 6                        | to 15 pe               | ercen       | t slope        | es es          |                     |               |           |          | NWI class     | ification:          |             |                 |             |       |
| Are climatic / hydrolog           | ic conditions on the                                                                            | site typical for                        | this time              | e of ye     | ear?           | Ye             | es 🛚                | No            |           | (If no   | o, explain in | Remarks.            | )           |                 |             |       |
| Are Vegetation ☐,                 | Soil □, o                                                                                       | r Hydrology                             | □, sig                 | nifica      | ıntly di       | sturbed        | ? Are "             | Normal        | Circums   | stances  | s" present?   |                     | Yes         | $\boxtimes$     | No          |       |
| Are Vegetation □,                 | Soil □, o                                                                                       | r Hydrology                             | □, nat                 | turally     | y probl        | ematic?        | (If ne              | eded, e       | explain a | iny ansv | wers in Rer   | narks.)             |             |                 |             |       |
| SUMMARY OF FIN                    | IDINGS – Attach                                                                                 | site man sh                             | owina                  | sam         | nling          | noint          | locations           | trans         | ects in   | nnorta   | ant featur    | es etc.             |             |                 |             |       |
| Hydrophytic Vegetation            |                                                                                                 | . one map on                            | Yes                    | <u>⊠</u>    | No             |                | rooutiono,          | · · · · · ·   | 0010,     | porte    | ant routur    | 00, 0101            |             |                 |             |       |
| Hydric Soil Present?              |                                                                                                 |                                         | Yes                    |             | No             |                | Is the Samp         |               |           |          |               |                     | Yes         | $\boxtimes$     | No          |       |
| Wetland Hydrology Pro             | esent?                                                                                          |                                         | Yes                    | $\boxtimes$ | No             |                | within a We         | etland?       |           |          |               |                     |             | _               |             | _     |
|                                   |                                                                                                 | 222222222222222222222222222222222222222 |                        |             |                |                | ovtonding be        | atwoon        | Dort Cor  | mble of  | the north o   | nd and St           | attlamavar  | Dood N          | IE ot       | tho   |
| south end<br>current lo           | e of this feasibility e<br>l. It passes primaril<br>gging practices, and<br>al Segment, along S | ly through unde<br>d a large syster     | veloped<br>n of trails | timbe       | erland         | owned          | by OPG; mo          | st of wh      | nich is w | oven w   | ith interlaci | ng logging          | roads due   | to histo        | oric a      | nd    |
| VEGETATION – Us                   | se scientific nan                                                                               | nes of plants                           |                        |             |                |                |                     | ı             |           |          |               |                     |             |                 |             |       |
| Tree Stratum (Plot siz            | e: 30' diameter)                                                                                |                                         | Absolut<br>% Cove      |             | Domir<br>Speci |                | Indicator<br>Status | Domi          | inance T  | Test Wo  | orksheet:     |                     |             |                 |             |       |
| 1. Alnus rubra                    |                                                                                                 |                                         | 20                     | _           | <u>yes</u>     | <del>00.</del> | FAC                 | Numb          | per of Do | ominant  | t Species     |                     | _           |                 |             |       |
| 2                                 |                                                                                                 |                                         |                        |             |                |                |                     |               |           |          | V, or FAC:    |                     | <u>2</u>    |                 |             | (A)   |
| 3                                 |                                                                                                 |                                         |                        |             |                |                |                     | Total         | Number    | of Don   | ninant        |                     |             |                 |             | (D)   |
| 4                                 |                                                                                                 |                                         |                        |             |                |                |                     | Speci         | ies Acros | ss All S | Strata:       |                     | <u>2</u>    |                 |             | (B)   |
| 50% = <u>10</u> , 20% = <u>4</u>  |                                                                                                 |                                         | <u>20</u>              |             | = Tota         | al Cover       |                     | Perce         | ent of Do | minant   | Species       |                     | 100         |                 |             | (A/D) |
| Sapling/Shrub Stratum             | n (Plot size: 30' diar                                                                          | meter)                                  |                        |             |                |                |                     | That A        | Are OBL   | ., FACV  | V, or FAC:    |                     | <u>100</u>  |                 |             | (A/B) |
| 1. Rubus spectabilis              |                                                                                                 |                                         | <u>35</u>              |             | <u>yes</u>     |                | FAC                 | Preva         | alence Ir | ndex w   | orksheet:     |                     |             |                 | ·           |       |
| 2                                 |                                                                                                 |                                         |                        |             |                |                |                     |               | I         | Γotal %  | Cover of:     |                     | Multipl     | y by:           |             |       |
| 3                                 |                                                                                                 |                                         |                        |             |                |                |                     | OBL           | species   |          |               |                     | x1 =        |                 | _           |       |
| 4                                 |                                                                                                 |                                         |                        |             |                |                |                     | FACV          | V specie  | es       |               |                     | x2 =        |                 | _           |       |
| 5                                 |                                                                                                 |                                         |                        |             |                |                |                     | FAC           | species   |          |               |                     | x3 =        |                 | _           |       |
| 50% = <u>17.5,</u> 20% = <u>7</u> |                                                                                                 |                                         | <u>35</u>              |             | = Tota         | al Cover       | •                   | FACL          | J species | S        |               |                     | x4 =        |                 | _           |       |
| Herb Stratum (Plot siz            | e: 10' diameter)                                                                                |                                         |                        |             |                |                |                     | UPL           | species   |          |               |                     | x5 =        |                 | _           |       |
| 1                                 |                                                                                                 |                                         |                        |             |                |                |                     | Colun         | nn Totals | s:       | (             | A)                  |             |                 | (E          | 3)    |
| 2                                 |                                                                                                 |                                         |                        |             |                |                |                     |               |           | Р        | revalence I   | ndex = B/A          | \ =         |                 |             |       |
| 3                                 |                                                                                                 |                                         |                        |             |                |                |                     | Hydro         | ophytic   | Vegeta   | ation Indica  | ators:              |             |                 |             |       |
| 4                                 |                                                                                                 |                                         |                        |             |                |                |                     |               | 1 – Rap   | id Test  | for Hydrop    | hytic Vege          | tation      |                 |             |       |
| 5                                 |                                                                                                 |                                         |                        |             |                |                |                     | $\boxtimes$   | 2 - Dom   | inance   | Test is >50   | )%                  |             |                 |             |       |
| 6                                 |                                                                                                 |                                         |                        |             |                |                |                     |               | 3 - Prev  | alence   | Index is ≤3   | .0 <sup>1</sup>     |             |                 |             |       |
| 7                                 |                                                                                                 |                                         |                        |             |                |                |                     |               |           |          | cal Adaptat   |                     | ide sunnor  | tina            |             |       |
| 8                                 |                                                                                                 |                                         |                        |             |                |                |                     |               | data      | in Rem   | narks or on   | a separate          | sheet)      | ung             |             |       |
| 9                                 |                                                                                                 |                                         |                        |             |                |                |                     |               | 5 - Wetl  | and No   | n-Vascular    | Plants <sup>1</sup> |             |                 |             |       |
| 10                                |                                                                                                 |                                         |                        |             |                |                |                     |               | Problem   | natic Hv | ydrophytic \  | /egetation          | 1 (Explain) |                 |             |       |
| 11.                               |                                                                                                 |                                         |                        |             |                |                |                     |               |           |          | , [,          | -9                  | (=          |                 |             |       |
| 50% =, 20% =                      |                                                                                                 |                                         |                        |             | = Tota         | al Cover       |                     |               |           |          | soil and we   |                     |             |                 |             |       |
| Woody Vine Stratum (              | Plot size: 10' diame                                                                            | eter)                                   |                        |             |                |                |                     | be pre        | esent, ur | niess ai | isturbed or   | problemati          | C.          |                 |             |       |
| 1                                 |                                                                                                 |                                         |                        |             |                |                |                     |               |           |          |               | ·                   |             |                 |             |       |
| 2                                 |                                                                                                 |                                         |                        |             |                |                |                     |               | ophytic   |          |               |                     |             |                 |             | _     |
| 50% =, 20% =                      |                                                                                                 |                                         |                        |             | = Tota         | al Cover       |                     | Vege          | tation    |          | Ye            | s                   | $\boxtimes$ | No              |             |       |
| % Bare Ground in Her              |                                                                                                 |                                         | _                      |             |                |                |                     | riese         | eiit (    |          |               |                     |             |                 |             |       |
| 7                                 | The hydrophytic veg                                                                             | getation criterio                       | n is met               | beca        | use the        | ere is ar      | eater than 5        | 0% don        | ninance   | by FAC   | C species.    |                     |             |                 |             |       |
| Remarks:                          | , ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,                                                         |                                         |                        |             |                | . J.           |                     |               |           | ,        | ,             |                     |             |                 |             |       |
|                                   |                                                                                                 |                                         |                        |             |                |                |                     |               |           |          |               |                     |             |                 |             |       |
| 1                                 |                                                                                                 |                                         |                        |             |                |                |                     |               |           |          |               |                     |             |                 |             |       |

SOIL Sampling Point: TP2L Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Depth Redox Features Texture (inches) Color (moist) % Color (moist) % Type<sup>1</sup> Loc2 Remarks 10YR 2/2 100 0-10 sa lo no redoximorphic concentrations <u>10-14</u> 7.5YR 4/6 100 sa lo no redoximiorphic concentrations 14-16 Charcoal <sup>1</sup>Type: C= Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. <sup>2</sup>Location: PL=Pore Lining, M=Matrix, RC=Root Channel Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils3: Histosol (A1) Sandy Redox (S5) 2 cm Muck (A10) Histic Epipedon (A2) П Stripped Matrix (S6) Red Parent Material (TF2) Black Histic (A3) Loamy Mucky Mineral (F1) (except MLRA 1) Very Shallow Dark Surface (TF12) Loamy Gleyed Matrix (F2) Hydrogen Sulfide (A4) Other (Explain in Remarks) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Thick Dark Surface (A12) Redox Dark Surface (F6) <sup>3</sup>Indicators of hydrophytic vegetation and П Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) wetland hydrology must be present, П Sandy Gleyed Matrix (S4) Redox Depressions (F8) unless disturbed or problematic. Restrictive Layer (if present): Type: **Hydric Soils Present?** Yes No Depth (inches): Remarks: **HYDROLOGY** Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (2 or more required) П Surface Water (A1) Water-Stained Leaves (B9) Water-Stained Leaves (B9)  $\boxtimes$ High Water Table (A2) (except MLRA 1, 2, 4A, and 4B) (MLRA 1, 2, 4A, and 4B)  $\boxtimes$ Saturation (A3) Salt Crust (B11) Drainage Patterns (B10) П Water Marks (B1) Aquatic Invertebrates (B13) П Dry-Season Water Table (C2) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Drift Deposits (B3) Oxidized Rhizospheres along Living Roots (C3) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aguitard (D3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) FAC-Neutral Test (D5) П Surface Soil Cracks (B6) Stunted or Stresses Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Frost-Heave Hummocks (D7) Sparsely Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes No  $\boxtimes$ Depth (inches): Water Table Present? Yes  $\boxtimes$ No Depth (inches): 6 Saturation Present? Wetland Hydrology Present? Yes  $\boxtimes$ No Yes  $\boxtimes$ No Depth (inches): Surface (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: A high water table was observed at 6 inches and soil saturation at the surface so there are primary indicators present for wetland hydrology. Remarks:

| Project Site:           | Port Gamble         | <u>e</u>               |             |             |           |         | City/Coun       | ıty:             | Port   | Gambl      | e/Kitsa  | <u>ap</u>                | Samplin             | g Date:                    | 3-2         | 4-17      |       |
|-------------------------|---------------------|------------------------|-------------|-------------|-----------|---------|-----------------|------------------|--------|------------|----------|--------------------------|---------------------|----------------------------|-------------|-----------|-------|
| Applicant/Owner:        | Fischer Bou         | ıma Partnership        |             |             |           |         |                 |                  |        |            | State:   | <u>WA</u>                | Samplin             | g Point:                   | TP          | <u>1M</u> |       |
| Investigator(s):        | J. Bartlett, L      | Westervelt, K. Boa     | <u>a</u>    |             |           |         |                 |                  | Se     | ection,    | Towns    | ship, Rang               | je: <u>S7 T</u>     | 27N R2E                    |             |           |       |
| Landform (hillslope, te | rrace, etc.):       | <u>hillslope</u>       |             |             |           | Loca    | al relief (conc | ave, c           | onve   | x, non     | e):      | concave                  |                     | Slop                       | e (%):      | 2         |       |
| Subregion (LRR):        | MLRA 2              |                        | Lat:        |             | _         |         |                 | Lo               | ong:   |            | =        |                          |                     | Datum:                     | Trimb       | <u>le</u> |       |
| Soil Map Unit Name:     | Poulsbo gr          | ravelly sandy loam,    | 0 to 6 per  | cent        | slopes    |         |                 |                  |        |            |          | NWI class                | sification:         | ! <u></u>                  |             |           |       |
| Are climatic / hydrolog | ic conditions       | on the site typical fo | r this time | e of y      | ear?      | Υ       | es 🛛            | Ν                | ٧o     |            | (If no,  | explain in               | Remark              | s.)                        |             |           |       |
| Are Vegetation □,       | Soil [              | ], or Hydrology        | □, sig      | gnifica     | antly dis | sturbec | d? Are "        | Norm             | al Cir | cumsta     | ances"   | present?                 |                     | Yes                        | $\boxtimes$ | No        |       |
| Are Vegetation □,       | Soil [              | ], or Hydrology        | □, na       | turall      | y probl   | ematic  | ? (If ne        | eded,            | , expl | ain any    | y answ   | ers in Re                | marks.)             |                            |             |           |       |
| -                       |                     |                        |             |             |           |         |                 |                  |        | •          |          |                          |                     |                            |             |           |       |
| SUMMARY OF FIN          | IDINGS – A          | ttach site map s       | howing      | sam         | pling     | point   | locations,      | tran             | sect   | s, imi     | porta    | nt featur                | es, etc.            |                            |             |           |       |
| Hydrophytic Vegetatio   | n Present?          | ·                      | Yes         | $\boxtimes$ | . No      |         |                 |                  |        |            |          |                          |                     |                            |             |           | _     |
| Hydric Soil Present?    |                     |                        | Yes         | $\boxtimes$ | No        |         | Is the Samp     | led A            | rea    |            |          |                          |                     | Yes                        | $\boxtimes$ | No        |       |
| Wetland Hydrology Pr    | esent?              |                        | Yes         | ⊠           | No        |         | within a We     | etland           | ?      |            |          |                          |                     |                            | _           |           | _     |
|                         |                     |                        | 100         |             | 110       |         |                 |                  |        |            |          |                          |                     |                            |             |           |       |
| Remarks:                |                     |                        |             |             |           |         |                 |                  |        |            |          |                          |                     |                            |             |           |       |
|                         |                     |                        |             |             |           |         |                 |                  |        |            |          |                          |                     |                            |             |           |       |
| VEGETATION – Us         | sa sciantifi        | c names of plan        | te          |             |           |         |                 |                  |        |            |          |                          |                     |                            |             |           |       |
|                         |                     |                        | Absolut     | te          | Domin     | nant    | Indicator       | Dor              | ninar  | To         | ot Mo    | rksheet:                 |                     |                            |             |           |       |
| Tree Stratum (Plot siz  | e. <u>30 diamet</u> | <u>er)</u>             | % Cove      | er          | Specie    | es?     | Status          | DOI              | mmar   | nce re     | St WO    | rksneet:                 |                     |                            |             |           |       |
| 1                       |                     |                        |             |             |           |         |                 |                  |        |            |          | Species                  |                     |                            | _           |           | (A)   |
| 2                       |                     |                        |             |             |           |         |                 | ma               | il Are | OBL,       | FACVV    | , or FAC:                |                     |                            |             |           |       |
| 3                       |                     |                        |             |             |           |         |                 |                  |        | mber o     |          |                          |                     |                            |             |           | (B)   |
| 4                       |                     |                        |             |             |           |         |                 | Spe              | cies   | Across     | All St   | rata:                    |                     |                            | _           |           | ,     |
| 50% =, 20% =            |                     |                        |             |             | = Tota    | I Cove  | r               |                  |        |            |          | Species                  |                     |                            |             |           | (A/B) |
| Sapling/Shrub Stratun   | n (Plot size: 3     | 0' diameter)           |             |             |           |         |                 |                  |        |            |          | , or FAC:                |                     |                            |             |           |       |
| 1                       |                     |                        |             |             |           |         |                 | Pre              | valen  |            |          | orksheet:                |                     |                            |             |           |       |
| 2                       |                     |                        |             |             |           |         |                 |                  |        |            | tal % (  | Cover of:                |                     | -                          | oly by:     |           |       |
| 3                       |                     |                        |             |             |           |         |                 |                  | L spe  |            |          |                          |                     | x1 =                       | _           |           |       |
| 4                       |                     |                        |             |             |           |         |                 |                  | -      | pecies     |          |                          |                     | x2 =                       |             |           |       |
| 5                       |                     |                        |             |             |           |         |                 | FAC              | C spe  | cies       |          |                          |                     | x3 =                       |             |           |       |
| 50% =, 20% =            |                     |                        |             |             | = Tota    | I Cove  | r               | FAC              | CU sp  | ecies      |          |                          |                     | x4 =                       | _           |           |       |
| Herb Stratum (Plot siz  | e: 10' diamet       | er)                    |             |             |           |         |                 | UPL              | _ spe  | cies       |          |                          |                     | x5 =                       | _           |           |       |
| 1                       |                     |                        |             |             |           |         |                 | Colu             | umn 1  | Totals:    |          |                          | (A)                 |                            |             | (         | B)    |
| 2                       |                     |                        |             |             |           |         |                 |                  |        |            | Pre      | evalence l               | Index = E           | 3/A =                      |             |           |       |
| 3                       |                     |                        |             |             |           |         |                 | Hyd              | droph  | nytic V    | egetat   | tion Indic               | ators:              |                            |             |           |       |
| 4                       |                     |                        |             |             |           |         |                 |                  | 1 –    | Rapid      | l Test f | or Hydrop                | hytic Ve            | getation                   |             |           |       |
| 5                       |                     |                        |             |             |           |         |                 |                  | 2 -    | Domin      | ance -   | Test is >50              | 0%                  |                            |             |           |       |
| 6                       |                     |                        |             |             |           |         |                 |                  | 3 -    | Droval     | lence I  | ndex is <3               | 3 O <sup>1</sup>    |                            |             |           |       |
| 7                       |                     |                        |             |             |           |         |                 | _                |        |            |          |                          |                     |                            |             |           |       |
| 8                       |                     |                        |             |             |           |         |                 |                  |        |            |          | ai Adaptai<br>arks or on |                     | rovide suppo<br>ate sheet) | nting       |           |       |
| 9                       |                     |                        |             |             |           |         |                 |                  | 5 -    | Wetlar     | nd Nor   | n-Vasculai               | Plants <sup>1</sup> |                            |             |           |       |
| 10                      |                     |                        |             |             |           |         |                 |                  |        |            |          |                          |                     | nn <sup>1</sup> (Evnlain)  |             |           |       |
| 11.                     |                     |                        |             |             |           |         |                 |                  | FIC    | рыенна     | шс пус   | aropriyuc                | vegetatic           | on¹ (Explain)              |             |           |       |
| 50% =, 20% =            |                     |                        |             |             | - Tota    | al Cove |                 | <sup>1</sup> Ind | licato | rs of h    | ydric s  | oil and we               | tland hyd           | drology mus                | t           |           |       |
|                         |                     | diamatar)              |             |             | = 101a    | ii Cove | ı               | be p             | orese  | nt, unle   | ess dis  | sturbed or               | problem             | atic.                      |             |           |       |
| Woody Vine Stratum (    | Plot size: 10       | diameter)              |             |             |           |         |                 |                  |        |            |          |                          |                     |                            |             |           |       |
| 1                       |                     |                        |             |             |           |         |                 | Hyd              | droph  | vtic       |          |                          |                     |                            |             |           |       |
| 2                       |                     |                        |             |             |           |         |                 | _                | jetati | -          |          | Υe                       | es                  | $\boxtimes$                | No          | )         |       |
| 50% =, 20% =            |                     |                        |             |             | = Tota    | I Cove  | r               | _                | sent?  |            |          |                          |                     |                            |             |           |       |
| % Bare Ground in Her    | rb Stratum          | <u></u>                |             |             | <u></u>   |         |                 |                  |        |            |          |                          |                     |                            |             |           |       |
| Remarks:                |                     |                        |             | _           |           |         |                 | _                | _      | · <u> </u> |          |                          |                     |                            |             | _         |       |
|                         |                     |                        |             |             |           |         |                 |                  |        |            |          |                          |                     |                            |             |           |       |
|                         |                     |                        |             |             |           |         |                 |                  |        |            |          |                          |                     |                            |             |           |       |

| nches)                                                                                                                                                                                                                                                                                       | Color (moist)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | <u>%</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Color (m       | ioist) % T                                                                                                                                                                                                                                             | ype <sup>1</sup> Loc <sup>2</sup>                                                              | Texture     | Remarks                                                                                                                                                                                                                                                                       |  |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|-------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------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|                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         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                                                                                                                                                                                                                                                                                                                                                                                             |                | <del></del>                                                                                                                                                                                                                                            | 7,70                                                                                           |             |                                                                                                                                                                                                                                                                               |  |
|                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | -              |                                                                                                                                                                                                                                                        |                                                                                                | <del></del> | <del></del>                                                                                                                                                                                                                                                                   |  |
| <u> </u>                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         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|                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         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| YDROLOG<br>etland Hydro<br>mary Indicat<br>Surface                                                                                                                                                                                                                                           | Y  Dlogy Indicators: ors (minimum of one re Water (A1)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  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| YDROLOG etland Hydro imary Indicat Surface High Wa Saturatio                                                                                                                                                                                                                                 | Y  Dlogy Indicators: ors (minimum of one re Water (A1) ter Table (A2) on (A3)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           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| YDROLOG<br>etland Hydro<br>imary Indicat<br>Surface<br>High Wa<br>Saturatio<br>Water M                                                                                                                                                                                                       | Y Dlogy Indicators: ors (minimum of one re Water (A1) ter Table (A2) on (A3) arks (B1)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  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| PROLOG<br>etland Hydro<br>mary Indicat<br>Surface<br>High Wa<br>Saturatio<br>Water M<br>Sedimer                                                                                                                                                                                              | Y  Dlogy Indicators: ors (minimum of one re Water (A1) ter Table (A2) on (A3) arks (B1) at Deposits (B2)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                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| PROLOG etland Hydro mary Indicat Surface High Wa Saturatio Water M Sedimer Drift Dep                                                                                                                                                                                                         | Y  Dlogy Indicators: ors (minimum of one re Water (A1) tter Table (A2) on (A3) arks (B1) at Deposits (B2) posits (B3)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   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                                                                                                                                                                                                                                                                                                                                                                                             | check all th   | at apply)  Water-Stained Leaves (I (except MLRA 1, 2, 4A, Salt Crust (B11) Aquatic Invertebrates (B Hydrogen Sulfide Odor ( Oxidized Rhizospheres a Presence of Reduced Iro Recent Iron Reduction in                                                   | B9) sand 4B) s13) (C1) along Living Roots (con (C4) n Tilled Soils (C6)                        | C3)         | Water-Stained Leaves (B9)  (MLRA 1, 2, 4A, and 4B)  Drainage Patterns (B10)  Dry-Season Water Table (C2)  Saturation Visible on Aerial Imagery (C9)  Geomorphic Position (D2)  Shallow Aquitard (D3)  FAC-Neutral Test (D5)                                                   |  |
| YDROLOG etland Hydro imary Indicat Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep Surface                                                                                                                                                                             | Y Dlogy Indicators: ors (minimum of one re Water (A1) tter Table (A2) on (A3) arks (B1) at Deposits (B2) posits (B3) at or Crust (B4)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | required; (                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | check all th   | at apply)  Water-Stained Leaves (I (except MLRA 1, 2, 4A, Salt Crust (B11) Aquatic Invertebrates (B Hydrogen Sulfide Odor ( Oxidized Rhizospheres a Presence of Reduced Interpretation of Recent Iron Reduction in Stunted or Stresses Plan            | B9)  , and 4B)  (C1)  along Living Roots (con (C4)  in Tilled Soils (C6)  ints (D1) (LRR A)    | C3)         | Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3)                                                                                |  |
| YDROLOG etland Hydro imary Indicat   Surface   High Wa   Saturatio   Water M   Sedimer   Drift Dep   Algal Ma   Iron Dep   Surface   Inundation                                                                                                                                              | Y Dlogy Indicators: ors (minimum of one re Water (A1) ter Table (A2) on (A3) arks (B1) at Deposits (B2) sosits (B3) at or Crust (B4) osits (B5) Soil Cracks (B6)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | required; o                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | check all the  | at apply)  Water-Stained Leaves (I (except MLRA 1, 2, 4A, Salt Crust (B11) Aquatic Invertebrates (B Hydrogen Sulfide Odor ( Oxidized Rhizospheres a Presence of Reduced Iro Recent Iron Reduction in                                                   | B9)  , and 4B)  (C1)  along Living Roots (con (C4)  in Tilled Soils (C6)  ints (D1) (LRR A)    | C3)         | Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)                           |  |
| YDROLOG etland Hydro imary Indicat Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep Surface Inundatio                                                                                                                                                                   | Y  Dlogy Indicators: ors (minimum of one re Water (A1) tter Table (A2) on (A3) arks (B1) at Deposits (B2) posits (B3) at or Crust (B4) osits (B5) Soil Cracks (B6) on Visible on Aerial Im-                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | required; o                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | check all the  | at apply)  Water-Stained Leaves (I (except MLRA 1, 2, 4A, Salt Crust (B11) Aquatic Invertebrates (B Hydrogen Sulfide Odor ( Oxidized Rhizospheres a Presence of Reduced Interpretation of Recent Iron Reduction in Stunted or Stresses Plan            | B9)  , and 4B)  (C1)  along Living Roots (con (C4)  in Tilled Soils (C6)  ints (D1) (LRR A)    | C3)         | Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)                           |  |
| YDROLOG etland Hydro imary Indicat   Surface   High Wa   Saturatio   Water M   Sedimer   Drift Dep   Algal Ma   Iron Dep   Surface   Inundatio   Sparsely                                                                                                                                    | Y  Dlogy Indicators: ors (minimum of one re Water (A1) ter Table (A2) on (A3) arks (B1) at Deposits (B2) sosits (B3) at or Crust (B4) osits (B5) Soil Cracks (B6) on Visible on Aerial Im- y Vegetated Concave S tions:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | required; o                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | check all the  | at apply)  Water-Stained Leaves (I (except MLRA 1, 2, 4A, Salt Crust (B11) Aquatic Invertebrates (B Hydrogen Sulfide Odor ( Oxidized Rhizospheres a Presence of Reduced Iro Recent Iron Reduction ir Stunted or Stresses Plan Other (Explain in Reman  | B9)  , and 4B)  (C1)  along Living Roots (con (C4)  in Tilled Soils (C6)  ints (D1) (LRR A)    | C3)         | Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)                           |  |
| YDROLOG etland Hydro imary Indicat Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep Surface Inundatio Sparsely                                                                                                                                                          | Y Dology Indicators: ors (minimum of one re Water (A1) ter Table (A2) on (A3) arks (B1) at Deposits (B2) oosits (B3) at or Crust (B4) oosits (B5) Soil Cracks (B6) on Visible on Aerial Im- r Vegetated Concave S tions: Present? Yes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | required; of the second required; of the second required; of the second required required required required required; of the second required required; of the second required requir | check all that | at apply)  Water-Stained Leaves (I (except MLRA 1, 2, 4A, Salt Crust (B11) Aquatic Invertebrates (B Hydrogen Sulfide Odor ( Oxidized Rhizospheres a Presence of Reduced Irra Recent Iron Reduction ir Stunted or Stresses Plan Other (Explain in Reman | B9)  and 4B)  (C1)  along Living Roots (con (C4)  n Tilled Soils (C6)  nts (D1) (LRR A)        | C3)         | Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)                           |  |
| YDROLOG etland Hydro imary Indicat  Surface High Wa Saturatio Water M Sedimer Drift Dep Algal Ma Iron Dep Surface Inundation                                                                                                                                                                 | y  plogy Indicators: ors (minimum of one re Water (A1) ter Table (A2) on (A3) arks (B1) at Deposits (B2) osits (B3) at or Crust (B4) osits (B5) Soil Cracks (B6) on Visible on Aerial Im- r Vegetated Concave S  tions: Present? Yes esent? Yes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | required; of the second reading to the secon | check all that | at apply)  Water-Stained Leaves (I (except MLRA 1, 2, 4A, Salt Crust (B11) Aquatic Invertebrates (B Hydrogen Sulfide Odor ( Oxidized Rhizospheres a Presence of Reduced Iro Recent Iron Reduction ir Stunted or Stresses Plan Other (Explain in Remar  | B9) , and 4B) (C1) along Living Roots (con (C4) in Tilled Soils (C6) ints (D1) (LRR A) rks)    | C3)         | Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A)                           |  |
| YDROLOG etland Hydro imary Indicat   Surface     High Wa     Saturatio     Water M     Sedimer     Drift Dep     Algal Ma     Iron Dep     Surface     Inundatio     Sparsely     seld Observation     Interval on Presidudes capillation     Surface     Interval on Presidudes capillation | y  blogy Indicators: ors (minimum of one re Water (A1) ter Table (A2) on (A3) arks (B1) at Deposits (B2) osits (B3) at or Crust (B4) osits (B5) Soil Cracks (B6) on Visible on Aerial Im- r Vegetated Concave S  tions: Present? Yes esent? Yes ary fringe)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | required; of the second | check all the  | at apply)  Water-Stained Leaves (I (except MLRA 1, 2, 4A, Salt Crust (B11)  Aquatic Invertebrates (B Hydrogen Sulfide Odor ( Oxidized Rhizospheres a Presence of Reduced Iro Recent Iron Reduction ir Stunted or Stresses Plar Other (Explain in Remar | B9)  (and 4B)  (C1)  along Living Roots (con (C4)  n Tilled Soils (C6)  nts (D1) (LRR A)  rks) | C3)         | Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Raised Ant Mounds (D6) (LRR A) Frost-Heave Hummocks (D7) |  |

| Project Site:                           | Port Gamble                           |                |            |            | City/Cour       | nty: Port Gamble/Kitsap                              | Sampling                      | g Date:                    | 3-24-           | <u>17</u>   |
|-----------------------------------------|---------------------------------------|----------------|------------|------------|-----------------|------------------------------------------------------|-------------------------------|----------------------------|-----------------|-------------|
| Applicant/Owner:                        | Fischer Bouma Partnership             |                |            |            |                 | State: W                                             | A Sampling                    | g Point:                   | TP1N            | 1           |
| Investigator(s):                        | J. Bartlett, L. Westervelt, K. Boa    |                |            |            |                 | Section, Township,                                   | Range: <u>S7 T</u>            | 27N R2E                    |                 |             |
| Landform (hillslope, te                 | rrace, etc.): <u>hillslope</u>        |                |            | Loca       | al relief (conc | ave, convex, none): con                              | cave                          | Slope                      | e (%):          | <u>2</u>    |
| Subregion (LRR):                        | MLRA 2                                | Lat:           | _          |            |                 | Long:                                                |                               | Datum:                     | <u> Trimble</u> |             |
| Soil Map Unit Name:                     | Poulsbo gravelly sandy loam, (        | to 6 percen    | t slope    | <u>s</u>   |                 | NW                                                   | I classification:             |                            |                 |             |
| Are climatic / hydrolog                 | ic conditions on the site typical for | r this time of | year?      | Y          | es 🛚            | No 🗌 (If no, exp                                     | olain in Remark               | s.)                        |                 |             |
| Are Vegetation □,                       | Soil ☐, or Hydrology                  | _              | -          | disturbed  |                 | 'Normal Circumstances" pre                           | sent?                         | Yes                        | $\boxtimes$     | No 🗆        |
| Are Vegetation □,                       | Soil □, or Hydrology                  | ☐, natura      | lly pro    | blematic'  | ? (If ne        | eeded, explain any answers                           | in Remarks.)                  |                            |                 |             |
|                                         |                                       |                |            |            |                 |                                                      |                               |                            |                 |             |
|                                         | DINGS – Attach site map sl            |                |            |            | locations,      | transects, important t                               | eatures, etc.                 | •                          |                 | <del></del> |
| Hydrophytic Vegetation                  | n Present?                            | Yes ⊠          |            | _          | Is the Samp     | oled Area                                            |                               | <b>v</b>                   |                 |             |
| Hydric Soil Present?                    | 10                                    | Yes ⊠          |            |            | within a We     |                                                      |                               | Yes                        | $\boxtimes$     | No 🗆        |
| Wetland Hydrology Pre                   | esent?                                | Yes ∑          | ] No       | ) <u> </u> |                 |                                                      |                               |                            |                 | <del></del> |
| Remarks:                                |                                       |                |            |            |                 |                                                      |                               |                            |                 |             |
|                                         |                                       |                |            |            |                 |                                                      |                               |                            |                 |             |
| VECETATION III                          | na aniantifia namaa af nlant          |                |            |            |                 |                                                      |                               |                            |                 |             |
|                                         | se scientific names of plant          | S<br>Absolute  | Dom        | inant      | Indicator       | B                                                    | 1 4                           |                            |                 |             |
| Tree Stratum (Plot size                 | e: 30' diameter)                      | % Cover        | Spec       | cies?      | Status          | Dominance Test Worksl                                | neet:                         |                            |                 |             |
| 1. <u>Salix lucida</u>                  |                                       | <u>20</u>      | <u>yes</u> |            | FACW            | Number of Dominant Spe<br>That Are OBL, FACW, or     |                               | <u>2</u>                   |                 | (A)         |
| 2. Thuja plicata                        |                                       | <u>15</u>      | <u>yes</u> |            | <u>FAC</u>      | That Are OBL, FACW, Or                               | FAC.                          |                            |                 |             |
| 3                                       |                                       |                |            | -          |                 | Total Number of Dominar<br>Species Across All Strata |                               | <u>4</u>                   |                 | (B)         |
| 4                                       |                                       |                |            |            |                 | ·                                                    |                               |                            |                 |             |
| 50% = 17.5, 20% = 7                     | (Dist size, 20' diameter)             | <u>35</u>      | = 10       | tal Cove   | Г               | Percent of Dominant Spe<br>That Are OBL, FACW, or    |                               | <u>50</u>                  |                 | (A/B)       |
|                                         | n (Plot size: 30' diameter)           | 45             |            |            | EACH            |                                                      |                               |                            |                 |             |
| Vaccinium ovatum     Caultharia aballan |                                       | <u>15</u>      | <u>yes</u> |            | FACU<br>FACU    | Prevalence Index works                               |                               | Multipl                    | v bve           |             |
| Gaultheria shallon     3                |                                       | <u>15</u>      | <u>yes</u> |            | <u>FACU</u>     | Total % Cove                                         | <u>ei 0i.</u>                 | <u>Multipl</u><br>x1 =     | <u>у юу.</u>    |             |
| 4                                       |                                       |                |            | -          |                 | FACW species                                         | <del></del>                   | x1 =<br>x2 =               |                 | _           |
| 5                                       |                                       |                |            | =          |                 | FAC species                                          |                               | x3 =                       |                 | _           |
| 50% = 15, 20% = 6                       |                                       | 30             | = To       | tal Cove   |                 | FACU species                                         |                               | x4 =                       |                 | _           |
| Herb Stratum (Plot siz                  | re: 10' diameter)                     | <u>50</u>      |            | 0010       |                 | UPL species                                          |                               | x5 =                       |                 | _           |
| ·                                       | o. <u>10 diameter</u> )               |                |            |            |                 |                                                      | (A)                           | X0 =                       |                 | (B)         |
| 1                                       |                                       |                |            | -          |                 | Column Totals:                                       | ence Index = B                | 2/^ _                      |                 | (D)         |
| 2<br>3                                  |                                       |                |            | =          |                 | Hydrophytic Vegetation                               |                               | 5/A =                      |                 |             |
| 4.                                      |                                       |                |            | =          |                 | 1 – Rapid Test for H                                 |                               | netation                   |                 |             |
| 5                                       |                                       |                |            | -          |                 | 2 - Dominance Test                                   |                               | getation                   |                 |             |
| 6                                       |                                       |                |            | =          |                 |                                                      |                               |                            |                 |             |
| 7                                       |                                       |                |            | -          |                 | o i ioraionee inae                                   |                               |                            |                 |             |
| 8                                       |                                       |                |            | -          |                 | 4 - Morphological A data in Remarks                  | daptations (Proor on a separa | ovide suppor<br>ate sheet) | ting            |             |
| 9                                       |                                       |                |            | -          |                 | 5 - Wetland Non-Va                                   |                               | ,                          |                 |             |
| 10                                      |                                       |                |            | -          |                 | ☑ Problematic Hydrop                                 |                               | n <sup>1</sup> (Evploip)   |                 |             |
| 11.                                     |                                       |                |            | =          |                 | Problematic Hydrop                                   | mylic vegetatio               | лі (Ехріаііі)              |                 |             |
| 50% =, 20% =                            |                                       |                | = To       | tal Cove   | <br>r           | <sup>1</sup> Indicators of hydric soil a             |                               |                            |                 |             |
|                                         | Plot size: 10' diameter)              |                |            | 0010       |                 | be present, unless disturb                           | oed or problema               | atic.                      |                 |             |
| 1                                       | . 101 0.201 <u>10 didi.110101</u>     |                |            |            |                 |                                                      |                               |                            |                 |             |
| 2                                       |                                       | <del></del>    |            | -          |                 | Hydrophytic                                          |                               |                            |                 |             |
| 50% =, 20% = _                          |                                       |                | = To       | tal Cove   | <br>r           | Vegetation                                           | Yes                           |                            | No              |             |
| % Bare Ground in Her                    |                                       |                | . •        |            |                 | Present?                                             |                               |                            |                 |             |
|                                         |                                       |                | -          |            |                 |                                                      |                               |                            |                 |             |
| Remarks:                                |                                       |                |            |            |                 |                                                      |                               |                            |                 |             |
|                                         |                                       |                |            |            |                 |                                                      |                               |                            |                 |             |
|                                         |                                       |                |            |            |                 |                                                      |                               |                            |                 |             |

| Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)  Redsox Petaurs  (inches)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                              |                                   |            |                                                                                |                                                                                                                                                                                      |                                                                                                                     |                            |                 | Sampling                                                                                                                                     | g Point: <u>TP</u>                                                                                                        | <u>'1N</u>                      |              |    |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|------------|--------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|----------------------------|-----------------|----------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|---------------------------------|--------------|----|
| Type: Co-Concentration, D-Depletion, RM-Reduced Malrix, CS-Covered or Coated Sand Grains.   Tuber      | rofile Description: (L                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | escribe to th                                                                                                                | e depth                           | needed t   | docume                                                                         | nt the indicato                                                                                                                                                                      | r or confi                                                                                                          | m the absen                | ce of indica    | ators.)                                                                                                                                      | _                                                                                                                         | <del></del>                     | <del>_</del> | _  |
| Type: C= Concentration, D=Depletion, RM-Reduced Matrix, CS=Covered or Coated Sand Grains.   **Location: PL=Pore Lining, M=Matrix, RC=Root Channel lydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)   Indicators for Problematic Hydric Soils*:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Depth                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Matrix                                                                                                                       |                                   |            |                                                                                | Redox Feat                                                                                                                                                                           | ures                                                                                                                | -                          |                 |                                                                                                                                              |                                                                                                                           |                                 |              |    |
| Histoso (A1)   Sandy Redox (S5)   2 cm Muck (A10)   Singbed Matrix (S6)   Red Parent Material (TF2)   Singbed Matrix (S6)   Red Parent Material (TF2)   Singbed Matrix (S6)   Red Parent Material (TF2)   Singbed Matrix (S6)      | inches) Color (                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | moist)                                                                                                                       | %                                 | Color      | moist)                                                                         | %                                                                                                                                                                                    | Type <sup>1</sup>                                                                                                   | Loc <sup>2</sup>           | Textu           | re                                                                                                                                           |                                                                                                                           | Remark                          | S            |    |
| Histos Gill Indicators: (Applicable to all LRRs, unless otherwise noted.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                              |                                   |            |                                                                                |                                                                                                                                                                                      |                                                                                                                     |                            |                 |                                                                                                                                              |                                                                                                                           |                                 |              |    |
| Histoc Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                              |                                   |            |                                                                                |                                                                                                                                                                                      |                                                                                                                     |                            |                 |                                                                                                                                              |                                                                                                                           |                                 |              |    |
| Histos (A1)   Sandy Redox (S5)   2 cm Muck (A10)   Singbed Matrix (S6)   Red Parent Material (TF2)   Singbed Matrix (S6)   Redox Parent Material (TF2)   Singbed Matrix (S6)   Check Black (F7)   Singbed Matrix (F2)   Other (Explain in Remarks)   Singbed Matrix (F2)   Other (Explain in Remarks)   Singbed Matrix (F2)   Other (Explain in Remarks)   Singbed Matrix (F2)   Sandy Mucky Mineral (S1)   Depleted Dark Surface (F6)   Sandy Mucky Mineral (S1)   Depleted Dark Surface (F7)   Sandy Mucky Mineral (S1)   Depleted Dark Surface (F7)   Sandy Mucky Mineral (S1)   Redox Dark Surface (F7)   Sandy Mucky Mineral (S1)   Depleted Dark Surface (F7)   Sandy Mucky Mineral (S1)   Redox Depressions (F8)   Water (F7)   Sandy Mucky Mineral (S1)   Present: settictive Layer (if present):    Sandy Mucky Mineral (S1)   Depleted Dark Surface (F7)   Water (S0)   Water    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                              |                                   |            |                                                                                |                                                                                                                                                                                      |                                                                                                                     |                            |                 |                                                                                                                                              |                                                                                                                           |                                 |              |    |
| Histoso (A1)   Sandy Redox (S5)   2 cm Muck (A10)   Singbed Matrix (S6)   Red Parent Material (TF2)   Singbed Matrix (S6)   Red Parent Material (TF2)   Singbed Matrix (S6)   Red Parent Material (TF2)   Singbed Matrix (S6)      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                              |                                   |            | _                                                                              |                                                                                                                                                                                      |                                                                                                                     |                            |                 |                                                                                                                                              |                                                                                                                           |                                 |              |    |
| Histos (A1)   Sandy Redox (55)   2 cm Muck (A10)   Campy Mucky Mineral (F1) (except MLRA 1)   Very Shallow Dark Surface (TF12)   Other (Explain in Remarks)   Depleted Bodow Dark Surface (A11)   Depleted Bodow Dark Surface (A11)   Depleted Bodow Dark Surface (A11)   Depleted Dark Surface (F6)   Sandy Mucky Mineral (S1)   Redox Dark Surface (F6)   Sandy Mucky Mineral (S1)   Depleted Dark Surface (F7)   Very Shallow Dark Surface (A12)   Redox Dark Surface (F7)   Very Shallow Dark Surface (A12)   Redox Dark Surface (F7)   Very Shallow Dark Surface (A12)   Redox Dark Surface (F7)   Very Shallow Dark Surface (A12)   Redox Dark Surface (F7)   Very Shallow Dark Surface (A12)   Redox Dark Surface (F7)   Very Shallow Dark Surface (A12)   Redox Dark Surface (F7)   Very Shallow Dark Surface (A12)   Redox Dark Surface (F7)   Very Shallow Dark Surface (A12)   Redox Dark Surface (F7)   Very Shallow Dark Surface (A12)   Very Shallow Dark Surface    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                              |                                   |            |                                                                                |                                                                                                                                                                                      |                                                                                                                     |                            |                 |                                                                                                                                              |                                                                                                                           |                                 |              |    |
| Histoc (A1)   Sandy Redox (55)   2 cm Muck (A10)   Sandy Redox (A12)   Sandy Mucky Mineral (F1) (except MLRA 1)   Sandy Sandy Sandy Surface (A12)   Depleted Bark (F2)   Sandy Mucky Mineral (S1)   Depleted Dark Surface (F6)   Sandy Mucky Mineral (S1)   Depleted Dark Surface (F7)   Sandy Mucky Mineral (S1)   Redox Dark Surface (F7)   Sandy Mucky Mineral (S1)   Redox Dark Surface (F7)   Sandy Mucky Mineral (S1)   Redox Depressions (F8)   Redox Dark Surface (F7)   Sandy Mucky Mineral (S1)   Redox Depressions (F8)   Redox Dark Surface (F7)   Sandy Mucky Mineral (S1)   Redox Depressions (F8)   Redox Dark Surface (F7)   Sandy Mucky Mineral (S1)   Redox Depressions (F8)   Redox Depressions (F8)   Redox Dark Surface (F7)   Redox Depressions (F8)   Redox Dark Surface (F7)   Redox Depressions (F8)   Redox Depres   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                              |                                   |            |                                                                                |                                                                                                                                                                                      |                                                                                                                     |                            |                 |                                                                                                                                              |                                                                                                                           |                                 |              |    |
| Histos (A1)   Sandy Redox (55)   2 cm Muck (A10)   Sandy Mucky Mineral (F1) (except MLRA 1)   Sandy Sandy Sandy Sulface (A11)   September Sandy Sulface (A12)   Depleted Matrix (F2)   Other (Explain in Remarks)   Thick Dark Surface (A12)   Redox Dark Surface (F6)   Sandy Mucky Mineral (S1)   Depleted Dark Surface (F7)   Participate of Sandy Sulface (A12)   Redox Dark Surface (F7)   Participate of Sandy Sulface (A12)   Redox Depressions (F8)   Participate of Sandy Mucky Mineral (S1)   Redox Depressions (F8)   Participate of Sandy Mucky Mineral (S1)   Redox Depressions (F8)   Participate of Sandy Mucky Mineral (S1)   Redox Depressions (F8)   Participate of Sandy Mucky Mineral (S1)   Redox Depressions (F8)   Participate of Sandy Mucky Mineral (S1)   Participate of Sandy Mucky Mucky Mineral (S1)   Participate of Sandy Mucky Mineral (S1)   Participate of Sandy Mucky Mu   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                              |                                   |            | _                                                                              |                                                                                                                                                                                      |                                                                                                                     |                            |                 |                                                                                                                                              |                                                                                                                           |                                 |              |    |
| Histos (A1)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                              |                                   | -          |                                                                                |                                                                                                                                                                                      |                                                                                                                     |                            |                 |                                                                                                                                              |                                                                                                                           |                                 |              |    |
| Histosol (A1)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | · · · · · · · · · · · · · · · · · · ·                                                                                                                                                                                                                                                                                                                                                                                                                                                   | •                                                                                                                            |                                   |            |                                                                                |                                                                                                                                                                                      | ated Sand                                                                                                           | Grains.                    |                 |                                                                                                                                              |                                                                                                                           |                                 |              | el |
| Histic Epipedon (A2)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | : (Applicable                                                                                                                | to all Li                         |            |                                                                                | -                                                                                                                                                                                    |                                                                                                                     |                            |                 |                                                                                                                                              |                                                                                                                           | Hydric S                        | Soils":      |    |
| Black Histic (A3)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | _                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                              |                                   |            | -                                                                              |                                                                                                                                                                                      |                                                                                                                     |                            |                 |                                                                                                                                              |                                                                                                                           |                                 |              |    |
| Hydrogen Sulfide (A4)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | _                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | A2)                                                                                                                          |                                   |            |                                                                                |                                                                                                                                                                                      |                                                                                                                     |                            |                 |                                                                                                                                              |                                                                                                                           |                                 |              |    |
| Depleted Below Dark Surface (A11)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                              |                                   |            |                                                                                | •                                                                                                                                                                                    | . , ,                                                                                                               | cept MLRA 1                | _               | •                                                                                                                                            |                                                                                                                           | -                               | F12)         |    |
| Thick Dark Surface (A12)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | ` '                                                                                                                          |                                   |            |                                                                                | •                                                                                                                                                                                    | , ,                                                                                                                 |                            | Ц               | Other (Exp                                                                                                                                   | lain in Ren                                                                                                               | narks)                          |              |    |
| Sandy Mucky Mineral (S1)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                              | (A11)                             |            |                                                                                |                                                                                                                                                                                      |                                                                                                                     |                            |                 |                                                                                                                                              |                                                                                                                           |                                 |              |    |
| Sandy Gleyed Matrix (\$4\)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                              |                                   |            |                                                                                |                                                                                                                                                                                      |                                                                                                                     |                            | 3 <sub>In</sub> | dicators of hydr                                                                                                                             | onhytic ve                                                                                                                | aetation :                      | and          |    |
| estrictive Layer (if present):                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | _                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | ` '                                                                                                                          |                                   |            |                                                                                |                                                                                                                                                                                      |                                                                                                                     |                            |                 | wetland hydrolo                                                                                                                              | ogy must b                                                                                                                | e presen                        |              |    |
| Popth (inches):                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | ` '                                                                                                                          |                                   | L          | Redo                                                                           | Depressions (                                                                                                                                                                        | (F8)                                                                                                                |                            |                 | unless disturbe                                                                                                                              | d or proble                                                                                                               | ematic.                         |              |    |
| Peter (inches):                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | esent):                                                                                                                      |                                   |            |                                                                                |                                                                                                                                                                                      |                                                                                                                     |                            |                 |                                                                                                                                              |                                                                                                                           |                                 |              |    |
| HYDROLOGY  Wetland Hydrology Indicators:  Primary Indicators (minimum of one required; check all that apply)  Secondary Indicators (2 or more required)  Surface Water (A1)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                              |                                   |            |                                                                                |                                                                                                                                                                                      |                                                                                                                     | Undria Caila               | D=====42        |                                                                                                                                              | Vaa                                                                                                                       | <b>N</b>                        | N.           | _  |
| Vertland Hydrology Indicators:   Irimary Indicators (minimum of one required; check all that apply)   Secondary Indicators (2 or more required)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | omano. Con was                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | ·                                                                                                                            | io due to                         | presence   | or season                                                                      | ai standing wal                                                                                                                                                                      | er during s                                                                                                         | ite visit.                 |                 |                                                                                                                                              |                                                                                                                           |                                 |              |    |
| Secondary Indicators (minimum of one required; check all that apply)  Secondary Indicators (2 or more required)  Surface Water (A1)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                              | ic due to                         | , presence | or season                                                                      | ai standing wali                                                                                                                                                                     | er during s                                                                                                         | site visit.                |                 |                                                                                                                                              |                                                                                                                           |                                 |              |    |
| Surface Water (A1)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | HYDROLOGY                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                              | ic due to                         | ррезепсе   | or season                                                                      | ai standing wat                                                                                                                                                                      | er during s                                                                                                         | site visit.                |                 |                                                                                                                                              |                                                                                                                           |                                 |              |    |
| High Water Table (A2)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | HYDROLOGY<br>Vetland Hydrology In                                                                                                                                                                                                                                                                                                                                                                                                                                                       | dicators:                                                                                                                    |                                   |            |                                                                                | ar standing wat                                                                                                                                                                      | er during s                                                                                                         | ite visit.                 | Sac             | ondary Indicato                                                                                                                              | rs (2 or mo                                                                                                               | ure requir                      | ed)          |    |
| Saturation (A3)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | HYDROLOGY<br>Vetland Hydrology In<br>Primary Indicators (min                                                                                                                                                                                                                                                                                                                                                                                                                            | dicators:<br>imum of one r                                                                                                   |                                   | check all  | that apply)                                                                    |                                                                                                                                                                                      |                                                                                                                     | ite visit.                 |                 | -                                                                                                                                            | -                                                                                                                         |                                 | ed)          |    |
| Water Marks (B1)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | HYDROLOGY<br>Vetland Hydrology In<br>Primary Indicators (min<br>⊠ Surface Water (A                                                                                                                                                                                                                                                                                                                                                                                                      | dicators:<br>imum of one r                                                                                                   |                                   | check all  | that apply)                                                                    | -Stained Leave                                                                                                                                                                       | es (B9)                                                                                                             |                            |                 | Water-Stained                                                                                                                                | l Leaves (E                                                                                                               | 39)                             | ed)          |    |
| Sediment Deposits (B2)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | HYDROLOGY<br>Vetland Hydrology In<br>Primary Indicators (min<br>⊠ Surface Water (Æ<br>□ High Water Table                                                                                                                                                                                                                                                                                                                                                                                | dicators:<br>imum of one r                                                                                                   |                                   | check all  | that apply)<br>] Water<br>(exce                                                | -Stained Leave<br>pt MLRA 1, 2, 4                                                                                                                                                    | es (B9)                                                                                                             |                            |                 | Water-Stained                                                                                                                                | Leaves (E                                                                                                                 | 39)<br>3 <b>)</b>               | ed)          |    |
| Drift Deposits (B3)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | HYDROLOGY  Vetland Hydrology In  Vrimary Indicators (min  Surface Water (A  High Water Table  Saturation (A3)                                                                                                                                                                                                                                                                                                                                                                           | dicators:<br>imum of one r<br>.1)<br>e (A2)                                                                                  |                                   | check all  | that apply)    Water   (exce                                                   | -Stained Leave pt MLRA 1, 2, rust (B11)                                                                                                                                              | es (B9)<br>4 <b>A, and 4</b> l                                                                                      |                            |                 | Water-Stained<br>(MLRA 1, 2, 4<br>Drainage Patte                                                                                             | Leaves (E<br>A, and 4B<br>erns (B10)                                                                                      | 39)                             | ed)          |    |
| Algal Mat or Crust (B4)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | IYDROLOGY  Vetland Hydrology In  rimary Indicators (min  Surface Water (A  High Water Table  Saturation (A3)  Water Marks (B1                                                                                                                                                                                                                                                                                                                                                           | dicators:<br>imum of one r<br>1)<br>e (A2)                                                                                   |                                   | check all  | that apply) ] Water (exce ] Salt C                                             | -Stained Leave pt MLRA 1, 2, rust (B11) ic Invertebrates                                                                                                                             | es (B9)<br><b>4A, and 4</b> l<br>s (B13)                                                                            |                            |                 | Water-Stained (MLRA 1, 2, 4 Drainage Patte Dry-Season W                                                                                      | A, and 4B<br>erns (B10)<br>dater Table                                                                                    | 39)<br>(C2)                     |              |    |
| Iron Deposits (B5)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | HYDROLOGY  Vetland Hydrology In  Primary Indicators (min  Surface Water (A  High Water Table  Saturation (A3)  Water Marks (B1  Sediment Depos                                                                                                                                                                                                                                                                                                                                          | dicators: imum of one r in) e (A2) ) its (B2)                                                                                |                                   | check all  | that apply)  ] Water (exce ] Salt C ] Aquat                                    | -Stained Leave<br>pt MLRA 1, 2,<br>rust (B11)<br>ic Invertebrates<br>gen Sulfide Od                                                                                                  | es (B9)  4A, and 4l  s (B13)  lor (C1)                                                                              | В)                         |                 | Water-Stained (MLRA 1, 2, 4 Drainage Patte Dry-Season W Saturation Vis                                                                       | A Leaves (EA, and 4B)<br>erns (B10)<br>atter Table                                                                        | 39)  (C2)  (C3)                 |              |    |
| Surface Soil Cracks (B6) Stunted or Stresses Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A)  Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Frost-Heave Hummocks (D7)  Sparsely Vegetated Concave Surface (B8)  Field Observations:  Surface Water Present? Yes No Depth (inches): 36  Vater Table Present? Yes No Depth (inches): Wetland Hydrology Present? Yes No Depth (inches): Wetland Hydrology Present? Yes No Depth (inches): N | HYDROLOGY Wetland Hydrology In Primary Indicators (min Surface Water (A High Water Table Saturation (A3) Water Marks (B1 Sediment Depos Drift Deposits (B:                                                                                                                                                                                                                                                                                                                              | dicators: imum of one r id) e (A2) ) its (B2)                                                                                |                                   | check all  | that apply)  Water (exce Salt C Aquat Hydro                                    | -Stained Leave pt MLRA 1, 2, rust (B11) ic Invertebrates gen Sulfide Od                                                                                                              | es (B9)<br><b>4A, and 4</b> I<br>s (B13)<br>lor (C1)<br>es along L                                                  | B)                         |                 | Water-Stained (MLRA 1, 2, 4 Drainage Patte Dry-Season W Saturation Vis Geomorphic P                                                          | A., and 4B<br>erns (B10)<br>dater Table<br>ible on Aei                                                                    | 39)  (C2)  (C3)                 |              |    |
| Inundation Visible on Aerial Imagery (B7)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | HYDROLOGY  Vetland Hydrology In  Primary Indicators (min  Surface Water (A  High Water Table  Saturation (A3)  Water Marks (B1  Sediment Depos  Drift Deposits (B1  Algal Mat or Crus                                                                                                                                                                                                                                                                                                   | dicators: imum of one r i.1) e (A2) ) its (B2) 3) et (B4)                                                                    |                                   | check all  | that apply)  ] Water (exce ] Salt C ] Aquat ] Hydro ] Oxidia ] Prese           | -Stained Leave pt MLRA 1, 2, rust (B11) ic Invertebrates gen Sulfide Od red Rhizospher nce of Reduced                                                                                | es (B9) <b>4A, and 4</b> I  s (B13)  lor (C1)  es along L  d Iron (C4)                                              | B) iving Roots (0          | C3)             | Water-Stained (MLRA 1, 2, 4 Drainage Patte Dry-Season W Saturation Vis Geomorphic F Shallow Aquita                                           | d Leaves (EA, and 4B)<br>erns (B10)<br>dater Table<br>ible on Aer<br>Position (D2)<br>ard (D3)                            | 39)  (C2)  (C3)                 |              |    |
| Sparsely Vegetated Concave Surface (B8)  Field Observations:  Surface Water Present? Yes No Depth (inches): 36  Vater Table Present? Yes No Depth (inches): Wetland Hydrology Present? Yes No Depth (inches): No Dep | HYDROLOGY  Vetland Hydrology In  Primary Indicators (min  Surface Water (A  High Water Table  Saturation (A3)  Water Marks (B1  Sediment Depos  Drift Deposits (B:  Iron Deposits (B:                                                                                                                                                                                                                                                                                                   | dicators: imum of one r int) e (A2)  ) its (B2) 3) st (B4)                                                                   |                                   | check all  | that apply)  Water (exce Salt C Aquat Hydro Oxidia Prese Recei                 | -Stained Leave pt MLRA 1, 2, rust (B11) ic Invertebrates gen Sulfide Od red Rhizospher nce of Reduced nt Iron Reduction                                                              | es (B9)  4A, and 4l  s (B13)  lor (C1)  es along L  d Iron (C4)  on in Tilled                                       | B) iving Roots (0          | C3)             | Water-Stained (MLRA 1, 2, 4 Drainage Patte Dry-Season W Saturation Vis Geomorphic P Shallow Aquite FAC-Neutral T                             | d Leaves (E.A., and 4B)<br>erns (B10)<br>/ater Table<br>ible on Aei<br>Position (D2)<br>ard (D3)<br>Fest (D5)             | 39)  (i)  (C2)  (C3)  (C3)      | ery (C9)     |    |
| Surface Water Present? Yes No Depth (inches): 36  Vater Table Present? Yes No Depth (inches): Wetland Hydrology Present? Yes No Depth (inches): No Depth (i | HYDROLOGY  Wetland Hydrology In  Primary Indicators (min  Surface Water (A  High Water Table  Saturation (A3)  Water Marks (B1  Sediment Depos  Drift Deposits (B1  Algal Mat or Crus  Iron Deposits (B3  Surface Soil Cras                                                                                                                                                                                                                                                             | dicators: imum of one r  1) e (A2) ) its (B2) 3) st (B4) 5) cks (B6)                                                         | equired;                          | check all  | that apply)    Water   (exce   Salt C   Aquat   Hydro   Oxidiz   Prese   Recer | e-Stained Leave<br>pt MLRA 1, 2,<br>rust (B11)<br>ic Invertebrates<br>gen Sulfide Od<br>ted Rhizospher<br>nce of Reduced<br>at Iron Reduction                                        | es (B9)  4A, and 4l  s (B13)  lor (C1)  es along L  d Iron (C4)  on in Tilled  Plants (D1                           | B) iving Roots (0          | C3)             | Water-Stained (MLRA 1, 2, 4) Drainage Patte Dry-Season W Saturation Vis Geomorphic P Shallow Aquita FAC-Neutral T Raised Ant Mo              | I Leaves (E.A., and 4B<br>erns (B10)<br>Vater Table<br>ible on Aer<br>Position (D2<br>ard (D3)<br>Fest (D5)<br>bunds (D6) | B39)  Pe (C2)  rial Image  2)   | ery (C9)     |    |
| Vater Table Present? Yes No Depth (inches): Saturation Present? Includes capillary fringe)  Yes No Depth (inches): Wetland Hydrology Present? Yes No Depth (inches):                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | HYDROLOGY  Wetland Hydrology In  Primary Indicators (min  Surface Water (A  High Water Table  Saturation (A3)  Water Marks (B1  Sediment Deposits (B1  Algal Mat or Cruster (B2)  Iron Deposits (B3)  Surface Soil Cracter (B3)                                                                                                                                                                                                                                                         | dicators: imum of one r int) e (A2) ) its (B2) 33) st (B4) 50) cks (B6) e on Aerial Im                                       | equired;                          | check all  | that apply)    Water   (exce   Salt C   Aquat   Hydro   Oxidiz   Prese   Recer | e-Stained Leave<br>pt MLRA 1, 2,<br>rust (B11)<br>ic Invertebrates<br>gen Sulfide Od<br>ted Rhizospher<br>nce of Reduced<br>at Iron Reduction                                        | es (B9)  4A, and 4l  s (B13)  lor (C1)  es along L  d Iron (C4)  on in Tilled  Plants (D1                           | B) iving Roots (0          | C3)             | Water-Stained (MLRA 1, 2, 4) Drainage Patte Dry-Season W Saturation Vis Geomorphic P Shallow Aquita FAC-Neutral T Raised Ant Mo              | I Leaves (E.A., and 4B<br>erns (B10)<br>Vater Table<br>ible on Aer<br>Position (D2<br>ard (D3)<br>Fest (D5)<br>bunds (D6) | B39)  Pe (C2)  rial Image  2)   | ery (C9)     |    |
| Saturation Present? Yes No Depth (inches): Wetland Hydrology Present? Yes No C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | HYDROLOGY  Wetland Hydrology In  Primary Indicators (min  Surface Water (A  High Water Table  Saturation (A3)  Water Marks (B1  Sediment Depos  Drift Deposits (B1  Iron Deposits (B2  Surface Soil Crall  Inundation Visible  Sparsely Vegeta                                                                                                                                                                                                                                          | dicators: imum of one r int) e (A2) ) its (B2) 33) st (B4) 50) cks (B6) e on Aerial Im                                       | equired;                          | check all  | that apply)    Water   (exce   Salt C   Aquat   Hydro   Oxidiz   Prese   Recer | e-Stained Leave<br>pt MLRA 1, 2,<br>rust (B11)<br>ic Invertebrates<br>gen Sulfide Od<br>ted Rhizospher<br>nce of Reduced<br>at Iron Reduction                                        | es (B9)  4A, and 4l  s (B13)  lor (C1)  es along L  d Iron (C4)  on in Tilled  Plants (D1                           | B) iving Roots (0          | C3)             | Water-Stained (MLRA 1, 2, 4) Drainage Patte Dry-Season W Saturation Vis Geomorphic P Shallow Aquita FAC-Neutral T Raised Ant Mo              | I Leaves (E.A., and 4B<br>erns (B10)<br>Vater Table<br>ible on Aer<br>Position (D2<br>ard (D3)<br>Fest (D5)<br>bunds (D6) | B39)  Pe (C2)  rial Image  2)   | ery (C9)     |    |
| includes capillary fringe)  Yes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | HYDROLOGY  Wetland Hydrology In  Primary Indicators (min  Surface Water (A  High Water Table  Saturation (A3)  Water Marks (B1  Sediment Depos  Drift Deposits (B1  Algal Mat or Crus  Iron Deposits (B2  Surface Soil Cras  Inundation Visibl  Sparsely Vegeta  Field Observations:                                                                                                                                                                                                    | dicators: imum of one r  11) e (A2) ) its (B2) 3) st (B4) 5) cks (B6) e on Aerial Im                                         | required;<br>nagery (E<br>Surface | check all  | that apply)  Water (exce Salt C Aquat Hydro Cyddiz Prese Recei Stunte          | -Stained Leave pt MLRA 1, 2, rust (B11) ic Invertebrates gen Sulfide Od red Rhizospher nce of Reducer at Iron Reduction ed or Stresses I (Explain in Rer                             | es (B9)  4A, and 4l  s (B13)  lor (C1)  res along L  d Iron (C4)  on in Tilled  Plants (D1  marks)                  | B) iving Roots (0          | C3)             | Water-Stained (MLRA 1, 2, 4) Drainage Patte Dry-Season W Saturation Vis Geomorphic P Shallow Aquita FAC-Neutral T Raised Ant Mo              | I Leaves (E.A., and 4B<br>erns (B10)<br>Vater Table<br>ible on Aer<br>Position (D2<br>ard (D3)<br>Fest (D5)<br>bunds (D6) | B39)  Pe (C2)  rial Image  2)   | ery (C9)     |    |
| Appariha Dagardad Data (atraga gauga gantaring well garial states garding inspections) if excitation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | HYDROLOGY  Vetland Hydrology In  Primary Indicators (min  Surface Water (A  High Water Table  Saturation (A3)  Water Marks (B1  Sediment Deposits (Ba  Algal Mat or Crust  Iron Deposits (Ba  Surface Soil Cract  Inundation Visibla  Sparsely Vegeta  Field Observations:  Surface Water Present                                                                                                                                                                                       | dicators: imum of one r int) e (A2)  ) its (B2) 3) st (B4) 5) cks (B6) e on Aerial Im ted Concave S                          | required; ragery (E               | check all  | that apply)  Water (exce Salt C Aquat Hydro Oxidia Prese Recei Stunto          | -Stained Leave pt MLRA 1, 2, rust (B11) ic Invertebrates gen Sulfide Od red Rhizospher nce of Reduced at Iron Reduction and or Stresses I (Explain in Rer epth (inches):             | es (B9)  4A, and 4l  s (B13)  lor (C1)  res along L  d Iron (C4)  on in Tilled  Plants (D1  marks)                  | B) iving Roots (0          | C3)             | Water-Stained (MLRA 1, 2, 4) Drainage Patte Dry-Season W Saturation Vis Geomorphic P Shallow Aquita FAC-Neutral T Raised Ant Mo              | I Leaves (E.A., and 4B<br>erns (B10)<br>Vater Table<br>ible on Aer<br>Position (D2<br>ard (D3)<br>Fest (D5)<br>bunds (D6) | B39)  Pe (C2)  rial Image  2)   | ery (C9)     |    |
| Remarks: Surface water was observed to a depth of approximately 36 inches and is a primary indicator for wetland hydrology.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | HYDROLOGY  Wetland Hydrology In  Primary Indicators (min  Surface Water (A  High Water Table  Saturation (A3)  Water Marks (B1  Sediment Depos  Drift Deposits (B:  Algal Mat or Crus  Iron Deposits (B:  Surface Soil Cras  Inundation Visible  Sparsely Vegeta  Field Observations:  Surface Water Present?  Saturation Present?  Secribe Recorded Data | dicators: imum of one r  11) e (A2) ) its (B2) 3) st (B4) 5) cks (B6) e on Aerial Im ted Concave s Yes Yes Yes a (stream gau | required; lagery (ESurface        | check all  | that apply)  Water (exce Salt C Aquat Hydro Prese Stunte Other                 | -Stained Leave pt MLRA 1, 2, rust (B11) ic Invertebrates gen Sulfide Od red Rhizospher nce of Reducer at Iron Reduction dor Stresses I (Explain in Rer epth (inches): epth (inches): | es (B9)  4A, and 4l  s (B13)  lor (C1)  res along L  d Iron (C4)  on in Tilled  Plants (D1  marks)  36  inspections | B) Soils (C6) ) (LRR A)  V | C3)             | Water-Stained (MLRA 1, 2, 4 Drainage Patte Dry-Season W Saturation Vis Geomorphic F Shallow Aquita FAC-Neutral T Raised Ant Mo Frost-Heave H | d Leaves (EA, and 4B) erns (B10) /ater Table ible on Ael Position (D2 ard (D3) Fest (D5) bounds (D6) Hummocks             | 39) e (C2) rial Image 2) (LRR A | ery (C9)     |    |

| Project Site:           | Port Gamble                     |                       |              |             |           |         | City/Coun       | ıty:   | Port            | Gambl   | le/Kits  | <u>ap</u>             | Samplin          | g Date:                    | 3-2         | <u>4-17</u>  |       |
|-------------------------|---------------------------------|-----------------------|--------------|-------------|-----------|---------|-----------------|--------|-----------------|---------|----------|-----------------------|------------------|----------------------------|-------------|--------------|-------|
| Applicant/Owner:        | Fischer Boun                    | na Partnership        |              |             |           |         |                 |        |                 |         | State:   | <u>WA</u>             | Samplin          | g Point:                   | TP          | <u>1 - O</u> |       |
| Investigator(s):        | J. Bartlett, L.                 | Westervelt, K. Boa    | <u>a</u>     |             |           |         |                 |        | Se              | ection, | Towns    | ship, Rang            | ge: <u>S7 T</u>  | 727N R2E                   |             |              |       |
| Landform (hillslope, te | errace, etc.):                  | hillslope             |              |             |           | Loca    | al relief (conc | ave, c | onve            | x, non  | e):      | concave               |                  | Slop                       | e (%):      | 2            |       |
| Subregion (LRR):        | MLRA 2                          |                       | Lat:         |             | _         |         |                 | Lo     | ong:            |         | _        |                       |                  | Datum:                     | Trimb       | <u>le</u>    |       |
| Soil Map Unit Name:     | Poulsbo gra                     | avelly sandy loam,    | 0 to 6 per   | cent        | slopes    |         |                 |        |                 |         |          | NWI class             | sification:      | <u> </u>                   |             |              |       |
| Are climatic / hydrolog | ic conditions o                 | n the site typical fo | or this time | e of y      | ear?      | Υ       | es 🛛            | N      | ٧o              |         | (If no,  | explain ir            | n Remark         | (s.)                       |             |              |       |
| Are Vegetation □,       | , Soil □,                       | , or Hydrology        | □, sig       | gnifica     | antly dis | sturbec | d? Are "        | Norma  | al Cir          | cumst   | ances'   | present?              |                  | Yes                        | $\boxtimes$ | No           |       |
| Are Vegetation □,       | , Soil □,                       | , or Hydrology        | □, na        | turall      | y probl   | ematic  | ? (If ne        | eded,  | , expl          | ain an  | y ansv   | vers in Re            | marks.)          |                            |             |              |       |
| -                       |                                 |                       |              |             |           |         |                 |        |                 |         | -        |                       | -                |                            |             |              |       |
| SUMMARY OF FIN          | IDINGS – At                     | tach site map s       | howing       | sam         | pling     | point   | locations,      | tran   | sect            | s, im   | porta    | nt featui             | res, etc         |                            |             |              |       |
| Hydrophytic Vegetatio   | n Present?                      |                       | Yes          | $\boxtimes$ | . No      |         |                 |        |                 |         |          |                       | -                |                            |             |              |       |
| Hydric Soil Present?    |                                 |                       | Yes          | $\boxtimes$ | No        |         | Is the Samp     | led A  | rea             |         |          |                       |                  | Yes                        | $\boxtimes$ | No           |       |
| Wetland Hydrology Pr    | esent?                          |                       | Yes          | ⊠           | No        |         | within a We     | etland | ?               |         |          |                       |                  |                            | _           |              |       |
|                         | 000111.                         |                       | 100          |             | 110       |         |                 |        |                 |         |          |                       |                  |                            |             |              | +     |
| Remarks:                |                                 |                       |              |             |           |         |                 |        |                 |         |          |                       |                  |                            |             |              |       |
|                         |                                 |                       |              |             |           |         |                 |        |                 |         |          |                       |                  |                            |             |              |       |
| VEGETATION – Us         | so scientific                   | names of plan         | te           |             |           |         |                 |        |                 |         |          |                       |                  |                            |             |              |       |
| Tree Stratum (Plot siz  |                                 | -                     | Absolut      | te          | Domin     | nant    | Indicator       | Don    | ninar           | To      | o + \M/o | rksheet:              |                  |                            |             |              |       |
|                         | e: <u>30 diametei</u>           | <u>L</u> )            | % Cove       | er          | Specie    | es?     | Status          | Don    | mmar            | nce re  | est wo   | rksneet:              |                  |                            |             |              |       |
| 1                       |                                 |                       |              |             |           |         |                 |        |                 |         |          | Species               |                  | <u></u>                    | _           |              | (A)   |
| 2                       |                                 |                       |              |             |           |         |                 | IIIa   | II AIE          | OBL,    | FACVV    | , or FAC:             |                  |                            |             |              |       |
| 3                       |                                 |                       |              |             |           |         |                 |        |                 | mber c  |          |                       |                  |                            | _           |              | (B)   |
| 4                       |                                 |                       |              |             |           |         |                 | Spe    | cies            | Across  | S All St | rala:                 |                  |                            |             |              |       |
| 50% =, 20% =            |                                 | n' diamotor)          |              |             | = Tota    | l Cove  | r               |        |                 |         |          | Species<br>', or FAC: |                  |                            | =           |              | (A/B) |
| 1                       | <u>II</u> (Flot Size. <u>50</u> | diameter)             |              |             |           |         |                 |        |                 |         |          | orksheet:             |                  |                            |             |              |       |
| 2                       |                                 |                       |              |             |           |         |                 |        | valor           |         |          | Cover of:             |                  | Multir                     | oly by:     |              |       |
| 3                       |                                 |                       |              |             |           |         |                 | OBI    | L spe           |         | 70 ·     | <u> </u>              |                  | x1 =                       | <u>yy.</u>  |              |       |
| 4                       |                                 |                       |              |             |           |         |                 |        |                 | pecies  |          |                       |                  | x2 =                       |             |              |       |
| 5                       |                                 |                       |              |             |           |         |                 |        | C spe           |         |          |                       |                  | x3 =                       |             |              |       |
| 50% =, 20% =            |                                 |                       |              |             | - Tota    | al Cove |                 |        | -               | ecies   |          |                       |                  | x4 =                       |             |              |       |
| Herb Stratum (Plot siz  |                                 | r)                    |              |             | - 1010    | ii Oovo |                 |        | L spe           |         |          |                       |                  | x5 =                       | _           |              |       |
| •                       | e. <u>10 diamete</u>            | <u>11</u> )           |              |             |           |         |                 |        | •               |         |          |                       | (A)              | X3 =                       |             |              | D)    |
| 1                       |                                 |                       |              |             |           |         |                 | Colu   | umn T           | Totals: |          |                       | (A)              | 2/4                        |             | (            | В)    |
| 2                       |                                 |                       |              |             |           |         |                 |        |                 |         |          |                       |                  | B/A =                      |             |              |       |
| 3                       |                                 |                       |              |             |           |         |                 |        | -               | -       | _        | tion Indic            |                  |                            |             |              |       |
| 4                       |                                 |                       |              |             |           |         |                 |        |                 |         |          | for Hydrop            | •                | getation                   |             |              |       |
| 5                       |                                 |                       |              |             |           |         |                 |        | 2 -             | Domir   | nance '  | Test is >5            | 0%               |                            |             |              |       |
| 6                       |                                 |                       |              |             |           |         |                 |        | 3 -             | Preval  | lence l  | ndex is <             | 3.0 <sup>1</sup> |                            |             |              |       |
| 7                       |                                 |                       |              |             |           |         |                 |        |                 |         |          |                       |                  | rovide suppo<br>ate sheet) | rting       |              |       |
| 8                       |                                 |                       |              |             |           |         |                 |        |                 |         |          | n-Vascula             | ٠.               | ate Sileet)                |             |              |       |
| 9                       |                                 |                       |              |             |           |         |                 |        |                 |         |          |                       |                  |                            |             |              |       |
| 10                      |                                 |                       |              |             |           |         |                 |        | Pro             | oblema  | atic Hy  | drophytic '           | Vegetation       | on¹ (Explain)              |             |              |       |
| 11                      |                                 |                       |              |             |           |         |                 | 1Ind   | licato          | rs of h | vdric s  | oil and we            | etland hy        | drology mus                | t           |              |       |
| 50% =, 20% =            |                                 | P ( )                 |              |             | = 10ta    | I Cove  | Г               | be p   | orese           | nt, unl | ess dis  | sturbed or            | problem          | atic.                      |             |              |       |
| Woody Vine Stratum (    | (Plot size: 10° c               | diameter)             |              |             |           |         |                 |        |                 |         |          |                       |                  |                            |             |              |       |
| 1                       |                                 |                       |              |             |           |         |                 | Llvd   | drank           | veio.   |          |                       |                  |                            |             |              |       |
| 2                       |                                 |                       |              |             |           |         |                 | _      | iroph<br>jetati | -       |          | Ye                    | es               | $\boxtimes$                | No          | ,            |       |
| 50% =, 20% =            |                                 |                       |              |             | = Tota    | I Cove  | r               | _      | sent?           |         |          |                       |                  | _                          |             |              | _     |
| % Bare Ground in Her    | rb Stratum                      | <u> </u>              |              |             |           |         |                 |        |                 |         |          |                       |                  |                            |             |              |       |
| Remarks:                |                                 |                       |              |             |           |         |                 |        |                 |         |          |                       |                  |                            |             |              |       |
|                         |                                 |                       |              |             |           |         |                 |        |                 |         |          |                       |                  |                            |             |              |       |
|                         |                                 |                       |              |             |           |         |                 |        |                 |         |          |                       |                  |                            |             |              |       |

| Profile Description  Depth                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                      |                                  |            |                                                                                                 |                                                                                                                                                                                         |                                                                                                   |                                |                          | Samplir                                                                                                                       | ng Point: <u>TP</u>                                                                                                                          | <u>1 - U</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                      |    | - 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------------------------------------------------------------|----------------------|----|---|
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                                               | gy Indicators: (minimum of one ater (A1) Table (A2)                                                                                                                                                  |                                  | check all  | that apply)<br>] Water<br>(exce                                                                 | -Stained Leave                                                                                                                                                                          | es (B9)                                                                                           |                                |                          | Water-Staine                                                                                                                  | ed Leaves (I                                                                                                                                 | B9)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | ed)                  |    |   |
| HYDROLOGY Vetland Hydrolo Primary Indicators Surface Wa High Water Saturation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | gy Indicators: (minimum of one ater (A1) Table (A2) (A3)                                                                                                                                             |                                  | check all  | that apply) ] Water (exce ] Salt C                                                              | -Stained Leave<br>pt MLRA 1, 2, 4                                                                                                                                                       | es (B9)<br>4 <b>A</b> , and 4                                                                     |                                |                          | Water-Staine                                                                                                                  | ed Leaves (I<br>4A, and 4E<br>tterns (B10)                                                                                                   | B9)<br><b>3)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | red)                 |    |   |
| IYDROLOGY Vetland Hydrolo rimary Indicators Surface Wa High Water Saturation (                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | gy Indicators: (minimum of one ater (A1) Table (A2) (A3)                                                                                                                                             |                                  | check all  | that apply) ] Water (exce ] Salt C                                                              | -Stained Leave pt MLRA 1, 2,                                                                                                                                                            | es (B9)<br><b>4A, and 4</b><br>s (B13)                                                            |                                |                          | Water-Staine (MLRA 1, 2, Drainage Par                                                                                         | ed Leaves (I<br>4A, and 4E<br>tterns (B10)<br>Water Table                                                                                    | B9)  B)  c (C2)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                      |    |   |
| HYDROLOGY  Vetland Hydrolo  Primary Indicators  Surface Wa  High Water  Saturation (  Water Mark                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | gy Indicators: It (minimum of one ater (A1) Table (A2) (A3) Its (B1) Deposits (B2)                                                                                                                   |                                  | check all  | that apply) ] Water (exce ] Salt C ] Aquat                                                      | -Stained Leave<br>pt MLRA 1, 2,<br>rust (B11)<br>ic Invertebrates                                                                                                                       | es (B9) <b>4A, and 4 6</b> (B13)  lor (C1)                                                        | B)                             | 0                        | Water-Staine (MLRA 1, 2, Drainage Par Dry-Season                                                                              | ed Leaves (I  4A, and 4E  tterns (B10)  Water Table  sible on Ae                                                                             | B9)  B)  Comparison of the com |                      |    |   |
| HYDROLOGY Vetland Hydrolo Primary Indicators Surface Wa High Water Saturation ( Water Mark Sediment D Drift Depos                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | gy Indicators: i (minimum of one ater (A1) Table (A2) (A3) is (B1) Deposits (B2) its (B3)                                                                                                            |                                  | check all  | that apply)  ] Water (exce) ] Salt C ] Aquat ] Hydro                                            | r-Stained Leave<br>pt MLRA 1, 2,<br>rust (B11)<br>ic Invertebrates<br>gen Sulfide Od                                                                                                    | es (B9)  4A, and 4  s (B13)  for (C1)  es along l                                                 | .B)                            | 0                        | Water-Staine (MLRA 1, 2, Drainage Pat Dry-Season V Saturation Vi                                                              | ed Leaves (I<br>4A, and 4E<br>tterns (B10)<br>Water Table<br>sible on Ae<br>Position (D                                                      | B9)  B)  Comparison of the com |                      |    |   |
| HYDROLOGY Vetland Hydrolo Primary Indicators Surface Wa High Water Saturation ( Water Mark Sediment D Drift Depos                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | gy Indicators: (minimum of one ater (A1) Table (A2) (A3) (A3) (A5) (A5) (A5) (A5) (A5) (A5) (A5) (A5                                                                                                 |                                  | check all  | that apply)  ] Water (exce ] Salt C ] Aquat ] Hydro ] Oxidia ] Prese                            | -Stained Leave<br>pt MLRA 1, 2,<br>trust (B11)<br>ic Invertebrates<br>gen Sulfide Od<br>ted Rhizospher                                                                                  | es (B9) <b>4A, and 4</b> s (B13)  or (C1)  es along L  d Iron (C4                                 | E <b>B)</b> Living Roots ((    | C3)                      | Water-Staine (MLRA 1, 2, Drainage Pat Dry-Season V Saturation Vi Geomorphic                                                   | ed Leaves (I<br>4A, and 4B<br>tterns (B10)<br>Water Table<br>sible on Ae<br>Position (D<br>itard (D3)                                        | B9)  B)  Comparison of the com |                      |    |   |
| HYDROLOGY  Vetland Hydrolo  Primary Indicators  Surface Wa High Water Saturation ( Water Mark Sediment D Drift Depos Algal Mat o                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | gy Indicators: (minimum of one ater (A1) Table (A2) (A3) (A3) (A5) (A5) (A5) (A5) (A5) (A5) (A5) (A5                                                                                                 |                                  | check all  | that apply)    Water   (exce   Salt C   Aquat   Hydro   Oxidia   Prese   Recer                  | -Stained Leave pt MLRA 1, 2, rust (B11) ic Invertebrates gen Sulfide Od red Rhizospher nce of Reduced                                                                                   | es (B9)  4A, and 4  s (B13)  for (C1)  es along I  d Iron (C4  on in Tilled                       | Living Roots (i)               | C3)                      | Water-Staine (MLRA 1, 2, Drainage Pat Dry-Season V Saturation Vi Geomorphic Shallow Aqui                                      | ed Leaves (I<br>4A, and 4E<br>tterns (B10)<br>Water Table<br>isible on Ae<br>Position (D<br>itard (D3)<br>Test (D5)                          | B9)  B)  Comparison of the com | ery (C9)             |    |   |
| HYDROLOGY Wetland Hydrolo Primary Indicators Surface Wa High Water Saturation ( Water Mark Sediment D Drift Depos Algal Mat o Iron Deposi                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | gy Indicators: (minimum of one ater (A1) Table (A2) (A3) (S (B1) Deposits (B2) its (B3) r Crust (B4) its (B5)                                                                                        | required                         | check all  | that apply)    Water   (exce   Salt C   Aquat   Hydro   Oxidiz   Prese   Recer                  | -Stained Leave pt MLRA 1, 2, rust (B11) ic Invertebrates gen Sulfide Od red Rhizospher nce of Reduced nt Iron Reduction                                                                 | es (B9)  4A, and 4  s (B13)  lor (C1)  es along l  d Iron (C4  on in Tilled                       | Living Roots (i)               | C3)                      | Water-Staine (MLRA 1, 2, Drainage Pat Dry-Season V Saturation Vi Geomorphic Shallow Aqui FAC-Neutral                          | ed Leaves (I<br>4A, and 4E<br>tterns (B10)<br>Water Table<br>sible on Ae<br>Position (D<br>itard (D3)<br>Test (D5)<br>Mounds (D6             | B9)  B)  Comparison of the com | ery (C9)             |    |   |
| HYDROLOGY  Vetland Hydrolo  Primary Indicators  Surface Wa High Water Saturation Water Mark Sediment D Drift Depos Algal Mat o Iron Deposi Surface So Inundation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | gy Indicators: (minimum of one ater (A1) Table (A2) (A3) (S (B1) Deposits (B2) its (B3) or Crust (B4) its (B5) il Cracks (B6)                                                                        | required                         | check all  | that apply)    Water   (exce   Salt C   Aquat   Hydro   Oxidiz   Prese   Recer                  | e-Stained Leave<br>pt MLRA 1, 2,<br>rust (B11)<br>ic Invertebrates<br>gen Sulfide Od<br>ted Rhizospher<br>nce of Reduced<br>at Iron Reduction                                           | es (B9)  4A, and 4  s (B13)  lor (C1)  es along l  d Iron (C4  on in Tilled                       | Living Roots (i)               | C3)                      | Water-Staine (MLRA 1, 2, Drainage Pat Dry-Season V Saturation Vi Geomorphic Shallow Aqui FAC-Neutral Raised Ant M             | ed Leaves (I<br>4A, and 4E<br>tterns (B10)<br>Water Table<br>sible on Ae<br>Position (D<br>itard (D3)<br>Test (D5)<br>Mounds (D6             | B9)  B)  Comparison of the com | ery (C9)             |    |   |
| HYDROLOGY  Vetland Hydrolo  Primary Indicators  Surface Wa High Water Saturation Water Mark Sediment D Drift Depos Algal Mat o Iron Deposi Surface So Inundation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | gy Indicators: i (minimum of one ater (A1) Table (A2) (A3) is (B1) Deposits (B2) its (B3) r Crust (B4) its (B5) il Cracks (B6) Visible on Aerial Inegetated Concave                                  | required                         | check all  | that apply)    Water   (exce   Salt C   Aquat   Hydro   Oxidiz   Prese   Recer                  | e-Stained Leave<br>pt MLRA 1, 2,<br>rust (B11)<br>ic Invertebrates<br>gen Sulfide Od<br>ted Rhizospher<br>nce of Reduced<br>at Iron Reduction                                           | es (B9)  4A, and 4  s (B13)  lor (C1)  es along l  d Iron (C4  on in Tilled                       | Living Roots (f)               | C3)                      | Water-Staine (MLRA 1, 2, Drainage Pat Dry-Season V Saturation Vi Geomorphic Shallow Aqui FAC-Neutral Raised Ant M             | ed Leaves (I<br>4A, and 4E<br>tterns (B10)<br>Water Table<br>sible on Ae<br>Position (D<br>itard (D3)<br>Test (D5)<br>Mounds (D6             | B9)  B)  Comparison of the com | ery (C9)             |    |   |
| HYDROLOGY Vetland Hydrolo Primary Indicators Surface Wa High Water Saturation of Water Mark Sediment D Drift Depos Algal Mat of Iron Deposi Surface So Inundation Sparsely Vo                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | gy Indicators: (minimum of one ater (A1) Table (A2) (A3) (S (B1) Deposits (B2) its (B3) r Crust (B4) its (B5) il Cracks (B6) Visible on Aerial Inegetated Concave                                    | required                         | Check all  | that apply)  Water (exce Salt C Aquat Hydro Oxidiz Prese Recei Stunte                           | e-Stained Leave<br>pt MLRA 1, 2,<br>rust (B11)<br>ic Invertebrates<br>gen Sulfide Od<br>ted Rhizospher<br>nce of Reduced<br>at Iron Reduction                                           | es (B9)  4A, and 4  s (B13)  lor (C1)  es along l  d Iron (C4  on in Tilled                       | Living Roots (f)               | C3)                      | Water-Staine (MLRA 1, 2, Drainage Pat Dry-Season V Saturation Vi Geomorphic Shallow Aqui FAC-Neutral Raised Ant M             | ed Leaves (I<br>4A, and 4E<br>tterns (B10)<br>Water Table<br>sible on Ae<br>Position (D<br>itard (D3)<br>Test (D5)<br>Mounds (D6             | B9)  B)  Comparison of the com | ery (C9)             |    |   |
| HYDROLOGY  Vetland Hydrolo  Primary Indicators  Surface Wa High Water Saturation ( Water Mark Sediment D Drift Depos Algal Mat o Iron Deposi Surface So Inundation Sparsely Water Water Water Water Water So                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | gy Indicators: (minimum of one ater (A1) Table (A2) (A3) (S (B1) Deposits (B2) its (B3) or Crust (B4) its (B5) il Cracks (B6) Visible on Aerial Indicated Concave ins: (Page 11                      | required<br>nagery (E<br>Surface | Check all  | that apply)    Water   (exce   Salt C   Aquat   Hydro   Oxidia   Prese   Recei   Stunto   Other | -Stained Leave pt MLRA 1, 2, rust (B11) ic Invertebrates gen Sulfide Od red Rhizospher nce of Reducer nt Iron Reduction ed or Stresses I (Explain in Rer                                | es (B9)  4A, and 4  s (B13)  for (C1)  es along l  d Iron (C4)  in in Tilled  Plants (D1)  marks) | Living Roots (f)               | C3)                      | Water-Staine (MLRA 1, 2, Drainage Pat Dry-Season V Saturation Vi Geomorphic Shallow Aqui FAC-Neutral Raised Ant M             | ed Leaves (I<br>4A, and 4E<br>tterns (B10)<br>Water Table<br>sible on Ae<br>Position (D<br>itard (D3)<br>Test (D5)<br>Mounds (D6             | B9)  B)  Comparison of the com | ery (C9)             |    |   |
| HYDROLOGY  Vetland Hydrolo  Primary Indicators  Surface Wa High Water Saturation Water Mark Sediment D Drift Depos Algal Mat o Iron Deposi Surface So Inundation Sparsely Weter  Veter Table Presentation Presentatio | gy Indicators: (minimum of one ater (A1) Table (A2) (A3) (S (B1) Deposits (B2) its (B3) or Crust (B4) its (B5) il Cracks (B6) Visible on Aerial Integetated Concave ons: esent? Yes ent? Yes fringe) | nagery (E<br>Surface             | check all  | that apply)    Water   (exce   Salt C   Aquat   Hydro   Oxidia   Prese   Recer   Stunto   Other | e-Stained Leave pt MLRA 1, 2, irust (B11) ic Invertebrates gen Sulfide Od ted Rhizospher nce of Reduced at Iron Reductio ed or Stresses I (Explain in Rer epth (inches): epth (inches): | es (B9)  4A, and 4  s (B13)  for (C1)  es along I  d Iron (C4  on in Tilled  Plants (D1  marks)   | Living Roots (( ) d Soils (C6) | C3)                      | Water-Staine (MLRA 1, 2, Drainage Pat Dry-Season V Saturation Vi Geomorphic Shallow Aqui FAC-Neutral Raised Ant M             | ed Leaves (I<br>4A, and 4E<br>tterns (B10)<br>Water Table<br>sible on Ae<br>Position (D<br>itard (D3)<br>Test (D5)<br>Mounds (D6<br>Hummocks | B9)  B)  Comparison of the com | ery (C9)             | No |   |
| HYDROLOGY  Vetland Hydrolo  Primary Indicators  Surface Wa High Water Saturation Water Mark Sediment D Drift Depos Algal Mat o Iron Deposi Surface So Inundation Sparsely Weter  Veter Table Presentation Presentatio | gy Indicators: (minimum of one ater (A1) Table (A2) (A3) (S (B1) Deposits (B2) its (B3) or Crust (B4) its (B5) il Cracks (B6) Visible on Aerial Integetated Concave ons: csent? Yes ent? Yes         | nagery (E<br>Surface             | check all  | that apply)    Water   (exce   Salt C   Aquat   Hydro   Oxidia   Prese   Recer   Stunto   Other | e-Stained Leave pt MLRA 1, 2, irust (B11) ic Invertebrates gen Sulfide Od ted Rhizospher nce of Reduced at Iron Reductio ed or Stresses I (Explain in Rer epth (inches): epth (inches): | es (B9)  4A, and 4  s (B13)  for (C1)  es along I  d Iron (C4  on in Tilled  Plants (D1  marks)   | Living Roots (( ) d Soils (C6) | C3)                      | Water-Staine (MLRA 1, 2, Drainage Pat Dry-Season V Saturation Vi Geomorphic Shallow Aqui FAC-Neutral Raised Ant M Frost-Heave | ed Leaves (I<br>4A, and 4E<br>tterns (B10)<br>Water Table<br>sible on Ae<br>Position (D<br>itard (D3)<br>Test (D5)<br>Mounds (D6<br>Hummocks | B9)  (a) (b) (c) (c) (c) (c) (c) (c) (c) (c) (c) (c                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | ery (C9)             |    |   |
| HYDROLOGY  Vetland Hydrolo  Primary Indicators  Surface Wa High Water Saturation Water Mark Sediment D Drift Depos Algal Mat o Iron Deposi Surface So Inundation Sparsely Weter  Veter Table Presentation Presentatio | gy Indicators: (minimum of one ater (A1) Table (A2) (A3) (S (B1) Deposits (B2) its (B3) or Crust (B4) its (B5) il Cracks (B6) Visible on Aerial Integetated Concave ons: esent? Yes ent? Yes fringe) | nagery (E<br>Surface             | check all  | that apply)    Water   (exce   Salt C   Aquat   Hydro   Oxidia   Prese   Recer   Stunto   Other | e-Stained Leave pt MLRA 1, 2, irust (B11) ic Invertebrates gen Sulfide Od ted Rhizospher nce of Reduced at Iron Reductio ed or Stresses I (Explain in Rer epth (inches): epth (inches): | es (B9)  4A, and 4  s (B13)  for (C1)  es along I  d Iron (C4  on in Tilled  Plants (D1  marks)   | Living Roots (( ) d Soils (C6) | C3)                      | Water-Staine (MLRA 1, 2, Drainage Pat Dry-Season V Saturation Vi Geomorphic Shallow Aqui FAC-Neutral Raised Ant M Frost-Heave | ed Leaves (I<br>4A, and 4E<br>tterns (B10)<br>Water Table<br>sible on Ae<br>Position (D<br>itard (D3)<br>Test (D5)<br>Mounds (D6<br>Hummocks | B9)  (a) (b) (c) (c) (c) (c) (c) (c) (c) (c) (c) (c                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | ery (C9)             |    |   |

| Project Site:           | Port Gamble                            |                            |                      | City/Coun                  | ty: Port Gamble/Kitsa                | <u>ap</u> Samp         | ling Date:                   | 3-24-1          | <u>7</u>    |
|-------------------------|----------------------------------------|----------------------------|----------------------|----------------------------|--------------------------------------|------------------------|------------------------------|-----------------|-------------|
| Applicant/Owner:        | Fischer Bouma Partnership              |                            |                      |                            | State:                               | <u>WA</u> Samp         | ling Point:                  | TP1P            |             |
| Investigator(s):        | J. Bartlett, L. Westervelt, K. Boa     |                            |                      |                            | Section, Towns                       | ship, Range: <u>S7</u> | 7 T27N R2E                   |                 |             |
| Landform (hillslope, te | errace, etc.): <u>hillslope</u>        |                            | Loca                 | I relief (conc             | ave, convex, none):                  | concave                | Slope                        | e (%): <u>2</u> |             |
| Subregion (LRR):        | MLRA 2                                 | Lat:                       | _                    |                            | Long:                                |                        | Datum:                       | <u> Trimble</u> |             |
| Soil Map Unit Name:     | Poulsbo gravelly sandy loam, 0         | to 6 percent               | slopes               |                            |                                      | NWI classification     | on:                          |                 |             |
| Are climatic / hydrolog | gic conditions on the site typical for | this time of y             | rear? Ye             | es 🛛                       | No ☐ (If no,                         | explain in Rema        | arks.)                       |                 |             |
| Are Vegetation □,       | , Soil □, or Hydrology                 | ☐, signific                | antly disturbed      | ? Are "                    | Normal Circumstances"                | present?               | Yes                          | ⊠ N             | lo 🗆        |
| Are Vegetation □,       | , Soil □, or Hydrology                 | □, natural                 | ly problematic?      | (If ne                     | eded, explain any answ               | ers in Remarks.        | )                            |                 |             |
|                         |                                        |                            |                      |                            |                                      |                        |                              |                 |             |
| SUMMARY OF FIN          | IDINGS – Attach site map sh            | nowing san                 | npling point         | locations,                 | transects, importa                   | nt features, e         | tc.                          |                 |             |
| Hydrophytic Vegetatio   | n Present?                             | Yes 🛚                      | No 🗆                 | I- 4h - 0                  | alad Assa                            |                        |                              |                 |             |
| Hydric Soil Present?    |                                        | Yes 🛛                      |                      | Is the Samp<br>within a We |                                      |                        | Yes                          | ⊠ N             | lo 🗆        |
| Wetland Hydrology Pr    | esent?                                 | Yes 🛚                      | No 🗆                 |                            |                                      |                        |                              |                 |             |
| Remarks:                |                                        |                            |                      |                            |                                      |                        |                              |                 |             |
|                         |                                        |                            |                      |                            |                                      |                        |                              |                 |             |
|                         |                                        |                            |                      |                            |                                      |                        |                              |                 |             |
| VEGETATION – U          | se scientific names of plants          |                            |                      |                            |                                      |                        |                              |                 |             |
| Tree Stratum (Plot siz  | e: 30' diameter)                       | Absolute<br><u>% Cover</u> | Dominant<br>Species? | Indicator<br>Status        | Dominance Test Wo                    | rksheet:               |                              |                 |             |
| 1                       |                                        |                            |                      |                            | Number of Dominant                   | Species                |                              |                 | (A)         |
| 2                       |                                        |                            |                      |                            | That Are OBL, FACW                   | , or FAC:              |                              |                 | (A)         |
| 3                       |                                        |                            |                      |                            | Total Number of Dom                  | inant                  |                              |                 | (B)         |
| 4                       |                                        |                            |                      |                            | Species Across All St                | rata:                  |                              |                 | (B)         |
| 50% =, 20% =            |                                        |                            | = Total Cover        | •                          | Percent of Dominant S                |                        |                              |                 | (A/B)       |
|                         | m (Plot size: 30' diameter)            |                            |                      |                            | That Are OBL, FACW                   | , or FAC:              |                              |                 | ()          |
| 1                       |                                        |                            |                      |                            | Prevalence Index wo                  |                        |                              |                 |             |
| 2                       |                                        |                            |                      |                            | Total % (                            | Cover of:              | Multipl                      | y by:           |             |
| 3                       |                                        |                            |                      |                            | OBL species                          |                        | x1 =                         |                 |             |
| 4                       |                                        |                            |                      |                            | FACW species                         |                        | x2 =                         |                 |             |
| 5                       |                                        |                            |                      |                            | FAC species                          |                        | x3 =                         |                 |             |
| 50% =, 20% =            |                                        |                            | = Total Cover        | •                          | FACU species                         |                        | x4 =                         |                 |             |
| Herb Stratum (Plot siz  | :e: 10' diameter)                      |                            |                      |                            | UPL species                          |                        | x5 =                         |                 |             |
| 1                       |                                        |                            |                      |                            | Column Totals:                       | (A)                    |                              |                 | _ (B)       |
| 2                       |                                        |                            |                      |                            | Pre                                  | evalence Index =       | = B/A =                      |                 |             |
| 3                       |                                        |                            |                      |                            | Hydrophytic Vegetat                  | tion Indicators:       |                              |                 |             |
| 4                       |                                        |                            |                      |                            | ☐ 1 – Rapid Test f                   | for Hydrophytic \      | egetation/                   |                 |             |
| 5                       |                                        |                            |                      |                            | 2 - Dominance                        | Test is >50%           |                              |                 |             |
| 6                       |                                        |                            |                      |                            | ☐ 3 - Prevalence I                   | ndex is $\leq 3.0^1$   |                              |                 |             |
| 7                       |                                        |                            |                      |                            | 4 - Morphologica                     |                        |                              | ting            |             |
| 8                       |                                        |                            |                      |                            | data in Rema                         | arks or on a sepa      |                              |                 |             |
| 9                       |                                        |                            |                      |                            | 5 - Wetland Nor                      | n-Vascular Plant       | s <sup>1</sup>               |                 |             |
| 10                      |                                        |                            |                      |                            | ☑ Problematic Hyd                    | drophytic Vegeta       | ition <sup>1</sup> (Explain) |                 |             |
| 11                      |                                        |                            |                      |                            | <sup>1</sup> Indicators of hydric se | oil and watland h      | avdrology must               |                 |             |
| 50% =, 20% =            |                                        |                            | = Total Cover        |                            | be present, unless dis               |                        |                              |                 |             |
| Woody Vine Stratum      | (Plot size: 10' diameter)              |                            |                      |                            |                                      |                        |                              |                 |             |
| 1                       |                                        |                            |                      |                            | Usadrambs 4!-                        |                        |                              |                 |             |
| 2                       |                                        |                            |                      |                            | Hydrophytic<br>Vegetation            | Yes                    | $\boxtimes$                  | No              |             |
| 50% =, 20% =            |                                        |                            | = Total Cover        | -                          | Present?                             |                        | _                            |                 | _           |
| % Bare Ground in He     | rb Stratum                             |                            |                      |                            |                                      |                        |                              |                 |             |
| Remarks:                |                                        | <del></del>                | <del></del>          |                            |                                      | ·                      |                              |                 | <del></del> |
|                         |                                        |                            |                      |                            |                                      |                        |                              |                 |             |
|                         |                                        |                            |                      |                            |                                      |                        |                              |                 |             |

| Depth   Matrix   Reduced Native   Reduced Native   Remaints   Re            | Type: C= Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.   FLocation: PL=Pore Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)   Indicators   Indicators: (Applicable to all LRRs, unless otherwise noted.)   Indicators   Indicators: (Applicable to all LRRs, unless otherwise noted.)   Indicators   Indicators |                                       |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|
| Type: C= Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.   **Location: PL=Pore Lining, M=Matrix, RC=Root Channel lydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)   Indicators for Problematic Hydric Soils*;   Histosof (A)   Indicators: (Applicable to all LRRs, unless otherwise noted.)   Indicators for Problematic Hydric Soils*;   Place Matrix (A)   Indicators for Problematic Hydric Soils*;   Place Matrix (B)   Plac            | Type: C= Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.   Texture                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | _                                     |
| Fype: C= Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.   2-Location: PL=Pore Lining, M=Matrix, RC=Root Channel lydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)   Indicators for Problematic Hydric Soils <sup>3</sup> :   Hatisosi (A1)   Sandy Redox (S5)   2 cm Musk (A10)   Red Parent Mosterial (TF2)   Singhed Matrix (R3)   Loarny Musky Mineral (F1) (except MLRA 1)   Very Shallow Dark Surface (TF12)   Depleted Behavity (R3)   Depleted Matrix (R3)   Depl | Fype: C= Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.   Funcation: PL=Pore   Potre   Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)   Indicators   Indicators: (Applicable to all LRRs, unless otherwise noted.)   Indicators   Indicators   Stripped Matrix (S6)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | _                                     |
| Histos Dipedon (A2)   Sandy Redox (S5)   2 cm Muck (A10)     Histos Dipedon (A2)   Siripped Markrix (S6)   Red Paren Material (TF2)     Histos Dipedon (A2)   Loamy Mucky Mineral (F1) (except MLRA 1)   Very Shallow Dark Surface (TF12)     Hydrogen Sulfide (A4)   Depleted Bedwo Dark Surface (A11)   Depleted Bedwo Dark Surface (A11)   Depleted Dark Surface (A12)   Redox Dark Surface (F6)     Sandy Mucky Mineral (S1)   Depleted Dark Surface (F7)   And Care (A12)   Redox Dark Surface (F6)     Sandy Mucky Mineral (S1)   Depleted Dark Surface (F7)   And Care (A12)   Redox Dark Surface (A12)   Redox Dark Su            | ydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)  Indicators:   Historsol (A1)   Sandy Redox (S5)   2 c   C    Histor Epipedon (A2)   Stripped Matrix (S6)   Re    Black Histic (A3)   Loamy Mucky Mineral (F1) (except MLRA 1)   Vexel    Hydrogen Sulfide (A4)   Depleted Below Dark Surface (A11)   Depleted Matrix (F2)   Other (A2)    Thick Dark Surface (A12)   Redox Dark Surface (F6)    Sandy Mucky Mineral (S1)   Depleted Dark Surface (F7)    Sandy Mucky Mineral (S1)   Depleted Dark Surface (F7)    Sandy Gleyed Matrix (S4)   Redox Depressions (F8)   Metian unless    estrictive Layer (if present):  ype:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Remarks                               |
| ydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)   Histose (A1)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Indicators: (Applicable to all LRRs, unless otherwise noted.)   Indicators: (1   Histosol (A1)   Sandy Redox (55)   2 c   2 c   Histosol (A2)   Stripped Matrix (S6)   2 c   2 c   Histosol (A2)   Loamy Mucky Mineral (F1) (except MLRA 1)   Ve   Hydrogen Sulfide (A4)   Loamy Micky Mineral (F1) (except MLRA 1)   Ve   Hydrogen Sulfide (A4)   Loamy Gleyed Matrix (F2)   Oil   Depleted Below Dark Surface (A12)   Redox Dark Surface (F6)   Sandy Mucky Mineral (S1)   Depleted Dark Surface (F7)   Sandy Gleyed Matrix (S4)   Depleted Dark Surface (F7)   Sandy Gleyed Matrix (S4)   Redox Dark Surface (F7)   Wetland (S1)   Redox Depressions (F8)   Hydric Soils Present?   Phydric Soils Present?   Phydric Soil was assumed hydric due to presence of seasonal standing water during site visit.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                       |
| ydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)   Histosce (A1)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Indicators: (Applicable to all LRRs, unless otherwise noted.)   Indicators: (1   Histosol (A1)   Sandy Redox (55)   2 c   2 c   Histosol (A2)   Stripped Matrix (S6)   2 c   2 c   Histosol (A2)   Loamy Mucky Mineral (F1) (except MLRA 1)   Ve   Hydrogen Sulfide (A4)   Loamy Micky Mineral (F1) (except MLRA 1)   Ve   Hydrogen Sulfide (A4)   Loamy Gleyed Matrix (F2)   Oil   Depleted Below Dark Surface (A12)   Redox Dark Surface (F6)   Sandy Mucky Mineral (S1)   Depleted Dark Surface (F7)   Sandy Gleyed Matrix (S4)   Depleted Dark Surface (F7)   Sandy Gleyed Matrix (S4)   Redox Dark Surface (F7)   Wetland (S1)   Redox Depressions (F8)   Hydric Soils Present?   Phydric Soils Present?   Phydric Soil was assumed hydric due to presence of seasonal standing water during site visit.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                       |
| Indicators (Applicable to all LRRs, unless otherwise noted.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | ydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)    Histosol (A1)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                       |
| Indicators (Applicable to all LRRs, unless otherwise noted.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | ydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)    Histosol (A1)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                       |
| ydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)   Histos (Ari)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | ydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)  Indicators:   Historsol (A1)   Sandy Redox (S5)   2 c   C    Histor Epipedon (A2)   Stripped Matrix (S6)   Re    Black Histic (A3)   Loamy Mucky Mineral (F1) (except MLRA 1)   Vexel    Hydrogen Sulfide (A4)   Depleted Below Dark Surface (A11)   Depleted Matrix (F2)   Other (A2)    Thick Dark Surface (A12)   Redox Dark Surface (F6)    Sandy Mucky Mineral (S1)   Depleted Dark Surface (F7)    Sandy Mucky Mineral (S1)   Depleted Dark Surface (F7)    Sandy Gleyed Matrix (S4)   Redox Depressions (F8)   Metian unless    estrictive Layer (if present):  ype:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                       |
| Histos (A1)   Sandy Redox (S5)   2 cm Muck (A10)   Sandy Redox (S5)   2 cm Muck (A10)   Simped Matrix (S6)   Cam Muck (A10)   Cam Muck (A12)            | Indicators: (Applicable to all LRRs, unless otherwise noted.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                       |
| Histos (A1)   Sandy Redox (S5)   2 cm Muck (A10)   Sandy Redox (S5)   2 cm Muck (A10)   Simped Matrix (S6)   Red Paren Material (TF2)   Simped Matrix (S6)   Red Paren Material (TF2)   Other (Explain in Remarks)   Histos (A11)   Depleted Below Dark Surface (A11)   Depleted Matrix (F2)   Other (Explain in Remarks)   Depleted Matrix (F2)   Other (Explain in Remarks)   Thick Dark Surface (A11)   Depleted Dark Surface (A12)   Redox Dark Surface (F6)   Sandy Mucky Mineral (S1)   Depleted Dark Surface (F7)   Sandy Mucky Mineral (S1)   Depleted Dark Surface (F7)   Other (Explain in Remarks)   Petal Matrix (F2)   Sandy Mucky Mineral (S1)   Redox Dark Surface (F7)   Other (Explain in Remarks)   Petal Matrix (F2)   Sandy Mucky Mineral (S1)   Redox Dark Surface (F7)   Other (Explain in Remarks)   Petal Matrix (F2)   Sandy Mucky Mineral (S1)   Redox Dark Surface (F7)   Other (Explain in Remarks)   Petal Matrix (F2)   Petal             | Indicators: (Applicable to all LRRs, unless otherwise noted.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                       |
| Histos Dipedon (A2)   Sandy Redox (S5)   2 cm Muck (A10)     Histos Dipedon (A2)   Stripped Matrix (S6)   Red Parent Material (TF2)     Histos Dipedon (A2)   Loamy Mucky Mineral (F1) (except MLRA 1)   Very Shallow Dark Surface (TF12)     Hydrogen Sulfide (A4)   Depleted Bedwo Dark Surface (A11)   Depleted Bedwo Dark Surface (A11)   Depleted Dark (F2)     Thick Dark Surface (A12)   Redox Dark Surface (F6)     Sandy Mucky Mineral (S1)   Depleted Dark Surface (F6)     Sandy Mucky Mineral (S1)   Depleted Dark Surface (F7)     Sandy Mucky Mineral (S1)   Redox Dark Surface (F7)     Sandy Mucky Matrix (S4)   Redox Dark Surface (F8)     Sandy Gleyed Matrix (S4)   Redox Depressions (F8)     Sardy Gleyed Matrix (S4)   Redox Dark Surface (F7)     Prosenticitive Layer (if present):   'pre: estrictive Layer (if present):   pre: emarks: Soil was assumed hydric due to presence of seasonal standing water during site visit.    NYDROLOGY     Vertand Hydrology Indicators:   Hydric Soils Present?   Yes   No   Redox Darks Surface (F1)     High Water Table (A2)   Water-Stained Leaves (B9)   Water-Stained Leaves (B9)     High Water Table (A2)   Salt Cruss (B11)   Darinage Patterns (B10)     Water Marks (B1)   Aquatic Invertebrates (B13)   Darinage Patterns (B10)     Water Marks (B1)   Aquatic Invertebrates (B13)   Darinage Patterns (B10)     Sediment Deposits (B2)   Hydrogen Sulfide Odor (C1)   Saturation Visible on Aerial Imagery (C9)     Drift Deposits (B3)   Oxidized Rhizospheres along Living Roots (C3)   Geomorphic Position (D2)     Drift Deposits (B6)   Sturted or Stresses Plants (D1) (LRR A)   Frost-Heave Hummocks (D7)     Sparsely Vegatated Concave Surface (B8)   Depth (Inches): Sezione New Hydrology Present? Yes   No   Depth (Inches): Sezi            | ydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)  Indicators:   Historsol (A1)   Sandy Redox (S5)   2 c   C    Histor Epipedon (A2)   Stripped Matrix (S6)   Re    Black Histic (A3)   Loamy Mucky Mineral (F1) (except MLRA 1)   Vexel    Hydrogen Sulfide (A4)   Depleted Below Dark Surface (A11)   Depleted Matrix (F2)   Other (A2)    Thick Dark Surface (A12)   Redox Dark Surface (F6)    Sandy Mucky Mineral (S1)   Depleted Dark Surface (F7)    Sandy Mucky Mineral (S1)   Depleted Dark Surface (F7)    Sandy Gleyed Matrix (S4)   Redox Depressions (F8)   Metian unless    estrictive Layer (if present):  ype:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                       |
| Histosol (A1)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Histosol (A1)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                       |
| Histic Epipedon (A2)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Histic Epipedon (A2)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | •                                     |
| Black Histic (A3)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Black Histic (A3)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                       |
| Hydrogen Sulfide (A4)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Hydrogen Sulfide (A4)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                       |
| Depleted Below Dark Surface (A12)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Depleted Below Dark Surface (A11)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                       |
| Thick Dark Surface (A12)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Thick Dark Surface (A12)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | her (Explain in Remarks)              |
| Sandy Mucky Mineral (S1)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Sandy Mucky Mineral (S1)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                       |
| Sandy Gleyed Matrix (S4)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Sandy Gleyed Matrix (S4)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | es of hydrophytic vogotation and      |
| Hydric Soils Present?   Yes   No                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Hydric Soils Present?   Hydrology Indicators:   Hydrology Indicators:   Hydrology Indicators:   High Water (A1)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | nd hydrology must be present,         |
| Page               | Hydric Soils Present?   Hydric Soils Present?   Hydric Soils Present?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | disturbed or problematic.             |
| Petro (inches):                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Pepth (inches):   Hydric Soils Present?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                       |
| MYDROLOGY   Wetland Hydrology Indicators:   Primary Indicators (minimum of one required; check all that apply)   Secondary Indicators (2 or more required)   Water-Stained Leaves (B9)   Water-Stain            | AYDROLOGY  Wetland Hydrology Indicators:  Primary Indicators (minimum of one required; check all that apply)  Secondary Indicators (minimum of one required; check all that apply)  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Salt Crust (B11)  Water Marks (B1)  Aquatic Invertebrates (B13)  Primary Indicators (B3)  Oxidized Rhizospheres along Living Roots (C3)  Presence of Reduced Iron (C4)  Iron Deposits (B5)  Recent Iron Reduction in Tilled Soils (C6)  Auguation (C5)  Surface Soil Cracks (B6)  Surface Soil Cracks (B6)  Cother (Explain in Remarks)  Frost-  Sparsely Vegetated Concave Surface (B8)  Wetland Hydrology                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Ves ⊠ Ne □                            |
| Surface Water (A1)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Secondary Indicators (minimum of one required; check all that apply)  Surface Water (A1)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                       |
| Surface Water (A1)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Surface Water (A1)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                       |
| High Water Table (A2)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | High Water Table (A2)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                       |
| Saturation (A3)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Saturation (A3)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | ·                                     |
| Water Marks (B1)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Water Marks (B1)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | · · · · · · · · · · · · · · · · · · · |
| Sediment Deposits (B2)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Sediment Deposits (B2)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | , ,                                   |
| Drift Deposits (B3)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Drift Deposits (B3)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | · ·                                   |
| Algal Mat or Crust (B4)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Algal Mat or Crust (B4)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                       |
| Iron Deposits (B5)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Iron Deposits (B5)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                       |
| Surface Soil Cracks (B6) Stunted or Stresses Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A)  Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Frost-Heave Hummocks (D7)  Sparsely Vegetated Concave Surface (B8)  Field Observations:  Surface Water Present? Yes No Depth (inches):  Saturation Present? Yes No Depth (inches):  Saturation Present? Yes No Depth (inches):  Wetland Hydrology Present? Yes No No Depth (inches):                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Surface Soil Cracks (B6) Stunted or Stresses Plants (D1) (LRR A) Raise Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Frost- Sparsely Vegetated Concave Surface (B8)  Field Observations: Surface Water Present? Yes No Depth (inches): Surface Water Present? Yes No Depth (inches): Saturation Present? Yes No Depth (inches):  Saturation Present? Yes No Depth (inches):  Wetland Hydrology                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                       |
| Inundation Visible on Aerial Imagery (B7)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Inundation Visible on Aerial Imagery (B7)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                       |
| Sparsely Vegetated Concave Surface (B8)  Field Observations:  Surface Water Present? Yes No Depth (inches): 36  Vater Table Present? Yes No Depth (inches): Wetland Hydrology Present?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Sparsely Vegetated Concave Surface (B8)  Field Observations:  Surface Water Present? Yes No Depth (inches): 36  Vater Table Present? Yes No Depth (inches): Wetland Hydrology                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                       |
| Field Observations:  Surface Water Present? Yes No Depth (inches): 36  Vater Table Present? Yes No Depth (inches): Wetland Hydrology Present?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Field Observations:  Surface Water Present? Yes No Depth (inches): 36  Vater Table Present? Yes No Depth (inches): Wetland Hydrology  Saturation Present? Yes No Depth (inches): Wetland Hydrology                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | -rieave riuminocks (DT)               |
| Surface Water Present? Yes No Depth (inches): 36  Vater Table Present? Yes No Depth (inches): Wetland Hydrology Present?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Surface Water Present? Yes No Depth (inches): 36  Vater Table Present? Yes No Depth (inches): Wetland Hydrology  Saturation Present? Yes No Depth (inches): Wetland Hydrology                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                       |
| Vater Table Present?  Yes No Depth (inches):  Saturation Present?  Yes No Depth (inches):  Wetland Hydrology Present?  Yes No Depth (inches):  Wetland Hydrology Present?  Yes No Depth (inches):  Wetland Hydrology Present?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Vater Table Present? Yes □ No ☒ Depth (inches):   Saturation Present? Yes □ No ☒ Depth (inches): Wetland Hydrology                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                       |
| Saturation Present? Yes D No D Depth (inches): Wetland Hydrology Present? Yes D No D                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Saturation Present?  Yes D No M Depth (inches): Wetland Hydrology                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | y Present? Yes 🛭 No [                 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Remarks: Surface water was observed to a depth of approximately 36 inches and is a primary indicator for wetland hyd                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | drology.                              |

| Project Site:                                 | Port Gamble                     |                         |                  | City/Cour          | nty: Port Gamble/Kitsap                                | Sampling Date:                              | 3/24/1    | <u>7</u>    |
|-----------------------------------------------|---------------------------------|-------------------------|------------------|--------------------|--------------------------------------------------------|---------------------------------------------|-----------|-------------|
| Applicant/Owner:                              | Fischer Bouma Partners          | <u>ship</u>             |                  |                    | State: WA                                              | Sampling Point:                             | UPL T     | <u>P 5</u>  |
| Investigator(s):                              | J. Bartlett, L. Westervel       | t, K. Boa               |                  |                    | Section, Township, Rai                                 | nge: <u>S7 T27N R2E</u>                     |           |             |
| Landform (hillslope, te                       | errace, etc.): <u>hillslope</u> |                         | Loca             | al relief (cond    | ave, convex, none): concave                            | <u>s</u> Slo                                | pe (%): 2 | <u>}</u>    |
| Subregion (LRR):                              | MLRA 2                          | Lat:                    |                  |                    | Long:                                                  | Datum:                                      | Trimble   |             |
| Soil Map Unit Name:                           |                                 |                         |                  |                    | NWI cla                                                | ssification:                                |           |             |
| Are climatic / hydrolog                       | ic conditions on the site t     | ypical for this time of | year? Y          | es 🗆               | No 🗌 (If no, explain                                   | in Remarks.)                                |           |             |
| Are Vegetation                                | , Soil □, or Hydi               | rology 🔲, signifi       | cantly disturbed | d? Are             | 'Normal Circumstances" presen                          | t? Yes                                      |           | No 🗆        |
| Are Vegetation                                | , Soil □, or Hydi               | rology 🔲, natura        | ally problematic | ? (If ne           | eeded, explain any answers in R                        | emarks.)                                    |           |             |
|                                               |                                 |                         |                  |                    |                                                        |                                             |           |             |
| SUMMARY OF FIN                                | IDINGS – Attach site            |                         |                  | locations          | , transects, important feat                            | ures, etc.                                  |           |             |
| Hydrophytic Vegetatio                         | n Present?                      | Yes [                   |                  | Is the Sam         | aled Area                                              |                                             |           |             |
| Hydric Soil Present?                          |                                 | Yes [                   | ] No ⊠           | within a We        |                                                        | Yes                                         |           | No 🛛        |
| Wetland Hydrology Pr                          | esent?                          | Yes D                   | No □             |                    |                                                        |                                             |           |             |
| Remarks:                                      |                                 |                         |                  |                    |                                                        |                                             |           |             |
|                                               |                                 |                         |                  |                    |                                                        |                                             |           |             |
|                                               |                                 |                         |                  |                    |                                                        |                                             |           |             |
|                                               | se scientific names o           | of plants Absolute      | Dominant         | Indicator          |                                                        |                                             |           |             |
| Tree Stratum (Plot siz                        | e: 30' diameter)                | % Cover                 | Species?         | Status             | Dominance Test Worksheet                               | :                                           |           |             |
| 1. Alnus rubra                                |                                 | <u>20</u>               | <u>yes</u>       | FAC                | Number of Dominant Species                             |                                             |           | (A)         |
| 2                                             |                                 |                         |                  |                    | That Are OBL, FACW, or FAC                             | <i>;</i> : –                                |           | ( )         |
| 3                                             |                                 |                         |                  |                    | Total Number of Dominant Species Across All Strata:    | <u>6</u>                                    |           | (B)         |
| 4                                             |                                 |                         |                  |                    | Species Across Air Strata.                             |                                             |           |             |
| $50\% = \underline{10}, 20\% = \underline{4}$ | n (Diet eine 20' diemeter)      | <u>20</u>               | = Total Cove     | r                  | Percent of Dominant Species That Are OBL, FACW, or FAC |                                             |           | (A/B)       |
|                                               | n (Plot size: 30' diameter)     |                         | 1/00             | EAC                | Prevalence Index workshee                              |                                             |           |             |
| Rubus spectabilis     Gaultheria shallor      |                                 | <u>35</u><br><u>15</u>  | <u>yes</u>       | <u>FAC</u><br>FACU | Total % Cover of                                       |                                             | ply by:   |             |
| 3. <u>Gauttieria stialioi</u>                 | <u>I</u>                        | <u>13</u>               | <u>yes</u>       | IACO               | OBL species                                            | <u> </u>                                    |           |             |
| 4                                             |                                 |                         |                  |                    | FACW species                                           | x2 =                                        | ·         | =           |
| 5.                                            |                                 |                         |                  |                    | FAC species                                            | x3 =                                        |           | -           |
| 50% = 25, 20% = 10                            |                                 | 50                      | = Total Cove     |                    | FACU species                                           | x4 =                                        | <u></u>   | =           |
| Herb Stratum (Plot siz                        | re: 10' diameter)               | <u></u>                 |                  |                    | UPL species                                            | x5 =                                        | <u></u>   | =           |
| Polystichum muni                              | •                               | <u>15</u>               | <u>yes</u>       | FACU               | Column Totals:                                         | _ (A)                                       | -         | (B)         |
| 2. Rubus ursinus                              | <del></del>                     | <u>5</u>                | <u>yes</u>       | FACU               |                                                        | = (                                         |           | _ (=)       |
| Asarum caudatum                               | 1                               | <u>≅</u><br><u>5</u>    | <u>yes</u>       | FACU               | Hydrophytic Vegetation Ind                             |                                             | -         |             |
| 4.                                            | <u>.</u>                        | <u> </u>                | <u>,00</u>       | 17100              | ☐ 1 – Rapid Test for Hydro                             |                                             |           |             |
| 5.                                            |                                 |                         |                  |                    | 2 - Dominance Test is >                                |                                             |           |             |
| 6                                             |                                 |                         |                  |                    | ☐ 3 - Prevalence Index is                              |                                             |           |             |
| 7.                                            |                                 |                         |                  |                    | 4 - Morphological Adapt                                | _                                           | ortina    |             |
| 8.                                            |                                 |                         |                  | <del></del>        | data in Remarks or d                                   | ations (Provide support ) a separate sheet) | orung     |             |
| 9.                                            |                                 |                         |                  |                    | 5 - Wetland Non-Vascu                                  | lar Plants <sup>1</sup>                     |           |             |
| 10                                            |                                 |                         |                  |                    | ☐ Problematic Hydrophytic                              | c Vegetation <sup>1</sup> (Explain          | )         |             |
| 11.                                           |                                 |                         |                  |                    | — Troblemado Frydrophyd                                | y vogotation (Explain                       | ,         |             |
| 50% = <u>12.5</u> , 20% = <u>5</u>            |                                 | 25                      | = Total Cove     |                    | <sup>1</sup> Indicators of hydric soil and v           |                                             | st        |             |
|                                               | (Plot size: 10' diameter)       | <del></del>             |                  |                    | be present, unless disturbed of                        | or problematic.                             |           |             |
| 1                                             |                                 |                         |                  |                    |                                                        | <del></del>                                 |           | _           |
| 2.                                            |                                 |                         |                  |                    | Hydrophytic                                            |                                             |           |             |
| 50% =, 20% =                                  |                                 |                         | = Total Cove     |                    | •                                                      | Yes 🗆                                       | No        | $\boxtimes$ |
| % Bare Ground in He                           |                                 |                         |                  |                    | Present?                                               |                                             |           |             |
| -                                             |                                 | n criterion is not met  | because there    | is not greate      | r than 50% dominance by FAC                            | species                                     |           |             |
| Remarks:                                      | , a. opiny no vogotano          | SO. IO HOURING          |                  | groute             | s 5575 domination by I AO                              | - <sub>F</sub> 00:00.                       |           |             |
|                                               |                                 |                         |                  |                    |                                                        |                                             |           |             |
|                                               |                                 |                         |                  |                    |                                                        |                                             |           | ļ           |

SOIL Sampling Point: UPL TP 5 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Redox Features (inches) Color (moist) % Color (moist) % Type<sup>1</sup> Loc<sup>2</sup> Texture Remarks 10YR 2/1 100 0-1 sa lo no redoximorphic concentrations 1-10 7.5YR 3/6 100 with charcoal gr sa lo 10-16 7.5YR 3/4 100 no redoximorphic concentrations gr sa lo <sup>1</sup>Type: C= Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. <sup>2</sup>Location: PL=Pore Lining, M=Matrix, RC=Root Channel Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils3: Histosol (A1) Sandy Redox (S5) 2 cm Muck (A10) Histic Epipedon (A2) П Stripped Matrix (S6)  $\Box$ Red Parent Material (TF2) Black Histic (A3) Loamy Mucky Mineral (F1) (except MLRA 1) Very Shallow Dark Surface (TF12) Loamy Gleyed Matrix (F2) Hydrogen Sulfide (A4) Other (Explain in Remarks) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Thick Dark Surface (A12) Redox Dark Surface (F6) <sup>3</sup>Indicators of hydrophytic vegetation and П Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) wetland hydrology must be present, П Sandy Gleyed Matrix (S4) Redox Depressions (F8) unless disturbed or problematic. Restrictive Layer (if present): Type: **Hydric Soils Present?** Yes No  $\boxtimes$ Depth (inches): Remarks: None of the soil layers meet the definition of a depleted matrix so this soil profile is determined to meet none of the hydric soil indicators. **HYDROLOGY** Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (2 or more required) Surface Water (A1) Water-Stained Leaves (B9) Water-Stained Leaves (B9)  $\boxtimes$ (except MLRA 1, 2, 4A, and 4B) High Water Table (A2) (MLRA 1, 2, 4A, and 4B)  $\boxtimes$ Saturation (A3) Salt Crust (B11) Drainage Patterns (B10) П Water Marks (B1) Aquatic Invertebrates (B13) П Dry-Season Water Table (C2) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aerial Imagery (C9) Drift Deposits (B3) Oxidized Rhizospheres along Living Roots (C3) Geomorphic Position (D2) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aguitard (D3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) FAC-Neutral Test (D5) Stunted or Stresses Plants (D1) (LRR A) П Surface Soil Cracks (B6) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Frost-Heave Hummocks (D7) Sparsely Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes  $\boxtimes$ No Depth (inches): 2 Yes  $\boxtimes$ Water Table Present? No Depth (inches): 4 Saturation Present? Wetland Hydrology Present? Yes  $\boxtimes$ No Yes  $\boxtimes$ No Depth (inches): Surface (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: A high water table was observed at 4 inches deep, surface water to 2 inches depth and soil saturation at the surface so there are primary indicators Remarks: present for wetland hydrology.

| Project Site:                                                 | Port Gamble                           |                 |              | City/Cou                   | nty: Port Gamble/Kitsap                                                    | Sampling Date:                     | 3/24/1    | <u>7</u> |
|---------------------------------------------------------------|---------------------------------------|-----------------|--------------|----------------------------|----------------------------------------------------------------------------|------------------------------------|-----------|----------|
| Applicant/Owner:                                              | Fischer Bouma Partnership             |                 |              |                            | State: WA                                                                  | Sampling Point:                    | UPL T     | P 6      |
| Investigator(s):                                              | J. Bartlett, L. Westervelt, K. Boa    | <u>1</u>        |              |                            | Section, Township, Ra                                                      | nge: <u>S7 T27N R2E</u>            |           |          |
| Landform (hillslope, te                                       | errace, etc.): <u>hillslope</u>       |                 | l            | _ocal relief (con          | cave, convex, none): <u>concave</u>                                        | <u>e</u> Slo                       | pe (%): 2 |          |
| Subregion (LRR):                                              | MLRA 2                                | Lat:            |              |                            | Long:                                                                      | Datum:                             | Trimble   |          |
| Soil Map Unit Name:                                           |                                       |                 |              |                            | NWI cla                                                                    | assification:                      | ÷         |          |
| Are climatic / hydrolog                                       | gic conditions on the site typical fo | r this time of  | year?        | Yes                        | No ☐ (If no, explain                                                       | in Remarks.)                       |           |          |
| Are Vegetation                                                | , Soil □, or Hydrology                | ☐, signific     | cantly distu | rbed? Are                  | "Normal Circumstances" presen                                              | t? Yes                             |           | lo 🗆     |
| Are Vegetation                                                | , Soil □, or Hydrology                | ☐, natura       | Ily problem  | atic? (If n                | eeded, explain any answers in F                                            | ≀emarks.)                          |           |          |
|                                                               |                                       |                 |              |                            |                                                                            |                                    |           |          |
|                                                               | NDINGS – Attach site map s            |                 |              |                            | s, transects, important feat                                               | ures, etc.                         |           |          |
| Hydrophytic Vegetation                                        | on Present?                           | Yes [           |              | Is the Sam                 | nled Area                                                                  |                                    |           |          |
| Hydric Soil Present?                                          |                                       | Yes [           |              | <sup>∐</sup> within a W    |                                                                            | Yes                                | □ N       | lo 🛛     |
| Wetland Hydrology Pr                                          | resent?                               | Yes [           | ] No [       | ₫                          |                                                                            |                                    |           |          |
| Remarks:                                                      |                                       |                 |              |                            |                                                                            |                                    |           |          |
|                                                               |                                       |                 |              |                            |                                                                            |                                    |           |          |
|                                                               |                                       |                 |              |                            |                                                                            |                                    |           |          |
|                                                               | se scientific names of plant          | Absolute        | Dominan      | t Indicator                |                                                                            |                                    |           |          |
| Tree Stratum (Plot siz                                        | ze: 30' diameter)                     | % Cover         | Species?     |                            | Dominance Test Workshee                                                    | t:                                 |           |          |
| 1. Alnus rubra                                                |                                       | <u>20</u>       | <u>yes</u>   | <u>FAC</u>                 | Number of Dominant Species                                                 |                                    |           | (A)      |
| 2                                                             |                                       |                 |              |                            | That Are OBL, FACW, or FAC                                                 | j: <u> </u>                        |           | ( )      |
| 3                                                             |                                       |                 |              |                            | Total Number of Dominant<br>Species Across All Strata:                     | <u>6</u>                           |           | (B)      |
| 4                                                             |                                       |                 | ——           |                            | Species Across Air Strata.                                                 |                                    |           |          |
| $50\% = \underline{10}, 20\% = \underline{4}$                 | m (Diet eizer 20' diemeter)           | <u>20</u>       | = Total C    | over                       | Percent of Dominant Species That Are OBL, FACW, or FAC                     |                                    |           | (A/B)    |
|                                                               | n (Plot size: 30' diameter)           | 15              | 1/00         | EACH                       | Prevalence Index workshee                                                  |                                    |           |          |
| <ol> <li>Rubus laciniatus</li> <li>Mahonia nervosa</li> </ol> |                                       | <u>15</u><br>10 | <u>yes</u>   | <u>FACU</u><br><u>FACU</u> | Total % Cover o                                                            |                                    | inly by:  |          |
| 3. Vaccinium ovata                                            |                                       | <u>10</u><br>10 | <u>yes</u>   | FACU                       | OBL species                                                                | <u>1. ividiti</u><br>x1 =          | iply by:  |          |
| 4                                                             |                                       | <u>10</u>       | <u>yes</u>   | 1700                       | FACW species                                                               | _ x2 =                             | ·         | <b>:</b> |
| 5.                                                            |                                       |                 |              |                            | FAC species                                                                | x3 =                               |           | -        |
| 50% = <u>17.5</u> , 20% = <u>7</u>                            |                                       | 35              | = Total C    | over                       | FACU species                                                               | x4 =                               | ·         |          |
| Herb Stratum (Plot siz                                        |                                       |                 |              |                            | UPL species                                                                | x5 =                               | ·         | =        |
| 1. Elymus repens                                              | <u></u> ,                             | <u>50</u>       | <u>yes</u>   | FAC                        | Column Totals:                                                             | _ (A)                              | ·         | (B)      |
| 2. Rubus ursinus                                              |                                       | <u>15</u>       | <u>yes</u>   | FACU                       |                                                                            | e Index = B/A =                    |           | _ (2)    |
| Polystichum muni                                              | itum                                  | <u>5</u>        | no           | FACU                       | Hydrophytic Vegetation Ind                                                 |                                    | •         |          |
| 4. Sambucus racem                                             |                                       | <u>≅</u><br>T   | 110          | 17100                      | ☐ 1 – Rapid Test for Hydr                                                  |                                    |           |          |
| 5                                                             | <u> </u>                              | <u>-</u>        |              |                            | 2 - Dominance Test is                                                      | . , .                              |           |          |
| 6                                                             |                                       |                 |              | <del></del>                | ☐ 3 - Prevalence Index is                                                  |                                    |           |          |
| 7.                                                            |                                       |                 |              | <del></del>                | 4 - Morphological Adap                                                     | _                                  | ortina    |          |
| 8.                                                            |                                       |                 | _            |                            | data in Remarks or                                                         | on a separate sheet)               | orung     |          |
| 9                                                             |                                       |                 |              |                            | 5 - Wetland Non-Vascu                                                      | lar Plants <sup>1</sup>            |           |          |
| 10                                                            |                                       |                 |              |                            | ☐ Problematic Hydrophyti                                                   | c Vegetation <sup>1</sup> (Explain | ı)        |          |
| 11.                                                           |                                       |                 |              |                            | . robiomatio rijaropnija                                                   | o regetation (Explain              | ,         |          |
| 50% = <u>35</u> , 20% = <u>14</u>                             |                                       | <u>70</u>       | = Total C    | over                       | <sup>1</sup> Indicators of hydric soil and<br>be present, unless disturbed |                                    | st        |          |
| Woody Vine Stratum                                            | (Plot size: 10' diameter)             |                 |              |                            | be present, unless disturbed                                               | or problematic.                    |           |          |
| 1                                                             |                                       |                 |              |                            |                                                                            |                                    |           |          |
| 2                                                             |                                       |                 |              |                            | Hydrophytic                                                                | –                                  |           | _        |
| 50% =, 20% =                                                  |                                       |                 | = Total C    | over                       | Vegetation<br>Present?                                                     | Yes                                | No        |          |
| % Bare Ground in He                                           | rb Stratum 30                         |                 |              |                            | . 10001111                                                                 |                                    |           |          |
| Remarks:                                                      | The hydrophytic vegetation criteri    | on is not met   | because th   | ere is not great           | er than 50% dominance by FAC                                               | species.                           |           |          |
| nomans.                                                       |                                       |                 |              | Š                          | •                                                                          |                                    |           |          |
|                                                               |                                       |                 |              |                            |                                                                            |                                    |           |          |
|                                                               |                                       |                 |              |                            |                                                                            |                                    |           |          |

| ofile Descript                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | tion: (Describe                                                                                                                                                                                                       |                                               |                                  |           |                                                                                                                                                                                                            |                                                                                                              |                                                                  |                             | ·.,                                                                                                                                                                        |                                                                                                                                |                                            |                |      |
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| Depth                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Matrix                                                                                                                                                                                                                | 10 1110 401                                   |                                  |           | Redox Fea                                                                                                                                                                                                  | tures                                                                                                        |                                                                  |                             |                                                                                                                                                                            |                                                                                                                                |                                            |                |      |
| nches)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Color (moist)                                                                                                                                                                                                         | %                                             | Col                              | lor (mo   | <del></del>                                                                                                                                                                                                | Type <sup>1</sup>                                                                                            | Loc <sup>2</sup>                                                 | Texture                     |                                                                                                                                                                            |                                                                                                                                | Remark                                     | 2              |      |
| 0-2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 7.5YR 2.5/2                                                                                                                                                                                                           | 100                                           |                                  | 101 (1110 | 70                                                                                                                                                                                                         | Туре                                                                                                         |                                                                  | gr sa lo                    | no redov                                                                                                                                                                   | kimorphic                                                                                                                      |                                            |                |      |
| <u>0 2</u><br>2-11                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 7.5YR 4/6                                                                                                                                                                                                             | 100                                           | =                                |           |                                                                                                                                                                                                            | <del></del>                                                                                                  |                                                                  | gr sa lo                    | compact                                                                                                                                                                    |                                                                                                                                | CONCON                                     | <u>rations</u> |      |
| 11-16                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 2.5Y 5/3                                                                                                                                                                                                              | 100                                           | -                                |           | <del></del>                                                                                                                                                                                                |                                                                                                              |                                                                  | gr sa                       | · · · · · · · · · · · · · · · · · · ·                                                                                                                                      | kimorphic                                                                                                                      | concent                                    | rations        |      |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 2101 0/0                                                                                                                                                                                                              | <u></u>                                       |                                  |           | <del></del>                                                                                                                                                                                                |                                                                                                              |                                                                  | <u>g. oa</u>                | 110 1000                                                                                                                                                                   |                                                                                                                                | 001100111                                  |                |      |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <del></del>                                                                                                                                                                                                           | ·                                             | · ·                              |           | <del></del>                                                                                                                                                                                                | <del></del>                                                                                                  | <del></del>                                                      | <del></del>                 | gr - grav                                                                                                                                                                  | el                                                                                                                             |                                            |                |      |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                       |                                               | •                                |           | <del></del>                                                                                                                                                                                                |                                                                                                              | · <u> </u>                                                       |                             | sa - san                                                                                                                                                                   |                                                                                                                                |                                            |                |      |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <del></del>                                                                                                                                                                                                           | -                                             | · ·                              |           | <del></del>                                                                                                                                                                                                | <del></del>                                                                                                  | <del></del>                                                      | <del></del>                 | lo - loam                                                                                                                                                                  |                                                                                                                                |                                            |                |      |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                       |                                               |                                  |           |                                                                                                                                                                                                            |                                                                                                              |                                                                  |                             |                                                                                                                                                                            | =                                                                                                                              |                                            |                |      |
| ype: C= Conc                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | entration, D=Dep                                                                                                                                                                                                      | oletion, RN                                   | /l=Reduce                        | ed Matri  | ix, CS=Covered or Co                                                                                                                                                                                       | ated Sand G                                                                                                  | Grains. <sup>2</sup> Lo                                          | cation: PL=F                | ore Lining, M                                                                                                                                                              | =Matrix, I                                                                                                                     | RC=Roo                                     | t Channel      | I    |
| dric Soil Indi                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | icators: (Applic                                                                                                                                                                                                      | able to al                                    | LRRs, u                          | nless o   | otherwise noted.)                                                                                                                                                                                          |                                                                                                              |                                                                  |                             | tors for Prob                                                                                                                                                              |                                                                                                                                |                                            |                |      |
| Histosol (A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | A1)                                                                                                                                                                                                                   |                                               |                                  |           | Sandy Redox (S5)                                                                                                                                                                                           |                                                                                                              |                                                                  |                             | 2 cm Muck (                                                                                                                                                                | A10)                                                                                                                           |                                            |                |      |
| Histic Epip                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | pedon (A2)                                                                                                                                                                                                            |                                               |                                  |           | Stripped Matrix (S6)                                                                                                                                                                                       |                                                                                                              |                                                                  |                             | Red Parent I                                                                                                                                                               | Material (                                                                                                                     | TF2)                                       |                |      |
| Black Hist                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | tic (A3)                                                                                                                                                                                                              |                                               |                                  |           | Loamy Mucky Miner                                                                                                                                                                                          | al (F1) (exce                                                                                                | ept MLRA 1)                                                      |                             | Very Shallow                                                                                                                                                               | v Dark Su                                                                                                                      | ırface (T                                  | F12)           |      |
| Hydrogen                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Sulfide (A4)                                                                                                                                                                                                          |                                               |                                  |           | Loamy Gleyed Matri                                                                                                                                                                                         | ix (F2)                                                                                                      |                                                                  |                             | Other (Expla                                                                                                                                                               | in in Rem                                                                                                                      | narks)                                     |                |      |
| Depleted I                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Below Dark Surf                                                                                                                                                                                                       | ace (A11)                                     |                                  |           | Depleted Matrix (F3                                                                                                                                                                                        | )                                                                                                            |                                                                  |                             |                                                                                                                                                                            |                                                                                                                                |                                            |                |      |
| Thick Dark                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | k Surface (A12)                                                                                                                                                                                                       |                                               |                                  |           | Redox Dark Surface                                                                                                                                                                                         | e (F6)                                                                                                       |                                                                  |                             |                                                                                                                                                                            |                                                                                                                                |                                            |                |      |
| Sandy Mu                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | icky Mineral (S1)                                                                                                                                                                                                     | )                                             |                                  |           | Depleted Dark Surfa                                                                                                                                                                                        | ace (F7)                                                                                                     |                                                                  |                             | ators of hydror                                                                                                                                                            |                                                                                                                                |                                            |                |      |
| Sandy Gle                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | eyed Matrix (S4)                                                                                                                                                                                                      |                                               |                                  |           | Redox Depressions                                                                                                                                                                                          | (F8)                                                                                                         |                                                                  |                             | tland hydrolog<br>ess disturbed                                                                                                                                            |                                                                                                                                |                                            | t,             |      |
| strictive Lay                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | er (if present):                                                                                                                                                                                                      |                                               |                                  |           |                                                                                                                                                                                                            |                                                                                                              |                                                                  | <del></del>                 |                                                                                                                                                                            |                                                                                                                                |                                            |                |      |
| pe:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                       |                                               |                                  |           |                                                                                                                                                                                                            |                                                                                                              |                                                                  |                             |                                                                                                                                                                            |                                                                                                                                |                                            |                |      |
| nth (inches).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                       |                                               |                                  |           |                                                                                                                                                                                                            |                                                                                                              |                                                                  |                             |                                                                                                                                                                            | Yes                                                                                                                            |                                            | No             | _    |
| emarks: Th                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | •                                                                                                                                                                                                                     |                                               |                                  |           | indicators because th                                                                                                                                                                                      | e underlying                                                                                                 | Hydric Soils Pi                                                  |                             | inition of a de                                                                                                                                                            |                                                                                                                                |                                            |                | eted |
| emarks: Th                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | yer is not large e                                                                                                                                                                                                    |                                               |                                  |           |                                                                                                                                                                                                            | e underlying                                                                                                 |                                                                  |                             | inition of a de                                                                                                                                                            |                                                                                                                                |                                            |                |      |
| emarks: The lay                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | yer is not large e                                                                                                                                                                                                    | nough and                                     |                                  |           |                                                                                                                                                                                                            | e underlying                                                                                                 |                                                                  | meet the del                |                                                                                                                                                                            | pleted ma                                                                                                                      | atrix and                                  | the deple      |      |
| YDROLOGY etland Hydrol                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | yer is not large e  follogy Indicators ors (minimum of                                                                                                                                                                | nough and                                     | d does not                       | t contai  | n redoximorphic conc                                                                                                                                                                                       | e underlying<br>etrations.                                                                                   |                                                                  | meet the del                | ary Indicators                                                                                                                                                             | pleted ma                                                                                                                      | atrix and                                  | the deple      |      |
| YDROLOGY etland Hydrol                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | yer is not large e                                                                                                                                                                                                    | nough and                                     | d does not                       | t contai  | n redoximorphic conc                                                                                                                                                                                       | e underlying<br>etrations.                                                                                   |                                                                  | meet the del                |                                                                                                                                                                            | pleted ma                                                                                                                      | atrix and                                  | the deple      |      |
| YDROLOGY [etland Hydrol rimary Indicato ] Surface V ] High Wate                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | yer is not large e  logy Indicators ors (minimum of o  Vater (A1) er Table (A2)                                                                                                                                       | nough and                                     | d does not                       | all that  | apply) Water-Stained Leav (except MLRA 1, 2,                                                                                                                                                               | e underlying<br>etrations.                                                                                   | layer does not                                                   | Second W                    | ary Indicators<br>ater-Stained I<br>ILRA 1, 2, 4A                                                                                                                          | (2 or moi<br>Leaves (E., and 4B                                                                                                | atrix and                                  | the deple      |      |
| YDROLOGY [etland Hydrol rimary Indicato ] Surface V ] High Wate                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | yer is not large e  logy Indicators ors (minimum of o  Vater (A1) er Table (A2)                                                                                                                                       | nough and                                     | d does not                       | t contai  | n redoximorphic conc<br>apply)<br>Water-Stained Leav                                                                                                                                                       | e underlying<br>etrations.                                                                                   | layer does not                                                   | Second W                    | ary Indicators<br>ater-Stained I                                                                                                                                           | (2 or moi<br>Leaves (E., and 4B                                                                                                | atrix and                                  | the deple      |      |
| YDROLOGY Yetland Hydrol rimary Indicato Surface V High Wate Saturation Water Ma                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | yer is not large e  your logy Indicators ors (minimum of o  Vater (A1) er Table (A2) n (A3) arks (B1)                                                                                                                 | nough and                                     | d does not                       | all that  | apply) Water-Stained Leav (except MLRA 1, 2,                                                                                                                                                               | e underlying<br>etrations.<br>es (B9)<br>4A, and 4B)                                                         | layer does not                                                   | Second  W (N                | ary Indicators<br>ater-Stained I<br>ILRA 1, 2, 4A                                                                                                                          | (2 or model)<br>Leaves (Eu., and 4B                                                                                            | re requir                                  | the deple      |      |
| YDROLOGY  Yetland Hydrol rimary Indicato  Surface V  High Wate  Saturatior  Water Ma  Sediment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | yer is not large e  younger is not large e  logy Indicators ors (minimum of o  Vater (A1) er Table (A2) in (A3) arks (B1) t Deposits (B2)                                                                             | nough and                                     | d does not                       | all that  | apply) Water-Stained Leav (except MLRA 1, 2, Salt Crust (B11) Aquatic Invertebrate Hydrogen Sulfide Or                                                                                                     | es (B9) 4A, and 4B) es (B13) dor (C1)                                                                        | layer does not                                                   | Second  W (N                | ary Indicators<br>ater-Stained I<br>ILRA 1, 2, 4A<br>rainage Patter<br>ry-Season Wa<br>aturation Visib                                                                     | (2 or moo<br>Leaves (E<br>a, and 4B<br>rns (B10)<br>ster Table                                                                 | re requires (C2) ial Image                 | the deple      |      |
| YDROLOGY Tetland Hydrol Timary Indicato Surface V High Water Saturation Water Ma Sediment Drift Depo                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | logy Indicators ors (minimum of or) Vater (A1) er Table (A2) n (A3) arks (B1) er Deposits (B2) osits (B3)                                                                                                             | nough and                                     | d does not                       | all that  | apply) Water-Stained Leav (except MLRA 1, 2, Salt Crust (B11) Aquatic Invertebrate Hydrogen Sulfide Or                                                                                                     | es (B9) 4A, and 4B) ss (B13) dor (C1) res along Liv                                                          | layer does not                                                   | Second W (N                 | ary Indicators<br>ater-Stained I<br>ILRA 1, 2, 4A<br>rainage Patter<br>ry-Season Wa<br>aturation Visib<br>eomorphic Po                                                     | (2 or mon<br>Leaves (E., and 4B<br>rns (B10)<br>ater Table<br>ble on Aer<br>sition (D2                                         | re requires (C2) ial Image                 | the deple      |      |
| YDROLOGY Tetland Hydrol Timary Indicato Surface V High Water Saturation Water Ma Sediment Drift Depo                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | yer is not large e  younger is not large e  logy Indicators ors (minimum of o  Vater (A1) er Table (A2) in (A3) arks (B1) t Deposits (B2)                                                                             | nough and                                     | d does not                       | all that  | apply) Water-Stained Leav (except MLRA 1, 2, Salt Crust (B11) Aquatic Invertebrate Hydrogen Sulfide Or                                                                                                     | es (B9) 4A, and 4B) ss (B13) dor (C1) res along Liv                                                          | layer does not                                                   | Second W (N) Di Si G G SI   | ary Indicators<br>ater-Stained I<br>ILRA 1, 2, 4A<br>rainage Patter<br>ry-Season Wa<br>aturation Visib<br>eomorphic Po<br>nallow Aquitar                                   | (2 or more leaves (E., and 4B rns (B10) ater Table on Aersition (D2 d (D3)                                                     | re requires (C2) ial Image                 | the deple      |      |
| YDROLOGY Vetland Hydrol rimary Indicato Surface V High Water Saturatior Water Ma Sediment Drift Depo                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | logy Indicators ors (minimum of of Vater (A1) er Table (A2) in (A3) arks (B1) it Deposits (B2) osits (B3) or Crust (B4) osits (B5)                                                                                    | nough and                                     | d does not                       | all that  | apply) Water-Stained Leav (except MLRA 1, 2, Salt Crust (B11) Aquatic Invertebrate Hydrogen Sulfide Or                                                                                                     | es (B9) 4A, and 4B) s (B13) dor (C1) res along Lived Iron (C4)                                               | layer does not                                                   | Second  W (N  D)  Si G G SI | ary Indicators ater-Stained I ILRA 1, 2, 4A rainage Patter ry-Season Wa aturation Visib eomorphic Po nallow Aquitar AC-Neutral Te                                          | (2 or modeleaves (E. a., and 4B rns (B10) atter Table on Aeristion (D2 dd (D3) est (D5)                                        | re requir<br>39)<br>)<br>(C2)<br>ial Image | ed)            |      |
| YDROLOGY etland Hydrol imary Indicato  Surface V High Water Ma Sediment Drift Depo                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | yer is not large e  yer is not large e  logy Indicators  ors (minimum of o  Vater (A1)  er Table (A2)  n (A3)  arks (B1)  t Deposits (B2)  osits (B3)  or Crust (B4)  osits (B5)  Soil Cracks (B6)                    | :<br>one requir                               | d does not                       | all that  | apply)  Water-Stained Leav (except MLRA 1, 2, Salt Crust (B11) Aquatic Invertebrate Hydrogen Sulfide O Oxidized Rhizosphe Presence of Reduce Recent Iron Reducti Stunted or Stresses                       | es (B9)  4A, and 4B)  ss (B13) dor (C1) res along Liv ed Iron (C4) on in Tilled S Plants (D1) (              | layer does not                                                   | Second  W (N)  Di Si G G Si | ary Indicators<br>ater-Stained I<br>ILRA 1, 2, 4A<br>rainage Patter<br>ry-Season Wa<br>aturation Visib<br>eomorphic Po<br>nallow Aquitar<br>AC-Neutral Te<br>aised Ant Mou | (2 or moo<br>Leaves (E<br>La, and 4B<br>Lans (B10)<br>ater Table<br>ble on Aer<br>sition (D2<br>d (D3)<br>set (D5)             | re requires 39) (C2) ial Image 2)          | ed)            |      |
| YDROLOGY etland Hydrol imary Indicato  Surface V High Water Ma Saturatior Water Ma Sediment Drift Depo                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Vater (A1) er Table (A2) in (A3) arks (B1) it Deposits (B2) osits (B3) or Crust (B4) osits (B5) Soil Cracks (B6) in Visible on Aeri                                                                                   | : cone requir                                 | ed; check                        | all that  | apply)  Water-Stained Leav (except MLRA 1, 2, Salt Crust (B11) Aquatic Invertebrate Hydrogen Sulfide Or Oxidized Rhizosphe Presence of Reduce Recent Iron Reducti                                          | es (B9)  4A, and 4B)  ss (B13) dor (C1) res along Liv ed Iron (C4) on in Tilled S Plants (D1) (              | layer does not                                                   | Second  W (N  Di  Si  G  Ri | ary Indicators ater-Stained I ILRA 1, 2, 4A rainage Patter ry-Season Wa aturation Visib eomorphic Po nallow Aquitar AC-Neutral Te                                          | (2 or moo<br>Leaves (E<br>La, and 4B<br>Lans (B10)<br>ater Table<br>ble on Aer<br>sition (D2<br>d (D3)<br>set (D5)             | re requires 39) (C2) ial Image 2)          | ed)            |      |
| YDROLOGY etland Hydrol rimary Indicato Surface V High Water Ma Sediment Drift Depo Algal Mat Iron Depo Surface S Inundation Sparsely                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Ver is not large e  Volume (A1)  For Table (A2)  For (A3)  For (A3)  For (B3)  For Crust (B4)  For Crust (B4)  For Crust (B5)  For Crust (B6)  For Visible on Aeri  Vegetated Conc                                    | : cone requir                                 | ed; check                        | all that  | apply)  Water-Stained Leav (except MLRA 1, 2, Salt Crust (B11) Aquatic Invertebrate Hydrogen Sulfide O Oxidized Rhizosphe Presence of Reduce Recent Iron Reducti Stunted or Stresses                       | es (B9)  4A, and 4B)  ss (B13) dor (C1) res along Liv ed Iron (C4) on in Tilled S Plants (D1) (              | layer does not                                                   | Second  W (N)  Di Si G G Si | ary Indicators<br>ater-Stained I<br>ILRA 1, 2, 4A<br>rainage Patter<br>ry-Season Wa<br>aturation Visib<br>eomorphic Po<br>nallow Aquitar<br>AC-Neutral Te<br>aised Ant Mou | (2 or moo<br>Leaves (E<br>La, and 4B<br>Lans (B10)<br>ater Table<br>ble on Aer<br>sition (D2<br>d (D3)<br>set (D5)             | re requires 39) (C2) ial Image 2)          | ed)            |      |
| YDROLOGY etland Hydrol imary Indicato   Surface V   High Water   Saturation   Water Ma   Sediment   Drift Depo   Algal Mat   Iron Depo   Surface S   Inundation   Sparsely                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Voter (A1) er Table (A2) n (A3) arks (B1) t Deposits (B2) posits (B3) or Crust (B4) posits (B5) Goil Cracks (B6) n Visible on Aeri Vegetated Concions:                                                                | : cone requir                                 | ed; check                        | all that  | apply)  Water-Stained Leav (except MLRA 1, 2, Salt Crust (B11) Aquatic Invertebrate Hydrogen Sulfide Or Oxidized Rhizosphe Presence of Reduce Recent Iron Reducti Stunted or Stresses Other (Explain in Re | es (B9)  4A, and 4B)  ss (B13) dor (C1) res along Liv ed Iron (C4) on in Tilled S Plants (D1) (              | layer does not                                                   | Second  W (N)  Di Si G G Si | ary Indicators<br>ater-Stained I<br>ILRA 1, 2, 4A<br>rainage Patter<br>ry-Season Wa<br>aturation Visib<br>eomorphic Po<br>nallow Aquitar<br>AC-Neutral Te<br>aised Ant Mou | (2 or moo<br>Leaves (E<br>La, and 4B<br>Lans (B10)<br>ater Table<br>ble on Aer<br>sition (D2<br>d (D3)<br>set (D5)             | re requires 39) (C2) ial Image 2)          | ed)            |      |
| YDROLOGY etland Hydrol imary Indicato Surface W High Water Sediment Sediment Drift Depo Algal Mat Iron Depo Surface S Inundation Sparsely eld Observati                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Vater (A1) er Table (A2) in (A3) er Kable (B4) er Crust (B4) exists (B5) Soil Cracks (B6) in Visible on Aeri Vegetated Concions: Present?                                                                             | al Imagery<br>ave Surfac                      | ed; check                        | all that  | apply)  Water-Stained Leav (except MLRA 1, 2, Salt Crust (B11) Aquatic Invertebrate Hydrogen Sulfide Or Oxidized Rhizosphe Presence of Reducti Stunted or Stresses Other (Explain in Re                    | es (B9)  4A, and 4B)  s (B13)  dor (C1)  res along Liv  ed Iron (C4)  on in Tilled S  Plants (D1) ( emarks)  | layer does not                                                   | Second  W (N)  Di Si G G Si | ary Indicators<br>ater-Stained I<br>ILRA 1, 2, 4A<br>rainage Patter<br>ry-Season Wa<br>aturation Visib<br>eomorphic Po<br>nallow Aquitar<br>AC-Neutral Te<br>aised Ant Mou | (2 or moo<br>Leaves (E<br>La, and 4B<br>Lans (B10)<br>ater Table<br>ble on Aer<br>sition (D2<br>d (D3)<br>set (D5)             | re requires 39) (C2) ial Image 2)          | ed)            |      |
| YDROLOGY  etland Hydrol rimary Indicato  Surface V High Water Ma Sediment Drift Depo Algal Mat Iron Depo Surface S Inundation Sparsely  eld Observati                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Jogy Indicators ors (minimum of orvater (A1) er Table (A2) in (A3) arks (B1) it Deposits (B2) osits (B3) or Crust (B4) osits (B5) Soil Cracks (B6) in Visible on Aeri Vegetated Concions: Oresent?                    | : cone requir                                 | ed; check                        | all that  | apply)  Water-Stained Leav (except MLRA 1, 2, Salt Crust (B11) Aquatic Invertebrate Hydrogen Sulfide Or Oxidized Rhizosphe Presence of Reduce Recent Iron Reducti Stunted or Stresses Other (Explain in Re | es (B9)  4A, and 4B)  s (B13)  dor (C1)  res along Liv  ed Iron (C4)  on in Tilled S  Plants (D1) ( emarks)  | layer does not                                                   | Second  W (N)  Di Si G G Si | ary Indicators<br>ater-Stained I<br>ILRA 1, 2, 4A<br>rainage Patter<br>ry-Season Wa<br>aturation Visib<br>eomorphic Po<br>nallow Aquitar<br>AC-Neutral Te<br>aised Ant Mou | (2 or moo<br>Leaves (E<br>La, and 4B<br>Lans (B10)<br>ater Table<br>ble on Aer<br>sition (D2<br>d (D3)<br>set (D5)             | re requires 39) (C2) ial Image 2)          | ed)            |      |
| IYDROLOGY /etland Hydrol rimary Indicato Surface V High Water Ma Saturatior Water Ma Sediment Drift Depo                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Vater (A1) er Table (A2) in (A3) er Kable (B4) er Crust (B4) er Crust (B4) er Crust (B5) Goil Cracks (B6) in Visible on Aeri Vegetated Concions: Present? ent?                                                        | al Imagery<br>ave Surfac                      | ed; check  (B7) (be (B8)  No     | all that  | apply)  Water-Stained Leav (except MLRA 1, 2, Salt Crust (B11) Aquatic Invertebrate Hydrogen Sulfide Or Oxidized Rhizosphe Presence of Reducti Stunted or Stresses Other (Explain in Re                    | es (B9)  4A, and 4B)  s (B13)  dor (C1)  res along Liv  ed Iron (C4)  on in Tilled S  Plants (D1) ( emarks)  | layer does not                                                   | Second W (N D) Si G G G Fr  | ary Indicators<br>ater-Stained I<br>ILRA 1, 2, 4A<br>rainage Patter<br>ry-Season Wa<br>aturation Visib<br>eomorphic Po<br>nallow Aquitar<br>AC-Neutral Te<br>aised Ant Mou | (2 or moi<br>Leaves (E<br>a, and 4B<br>rns (B10)<br>later Table<br>ole on Aer<br>sition (D2<br>d (D3)<br>est (D5)<br>unds (D6) | re requires 39) (C2) ial Image 2)          | ed)            | eted |
| MYDROLOGY  Metland Hydrol  rimary Indicato  Surface V  High Water Ma  Sediment  Drift Depo  Algal Mat  Iron Depo  Surface S  Inundation  Sparsely  Metel Observati  urface Water P  Mater Table Presencludes capilla                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Jogy Indicators ors (minimum of orvater (A1) er Table (A2) in (A3) arks (B1) it Deposits (B2) osits (B3) or Crust (B4) osits (B5) Soil Cracks (B6) in Visible on Aeri Vegetated Concions: Oresent? Yesent? yr fringe) | al Imagery ave Surface  'es   'es   'es   'es | ed; check  (B7)  te (B8)  No  No | all that  | apply) Water-Stained Leav (except MLRA 1, 2, Salt Crust (B11) Aquatic Invertebrate Hydrogen Sulfide Or Oxidized Rhizosphe Presence of Reduct Recent Iron Reducti Stunted or Stresses Other (Explain in Re  | es (B9)  4A, and 4B)  ss (B13)  dor (C1)  res along Liv  ed Iron (C4)  on in Tilled S  Plants (D1) ( emarks) | layer does not layer does not ling Roots (C3) soils (C6) (LRR A) | Second W (N D) Si G G G Fr  | ary Indicators ater-Stained I ILRA 1, 2, 4A rainage Patter ry-Season Wa aturation Visib eomorphic Po nallow Aquitar AC-Neutral Te aised Ant Mou                            | (2 or moi<br>Leaves (E<br>a, and 4B<br>rns (B10)<br>later Table<br>ole on Aer<br>sition (D2<br>d (D3)<br>est (D5)<br>unds (D6) | re requires (C2) ial Image (LRR A (D7)     | ed)            | eted |
| YDROLOGY Yetland Hydrol rimary Indicato Surface V High Water Ma Sediment Drift Depo Algal Mat Iron Depo Surface S Inundation Sparsely Yetla Observati urface Water Pereaturation Prese active Sediment Sedim | Jogy Indicators ors (minimum of orvater (A1) er Table (A2) in (A3) arks (B1) it Deposits (B2) osits (B3) or Crust (B4) osits (B5) Soil Cracks (B6) in Visible on Aeri Vegetated Concions: Oresent? Yesent? yr fringe) | al Imagery ave Surface  'es   'es   'es   'es | ed; check  (B7)  te (B8)  No  No | all that  | apply)  Water-Stained Leav (except MLRA 1, 2, Salt Crust (B11) Aquatic Invertebrate Hydrogen Sulfide Or Oxidized Rhizosphe Presence of Reduct Recent Iron Reducti Stunted or Stresses Other (Explain in Re | es (B9)  4A, and 4B)  ss (B13)  dor (C1)  res along Liv  ed Iron (C4)  on in Tilled S  Plants (D1) ( emarks) | layer does not layer does not ling Roots (C3) soils (C6) (LRR A) | Second W (N D) Si G G G Fr  | ary Indicators ater-Stained I ILRA 1, 2, 4A rainage Patter ry-Season Wa aturation Visib eomorphic Po nallow Aquitar AC-Neutral Te aised Ant Mou                            | (2 or moi<br>Leaves (E<br>a, and 4B<br>rns (B10)<br>later Table<br>ole on Aer<br>sition (D2<br>d (D3)<br>est (D5)<br>unds (D6) | re requires (C2) ial Image (LRR A (D7)     | ed)            | eted |

| Project Site:                      | Port Gamble                                       |                                        |                                 | City/Coun       | nty: Port Gamble/Kitsap                                              | Sampling Date:          | 3/24              | 4/17         |
|------------------------------------|---------------------------------------------------|----------------------------------------|---------------------------------|-----------------|----------------------------------------------------------------------|-------------------------|-------------------|--------------|
| Applicant/Owner:                   | Fischer Bouma Partnership                         |                                        |                                 |                 | State: WA                                                            | Sampling Point          | : <u>UPL</u>      | L TP 8       |
| Investigator(s):                   | J. Bartlett, L. Westervelt, K. E                  | <u>Boa</u>                             |                                 |                 | Section, Township, Rar                                               | ige: <u>S7 T27N R</u> 2 | 2E                |              |
| Landform (hillslope, te            | errace, etc.): <u>hillslope</u>                   |                                        | Loca                            | al relief (conc | ave, convex, none): concave                                          | !                       | Slope (%):        | <u>15-30</u> |
| Subregion (LRR):                   | MLRA 2                                            | Lat:                                   |                                 |                 | Long:                                                                | Date                    | um: <u>Trimbl</u> | <u>e</u>     |
| Soil Map Unit Name:                | Ragnar fine sandy loam, 15                        | to 30 percent s                        | lopes                           |                 | NWI clas                                                             | ssification:            |                   |              |
| Are climatic / hydrolog            | ic conditions on the site typica                  | I for this time of                     | year? Y                         | 'es ⊠           | No                                                                   | in Remarks.)            |                   |              |
| Are Vegetation ☐,                  | , Soil □, or Hydrology                            | y □, signific                          | cantly disturbed                | d? Are "        | Normal Circumstances" present                                        | ?                       | Yes 🛛             | No 🗌         |
| Are Vegetation ,                   | , Soil □, or Hydrology                            | y □, natura                            | lly problematic                 | ? (If ne        | eeded, explain any answers in R                                      | emarks.)                |                   |              |
| SUMMARY OF FIN                     | IDINGS – Attach site mag                          | showing sai                            | mpling point                    | locations,      | , transects, important featu                                         | ıres, etc.              |                   |              |
| Hydrophytic Vegetatio              |                                                   | Yes 🗆                                  |                                 |                 | <u> </u>                                                             |                         |                   | <del></del>  |
| Hydric Soil Present?               |                                                   | Yes 🗆                                  | No ⊠                            | Is the Samp     |                                                                      |                         | Yes 🗆             | No 🛛         |
| Wetland Hydrology Pr               | esent?                                            | Yes 🗵                                  | No □                            | WILIIII a WE    | nianu r                                                              |                         |                   |              |
| Remarks: The scope                 | e of this feasibility encompass                   | es a section abo                       | ut 6 miles long                 | extending be    | etween Port Gamble at the north                                      | end and Stottlen        | never Road        | NE at the    |
| south end<br>current lo            | <ol> <li>It passes primarily through ι</li> </ol> | undeveloped time<br>stem of trails uti | berland owned<br>lized by walke | by OPG; mo      | st of which is woven with interla<br>d equestrian hobbyists weave be | cing logging road       | s due to hist     | toric and    |
| VEGETATION – Us                    | se scientific names of pla                        | ants                                   |                                 |                 |                                                                      |                         |                   |              |
| Tree Stratum (Plot siz             | •                                                 | Absolute                               | Dominant                        | Indicator       | Dominance Test Worksheet                                             | :                       |                   |              |
| 1. Alnus rubra                     |                                                   | <u>% Cover</u><br><u>40</u>            | <u>Species?</u><br><u>yes</u>   | Status<br>FAC   | Number of Deminent Chasins                                           |                         |                   |              |
| Tsuga heterophyll                  | la                                                | <u>40</u>                              | <u>yes</u>                      | FACU            | Number of Dominant Species That Are OBL, FACW, or FAC                | : 2                     | 2                 | (A)          |
| 3                                  | =                                                 |                                        | ,                               |                 | Total Number of Dominant                                             |                         |                   |              |
| 4.                                 |                                                   |                                        |                                 | _               | Species Across All Strata:                                           | 5                       | 5                 | (B)          |
| 50% = <u>40</u> , 20% = <u>16</u>  |                                                   | 80                                     | = Total Cove                    |                 | Percent of Dominant Species                                          |                         |                   |              |
|                                    | n (Plot size: 30' diameter)                       | _                                      |                                 |                 | That Are OBL, FACW, or FAC                                           | : <del>-</del>          | <u>40</u>         | (A/B)        |
| Rubus spectabilis                  |                                                   | <u>30</u>                              | <u>yes</u>                      | FAC             | Prevalence Index worksheet                                           | t:                      |                   | ·            |
| Gaultheria shallor                 |                                                   | <u>15</u>                              | yes                             | FACU            | Total % Cover of                                                     |                         | Multiply by:      |              |
| 3                                  | -                                                 | <del></del>                            |                                 |                 | OBL species                                                          |                         | κ1 =              |              |
| 4.                                 |                                                   |                                        |                                 |                 | FACW species                                                         | )                       | K2 =              |              |
| 5                                  |                                                   |                                        |                                 |                 | FAC species                                                          | )                       | x3 =              |              |
| 50% = <u>22.5</u> , 20% = <u>9</u> |                                                   | 45                                     | = Total Cove                    | r               | FACU species                                                         | )                       | κ4 =              |              |
| Herb Stratum (Plot siz             | ze: 10' diameter)                                 | _                                      |                                 |                 | UPL species                                                          | ;                       | κ5 =              |              |
| 1. Polystichum muni                | ·                                                 | <u>20</u>                              | <u>yes</u>                      | FACU            | Column Totals:                                                       | _(A)                    |                   | (B)          |
| 2                                  | tum.                                              | 20                                     | <del>100</del>                  | 17100           |                                                                      | e Index = B/A =         |                   |              |
| 3                                  |                                                   |                                        |                                 |                 | Hydrophytic Vegetation Indi                                          |                         |                   |              |
| 4.                                 |                                                   |                                        |                                 | _               | ☐ 1 – Rapid Test for Hydro                                           |                         | n                 |              |
| 5                                  |                                                   |                                        |                                 |                 | 2 - Dominance Test is >                                              |                         |                   |              |
| 6.                                 |                                                   |                                        |                                 |                 | 3 - Prevalence Index is                                              |                         |                   |              |
| 7                                  |                                                   |                                        |                                 |                 | o i revaleries index is _                                            | _                       |                   |              |
| 8                                  |                                                   | <del></del>                            |                                 |                 | 4 - Morphological Adapt<br>data in Remarks or o                      |                         |                   |              |
| 9.                                 |                                                   | <del></del>                            |                                 |                 | 5 - Wetland Non-Vascul                                               | ٠.                      | - 7               |              |
| 10                                 |                                                   |                                        |                                 |                 |                                                                      |                         |                   |              |
|                                    |                                                   |                                        |                                 |                 | ☐ Problematic Hydrophytic                                            | ; Vegetation (Exp       | olain)            |              |
| 11                                 |                                                   | 20                                     | Total Cava                      |                 | <sup>1</sup> Indicators of hydric soil and w                         | etland hydrology        | must              |              |
| 50% = 105, 20% = 4                 | (Dlat aire, 10) diameter                          | <u>20</u>                              | = Total Cove                    | 1               | be present, unless disturbed of                                      | r problematic.          |                   |              |
| -                                  | (Plot size: 10' diameter)                         |                                        |                                 |                 |                                                                      |                         |                   | <del></del>  |
| 1                                  |                                                   |                                        |                                 |                 | Hydrophytic                                                          |                         |                   |              |
| 2                                  |                                                   |                                        |                                 |                 |                                                                      | ∕es 🗆                   | No                | $\boxtimes$  |
| 50% =, 20% =                       |                                                   |                                        | = Total Cove                    | Г               | Present?                                                             |                         |                   |              |
| % Bare Ground in He                |                                                   |                                        |                                 |                 |                                                                      |                         |                   |              |
| Remarks:                           | The hydrophytic vegetation crit                   | erion is not met                       | because there                   | is not greate   | r than 50% dominance by FAC                                          | species.                |                   |              |
|                                    |                                                   |                                        |                                 |                 |                                                                      |                         |                   |              |
|                                    |                                                   |                                        |                                 |                 |                                                                      |                         |                   |              |

Project Site: Port Gamble Trail

| SOIL                     |                    |          |            |          |             |                        |                      |                  |                           | Sampling Point:                                 | UPL TP 8           |         |             |
|--------------------------|--------------------|----------|------------|----------|-------------|------------------------|----------------------|------------------|---------------------------|-------------------------------------------------|--------------------|---------|-------------|
| Profile Desc             | ription: (Describ  | e to th  | ie depth   | need     | led to d    | ocument the indica     | ator or confi        | irm the abse     | ence of indica            | tors.)                                          |                    |         |             |
| Depth                    | Matr               | rix      |            |          |             | Redox Fe               | atures               |                  |                           |                                                 |                    |         |             |
| (inches)                 | Color (moist)      |          | %          | C        | olor (mo    | oist) %                | Type <sup>1</sup>    | Loc <sup>2</sup> | Texture                   | •                                               | Remarks            |         | l           |
| 0-2                      |                    |          |            |          |             |                        |                      |                  | - <u> </u>                | <u>Duff</u>                                     |                    |         |             |
| <u>2-3</u>               | 7.5YR 3/4          |          | <u>100</u> |          |             |                        |                      |                  | gr sa                     | lo no redoximorp                                | hic features       |         |             |
| <u>3-16</u>              | 10YR 3/6           |          | <u>100</u> |          |             |                        |                      |                  | gr sa                     | lo no redoximorp                                | hic features       |         |             |
|                          |                    | _        |            |          |             |                        |                      |                  |                           |                                                 |                    |         |             |
|                          |                    | _        |            |          |             |                        |                      |                  |                           | gr - gravel                                     |                    |         |             |
|                          |                    | _        |            |          |             |                        |                      |                  |                           | sa - sand                                       |                    |         |             |
|                          |                    | _        |            |          |             |                        |                      |                  |                           | <u>lo - loam</u>                                |                    |         |             |
|                          |                    | _        |            |          |             |                        |                      |                  |                           |                                                 |                    |         |             |
| <sup>1</sup> Type: C= Co | oncentration, D=D  | Depletio | n, RM=F    | Reduc    | ed Matr     | rix, CS=Covered or 0   | Coated Sand          | d Grains.        | <sup>2</sup> Location: PL | =Pore Lining, M=Matr                            | ix, RC=Root        | Channel |             |
| Hydric Soil              | Indicators: (App   | licable  | to all Li  | RRs, ı   | unless      | otherwise noted.)      |                      |                  | Indi                      | cators for Problema                             | ic Hydric S        | oils³:  |             |
| ☐ Histose                | ol (A1)            |          |            |          |             | Sandy Redox (S5)       | )                    |                  |                           | 2 cm Muck (A10)                                 |                    |         |             |
| ☐ Histic I               | Epipedon (A2)      |          |            |          |             | Stripped Matrix (S     | 6)                   |                  |                           | Red Parent Materi                               | al (TF2)           |         |             |
| ☐ Black I                | Histic (A3)        |          |            |          |             | Loamy Mucky Min        | eral (F1) <b>(ex</b> | cept MLRA        | 1) 🗆                      | Very Shallow Dark                               | Surface (TF        | 12)     |             |
| ☐ Hydrog                 | gen Sulfide (A4)   |          |            |          |             | Loamy Gleyed Ma        | ıtrix (F2)           |                  |                           | Other (Explain in F                             | Remarks)           |         |             |
| □ Deplet                 | ed Below Dark S    | urface ( | (A11)      |          |             | Depleted Matrix (F     | <del>-</del> 3)      |                  |                           |                                                 |                    |         |             |
| ☐ Thick [                | Dark Surface (A1   | 2)       |            |          |             | Redox Dark Surfa       | ce (F6)              |                  | •                         |                                                 |                    |         |             |
| ☐ Sandy                  | Mucky Mineral (S   | S1)      |            |          |             | Depleted Dark Sur      | rface (F7)           |                  |                           | icators of hydrophytic<br>vetland hydrology mus |                    |         |             |
| ☐ Sandy                  | Gleyed Matrix (S   | 4)       |            |          |             | Redox Depression       | ıs (F8)              |                  |                           | inless disturbed or pro                         |                    | ,       |             |
| Restrictive I            | Layer (if present  | ):       |            |          |             |                        |                      |                  |                           |                                                 |                    |         |             |
| Type:                    |                    |          |            |          |             |                        |                      |                  |                           |                                                 |                    |         |             |
| Depth (inche             | es):               |          |            |          |             |                        |                      | Hydric Soi       | ils Present?              | Yes                                             | <b>.</b>           | No      | $\boxtimes$ |
| HYDROLO                  | GY                 |          |            |          |             |                        |                      |                  |                           |                                                 |                    |         |             |
| Wetland Hyd              | drology Indicato   | rs:      |            |          |             |                        |                      |                  |                           |                                                 |                    |         |             |
| Primary Indic            | cators (minimum    | of one r | equired;   | chec     | k all tha   | t apply)               |                      |                  | Seco                      | ndary Indicators (2 or                          | more require       | ed)     |             |
| ☐ Surfac                 | ce Water (A1)      |          |            |          |             | Water-Stained Lea      | aves (B9)            |                  |                           | Water-Stained Leave                             | s (B9)             |         |             |
| ☐ High V                 | Vater Table (A2)   |          |            |          |             | (except MLRA 1,        | 2, 4A, and 4         | 4B)              |                           | (MLRA 1, 2, 4A, and                             | 4B)                |         |             |
| ☐ Satura                 | ation (A3)         |          |            |          |             | Salt Crust (B11)       |                      |                  |                           | Drainage Patterns (B                            | 10)                |         |             |
| ☐ Water                  | Marks (B1)         |          |            |          |             | Aquatic Invertebra     | ites (B13)           |                  |                           | Dry-Season Water Ta                             | ble (C2)           |         |             |
| ☐ Sedim                  | ent Deposits (B2   | )        |            |          |             | Hydrogen Sulfide       | Odor (C1)            |                  |                           | Saturation Visible on                           | Aerial Image       | ry (C9) |             |
| ☐ Drift D                | eposits (B3)       |          |            |          |             | Oxidized Rhizosph      | neres along l        | Living Roots     | (C3)                      | Geomorphic Position                             | (D2)               |         |             |
| ☐ Algal I                | Mat or Crust (B4)  |          |            |          |             | Presence of Redu       | ced Iron (C4         | 1)               |                           | Shallow Aquitard (D3                            | )                  |         |             |
| ☐ Iron D                 | eposits (B5)       |          |            |          |             | Recent Iron Reduc      | ction in Tillec      | d Soils (C6)     |                           | FAC-Neutral Test (D5                            | <del>i</del> )     |         |             |
| ☐ Surfac                 | ce Soil Cracks (Be | 6)       |            |          |             | Stunted or Stresse     | es Plants (D1        | 1) (LRR A)       |                           | Raised Ant Mounds (                             | 06) <b>(LRR A)</b> |         |             |
| ☐ Inunda                 | ation Visible on A | erial Im | agery (B   | 37)      |             | Other (Explain in F    | Remarks)             |                  |                           | Frost-Heave Hummo                               | cks (D7)           |         |             |
| ☐ Spars                  | ely Vegetated Co   | ncave \$ | Surface    | (B8)     |             |                        |                      |                  |                           |                                                 |                    |         |             |
| Field Obser              | vations:           |          |            |          |             |                        |                      |                  |                           |                                                 |                    |         |             |
| Surface Water            | er Present?        | Yes      |            | No       | $\boxtimes$ | Depth (inches          | s):                  |                  |                           |                                                 |                    |         |             |
| Water Table              | Present?           | Yes      |            | No       | $\boxtimes$ | Depth (inches          | s):                  |                  |                           |                                                 |                    |         |             |
| Saturation P             | oillary fringe)    | Yes      |            | No       |             | Depth (inches          |                      |                  |                           | rology Present?                                 | Yes                | □ No    |             |
| Describe Re              | corded Data (stre  | am gau   | ıge, mon   | nitoring | g well, a   | erial photos, previou  | us inspection        | ns), if availab  | le:                       |                                                 |                    |         |             |
|                          |                    |          |            |          |             |                        |                      |                  |                           |                                                 |                    |         |             |
| Remarks:                 | Hydrology was      | not pre  | sent dur   | ing th   | e field v   | risit and there was no | o evidence o         | of wetland hyd   | drology.                  |                                                 |                    |         |             |
|                          |                    |          |            |          |             |                        |                      |                  |                           |                                                 |                    |         |             |
|                          |                    |          |            |          |             |                        |                      |                  |                           |                                                 |                    |         |             |

### WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

| Project Site:                     | Port Gamble                         |                                        |            |           |               |             | City/Coun      | nty: P   | ort Gam             | ble/Kit           | sap                        | Sampling         | Date:        | 3/24/1          | 7           |
|-----------------------------------|-------------------------------------|----------------------------------------|------------|-----------|---------------|-------------|----------------|----------|---------------------|-------------------|----------------------------|------------------|--------------|-----------------|-------------|
| Applicant/Owner:                  | Fischer Bouma                       | Partnership                            |            |           |               |             |                |          |                     | State             | e: <u>WA</u>               | Sampling         | Point:       | UPL 1           | TP 9        |
| Investigator(s):                  | J. Bartlett, L. W                   | estervelt, K. Boa                      |            |           |               |             |                |          | Section             | n, Towr           | nship, Ranç                | ge: <u>S7 T2</u> | 7N R2E       |                 |             |
| Landform (hillslope, te           | rrace, etc.): <u>h</u>              | <u>nillslope</u>                       |            |           |               | Loca        | I relief (conc | ave, cor | nvex, no            | one):             | concave                    |                  | Slope        | e (%): <u>1</u> | 15-30       |
| Subregion (LRR):                  | MLRA 2                              |                                        | Lat:       |           | _             |             |                | Lon      | ıg:                 | _                 |                            |                  | Datum:       | <u>Trimble</u>  |             |
| Soil Map Unit Name:               | Ragnar fine sa                      | andy loam, 15 to                       | 30 perce   | nt slo    | pes           |             |                |          |                     |                   | NWI clas                   | sification:      |              |                 |             |
| Are climatic / hydrolog           | ic conditions on t                  | the site typical for                   | this time  | of y      | ear?          | Ye          | es 🛚           | No       |                     | (If no            | o, explain i               | n Remarks        | .)           |                 |             |
| Are Vegetation ☐,                 | Soil □,                             | or Hydrology                           | □, sig     | nifica    | ıntly di      | sturbed     | ? Are "        | Normal   | Circums             | stances           | s" present?                |                  | Yes          | ⊠ 1             | No 🗆        |
| Are Vegetation □,                 | Soil □,                             | or Hydrology                           | □, nat     | turall    | y probl       | ematic?     | ? (If ne       | eded, e  | explain a           | ny ans            | wers in Re                 | marks.)          |              |                 |             |
| SUMMARY OF FIN                    | IDINGS – Atta                       | ch site map sl                         | nowing     | sam       | pling         | point       | locations,     | transe   | ects, in            | nporta            | ant featu                  | res, etc.        |              |                 |             |
| Hydrophytic Vegetatio             |                                     | •                                      | Yes        |           | No            | . ⊠         |                |          |                     | -                 |                            |                  |              |                 | ·           |
| Hydric Soil Present?              |                                     |                                        | Yes        |           | No            |             | Is the Samp    |          |                     |                   |                            |                  | Yes          | □ I             | No 🗵        |
| Wetland Hydrology Pro             | esent?                              |                                        | Yes        |           | No            | $\boxtimes$ | within a we    | tianu r  |                     |                   |                            |                  |              |                 |             |
| Remarks: The scope                | e of this feasibilit                | y encompasses a                        | section    | abou      | t 6 mile      | es lona     | extending be   | etween l | Port Gar            | mble at           | t the north                | end and St       | tottlemever  | Road N          | E at the    |
| south end                         | <ol> <li>It passes prima</li> </ol> | arily through unde                     | eveloped   | timb      | erland        | owned       | by OPG; mo     | st of wh | nich is w           | oven w            | vith interlac              | ing logging      | roads due    | to histor       | ric and     |
|                                   |                                     | and a large syste<br>ent, along the Co |            |           |               |             |                |          |                     |                   | weave be                   | ween the         | logging road | ds. Lest        | Plot 9 is   |
| VEGETATION – Us                   | se scientific n                     | ames of plants                         | •          |           |               |             |                |          |                     |                   |                            |                  |              |                 |             |
| Tree Stratum (Plot siz            |                                     | arries or plant                        | Absolut    |           | Domir         |             | Indicator      | Domi     | inance T            | Tast W            | orksheet:                  |                  |              |                 |             |
|                                   | c. <u>50 diameter</u> )             |                                        | % Cove     | <u>er</u> | Speci         | es?         | <u>Status</u>  |          |                     |                   |                            |                  |              |                 |             |
| 1                                 |                                     |                                        |            |           |               |             |                |          |                     |                   | it Species<br>W, or FAC:   |                  | <u>2</u>     |                 | (A)         |
| 2                                 |                                     |                                        |            |           |               |             |                |          |                     |                   |                            |                  |              |                 |             |
| 3                                 |                                     |                                        |            |           |               |             |                |          | Number<br>es Acros  |                   |                            |                  | <u>3</u>     |                 | (B)         |
| 4, 20% =                          |                                     |                                        |            |           |               | al Cover    | <del></del>    |          |                     |                   |                            |                  |              |                 |             |
| Sapling/Shrub Stratun             |                                     | liameter)                              |            |           | = 1016        | ai Covei    |                |          |                     |                   | t Species<br>W, or FAC:    |                  | <u>67</u>    |                 | (A/B)       |
| Rubus spectabilis                 | <u>ıı</u> (1 101 3126. <u>30  0</u> | <u>alameter</u> )                      | <u>55</u>  |           | yes           |             | FAC            |          |                     |                   | vorksheet:                 |                  |              |                 | <del></del> |
| Sambucus racements                | nea                                 |                                        | <u>55</u>  |           | no<br>no      |             | FACU           | FIEVA    |                     |                   | Cover of:                  |                  | Multip       | v by:           |             |
| 3                                 | <u> </u>                            |                                        | <u> </u>   |           | 110           |             | 1700           | ORL      | <u>-</u><br>species | i Otai 70         | Cover or.                  |                  | x1 =         | <u>у Бу.</u>    |             |
| 4.                                |                                     |                                        |            |           |               |             |                |          | V specie            | 26                |                            |                  | x2 =         |                 | =           |
| 5.                                |                                     |                                        |            |           |               |             |                |          | species             |                   |                            |                  | x3 =         |                 | =           |
| 50% = 30, 20% = 12                |                                     |                                        | 60         |           | - Tota        | al Cover    |                |          | J specie:           |                   |                            |                  | x4 =         |                 | _           |
| Herb Stratum (Plot siz            | re: 10' diameter)                   |                                        | <u>00</u>  |           | - 1010        | ai 0070i    |                |          | species             | •                 |                            |                  | x5 =         |                 | =           |
| Polystichum munit                 | •                                   |                                        | _          |           | \ <b>'</b> 00 |             | EACH           |          | •                   |                   |                            | <b>(\\</b> )     | X3 =         |                 | -<br>(D)    |
| · · · ·                           | <u>lum</u>                          |                                        | <u>5</u>   |           | <u>yes</u>    |             | <u>FACU</u>    | Colum    | nn Total            |                   |                            | (A)              | ^            |                 | _ (B)       |
| 2                                 |                                     |                                        |            |           |               |             |                | Llycalna |                     |                   |                            |                  | A =          |                 |             |
| 3                                 |                                     |                                        |            |           |               |             | —              | -        |                     | _                 | ation Indic                |                  | atatian      |                 |             |
| 4                                 |                                     |                                        |            |           |               |             |                |          |                     |                   | t for Hydrop<br>Test is >5 |                  | etation      |                 |             |
| 5                                 |                                     |                                        |            |           |               |             |                | _        |                     |                   |                            |                  |              |                 |             |
| 6                                 |                                     |                                        |            |           |               |             |                |          |                     |                   | Index is ≤                 |                  |              |                 |             |
| 7                                 |                                     |                                        |            |           |               |             |                |          | 4 - Morp            | phologi<br>in Ren | ical Adapta<br>narks or or | tions¹ (Pro      | vide suppoi  | ting            |             |
| 8                                 |                                     |                                        |            |           |               |             | —              |          |                     |                   |                            |                  | 0 011001)    |                 |             |
| 9                                 |                                     |                                        |            |           |               |             |                | _        |                     |                   | on-Vascula                 |                  | 4            |                 |             |
| 10                                |                                     |                                        |            |           |               |             | —              |          | Problem             | natic H           | ydrophytic                 | Vegetation       | ¹ (Explain)  |                 |             |
| 11                                |                                     |                                        |            |           |               |             |                | 1Indic   | ators of            | hydric            | soil and we                | etland hydr      | rology must  |                 |             |
| 50% = <u>2.5</u> , 20% = <u>1</u> | (D) ( ) (A) ()                      |                                        | <u>5</u>   |           | = I Ota       | al Cover    | f              |          |                     |                   | listurbed or               |                  |              |                 |             |
| Woody Vine Stratum (              | Plot size: 10' dia                  | <u>imeter</u> )                        |            |           |               |             |                |          |                     |                   |                            |                  |              |                 |             |
| 1                                 |                                     |                                        |            |           |               |             |                | Hvdr     | ophytic             |                   |                            |                  |              |                 |             |
| 2                                 |                                     |                                        |            |           |               |             |                | Veget    |                     |                   | Y                          | es               |              | No              | $\boxtimes$ |
| 50% =, 20% =                      |                                     |                                        |            |           | = Tota        | al Cover    | 7              | Prese    |                     |                   |                            |                  |              |                 |             |
| % Bare Ground in Her              |                                     |                                        |            |           |               |             |                |          |                     |                   |                            |                  |              |                 |             |
| Remarks:                          | The hydrophytic v                   | vegetation criterio                    | n is not r | net b     | ecaus         | e there i   | is not greate  | r than 5 | 0% dom              | ninance           | by FAC s                   | pecies.          |              |                 |             |
|                                   |                                     |                                        |            |           |               |             |                |          |                     |                   |                            |                  |              |                 |             |
|                                   |                                     |                                        |            |           |               |             |                |          |                     |                   |                            |                  |              |                 |             |

Project Site: Port Gamble Trail

| Depth                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Matrix                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                   |                                |           | Redox Fea                                                                                                                                                                                                                                |                                                                                                              |                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                   |                                                                                                                                  | _                                          |          |    |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------|--------------------------------|-----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|-----------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------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| ches)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Color (moist)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           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                                               | None of the soil la  GY  rology Indicators ators (minimum of                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | :                                                 |                                | all that  | t apply)                                                                                                                                                                                                                                 |                                                                                                              |                                                     | to meet non                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | ary Indicators                                                                                                                                    | (2 or mo                                                                                                                         | re require                                 | ed)      |    |
| DROLOG<br>tland Hyd<br>mary Indica<br>Surface                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | None of the soil la  GY  rology Indicators ators (minimum of e Water (A1)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | :                                                 |                                |           | apply) Water-Stained Leav                                                                                                                                                                                                                | res (B9)                                                                                                     | ile is determined                                   | Second                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | ary Indicators<br>/ater-Stained L                                                                                                                 | (2 or mo<br>eaves (E                                                                                                             | re require                                 | ed)      |    |
| DROLOG<br>tland Hyd<br>mary Indica<br>Surface<br>High W                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | GY rology Indicators ators (minimum of a Water (A1)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | :                                                 |                                | all that  | apply) Water-Stained Leav (except MLRA 1, 2,                                                                                                                                                                                             | res (B9)                                                                                                     | ile is determined                                   | Second W                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | ary Indicators<br>dater-Stained L                                                                                                                 | (2 or mo<br>eaves (E<br>, and 4B                                                                                                 | re require<br>39)                          | ed)      |    |
| DROLOG<br>tland Hyd<br>mary Indica<br>Surface<br>High W                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | None of the soil la  GY  rology Indicators ators (minimum of e Water (A1)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | :                                                 |                                | all that  | apply)  Water-Stained Leav  (except MLRA 1, 2, Salt Crust (B11)                                                                                                                                                                          | res (B9)<br>, <b>4A</b> , and <b>4</b> E                                                                     | ile is determined                                   | Second W                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | ary Indicators<br>/ater-Stained L                                                                                                                 | (2 or mo<br>eaves (E<br>, and 4B                                                                                                 | re require<br>39)                          | ed)      |    |
| DROLOG<br>tland Hyd<br>nary Indica<br>Surface<br>High W<br>Satural<br>Water                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | None of the soil la  SY  rology Indicators ators (minimum of a Water (A1) //ater Table (A2) tion (A3) Marks (B1)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | :                                                 |                                | all that  | t apply)  Water-Stained Leav  (except MLRA 1, 2,  Salt Crust (B11)  Aquatic Invertebrate                                                                                                                                                 | res (B9)<br>, <b>4A, and 4</b> E<br>es (B13)                                                                 | ile is determined                                   | Second  W (N                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | ary Indicators<br>later-Stained L<br>ILRA 1, 2, 4A<br>rainage Patter<br>ry-Season Wa                                                              | (2 or mo<br>eaves (E<br>, <b>and 4B</b><br>ns (B10)<br>ter Table                                                                 | re require<br>39)<br><b>)</b><br>e (C2)    | ,        |    |
| *DROLOG<br>tland Hyd<br>mary Indica<br>Surface<br>High W<br>Satural<br>Water                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | None of the soil la  SY  rology Indicators ators (minimum of a Water (A1) dater Table (A2) tion (A3)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | :                                                 |                                | all that  | apply)  Water-Stained Leav  (except MLRA 1, 2, Salt Crust (B11)                                                                                                                                                                          | res (B9)<br>, <b>4A, and 4</b> E<br>es (B13)                                                                 | ile is determined                                   | Second  W (N                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | ary Indicators  ater-Stained L  ILRA 1, 2, 4A  rainage Patter  ry-Season Wa  aturation Visib                                                      | (2 or mo<br>eaves (E<br>, <b>and 4B</b><br>ns (B10)<br>ter Table<br>le on Aer                                                    | re require 39) ) e (C2) rial Image         | ,        |    |
| DROLOG<br>tland Hyd<br>mary Indica<br>Surface<br>High W<br>Saturar<br>Water                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | None of the soil la  SY  rology Indicators ators (minimum of a Water (A1) //ater Table (A2) tion (A3) Marks (B1)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | :                                                 |                                | all that  | t apply)  Water-Stained Leav  (except MLRA 1, 2,  Salt Crust (B11)  Aquatic Invertebrate                                                                                                                                                 | res (B9)<br>, <b>4A, and 4E</b><br>es (B13)<br>dor (C1)                                                      | ile is determined                                   | Second  W (N                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | ary Indicators<br>later-Stained L<br>ILRA 1, 2, 4A<br>rainage Patter<br>ry-Season Wa                                                              | (2 or mo<br>eaves (E<br>, <b>and 4B</b><br>ns (B10)<br>ter Table<br>le on Aer                                                    | re require 39) ) e (C2) rial Image         | ,        |    |
| DROLOG<br>tland Hyd<br>mary Indica<br>Surface<br>High W<br>Satural<br>Water I<br>Sedime<br>Drift De                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | None of the soil la  GY  rology Indicators ators (minimum of e Water (A1) Vater Table (A2) tion (A3) Marks (B1) ent Deposits (B2)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | :                                                 |                                | all that  | water-Stained Leav<br>(except MLRA 1, 2,<br>Salt Crust (B11)<br>Aquatic Invertebrate<br>Hydrogen Sulfide On                                                                                                                              | res (B9)<br>, <b>4A</b> , <b>and 4</b> E<br>es (B13)<br>dor (C1)<br>eres along L                             | ile is determined                                   | Second  W (N                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | ary Indicators  ater-Stained L  ILRA 1, 2, 4A  rainage Patter  ry-Season Wa  aturation Visib                                                      | (2 or mo<br>.eaves (E<br>, and 4B<br>ns (B10)<br>ter Table<br>le on Aer<br>sition (D2                                            | re require 39) ) e (C2) rial Image         | ,        |    |
| DROLOG<br>tland Hyd<br>mary Indica<br>Surface<br>High W<br>Satural<br>Water I<br>Sedime<br>Drift De<br>Algal M                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | rology Indicators ators (minimum of a Water (A1) vater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | :                                                 |                                | all that  | water-Stained Leav<br>(except MLRA 1, 2,<br>Salt Crust (B11)<br>Aquatic Invertebrate<br>Hydrogen Sulfide Oo<br>Oxidized Rhizosphe                                                                                                        | res (B9)  4A, and 4E  es (B13)  dor (C1)  eres along Li  ed Iron (C4)                                        | ile is determined                                   | Second  W (N)  Do Second Second Second                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | ary Indicators fater-Stained L fILRA 1, 2, 4A rainage Patter ry-Season Wa aturation Visib eomorphic Pos                                           | (2 or mo<br>eaves (E<br>, and 4B<br>ns (B10)<br>ter Table<br>le on Aer<br>sition (D2<br>d (D3)                                   | re require 39) ) e (C2) rial Image         | ,        |    |
| DROLOG<br>tland Hyd<br>mary Indica<br>Surface<br>High W<br>Satural<br>Water I<br>Sedime<br>Drift De<br>Algal M<br>Iron De                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Tology Indicators ators (minimum of e Water (A1) vater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) dat or Crust (B4)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | :                                                 |                                | all that  | water-Stained Leav<br>(except MLRA 1, 2,<br>Salt Crust (B11)<br>Aquatic Invertebrate<br>Hydrogen Sulfide Oo<br>Oxidized Rhizosphe<br>Presence of Reduce                                                                                  | res (B9)  4A, and 4E  es (B13)  dor (C1)  eres along Li  ed Iron (C4)  ion in Tilled                         | ile is determined  B)  iving Roots (C3)  Soils (C6) | Second  W (N  Decomposition of the second of | ary Indicators (ater-Stained L ILRA 1, 2, 4A rainage Patter ry-Season Wa aturation Visib eomorphic Poshallow Aquitare                             | (2 or mo<br>eaves (E<br>, and 4B<br>ns (B10)<br>ter Table<br>le on Aer<br>sition (D2<br>d (D3)<br>st (D5)                        | re require 39) ) • (C2) rial Image         | ery (C9) |    |
| DROLOC<br>tland Hyd<br>mary Indica<br>Surface<br>High W<br>Saturat<br>Water I<br>Sedime<br>Drift De<br>Algal M<br>Iron De<br>Surface                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | None of the soil la  SY  rology Indicators ators (minimum of a Water (A1) dater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) dat or Crust (B4) eposits (B5)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | :<br>one requi                                    | red; check                     | all that  | water-Stained Leav<br>(except MLRA 1, 2,<br>Salt Crust (B11)<br>Aquatic Invertebrate<br>Hydrogen Sulfide Or<br>Oxidized Rhizosphe<br>Presence of Reduce<br>Recent Iron Reducti                                                           | res (B9)  4A, and 4B  es (B13)  dor (C1)  eres along Li  ed Iron (C4)  ion in Tilled  Plants (D1)            | ile is determined  B)  iving Roots (C3)  Soils (C6) | Second  W (N)  Di Si G G Si G Ri                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | ary Indicators later-Stained L ILRA 1, 2, 4A rainage Patter ry-Season Wa aturation Visib eomorphic Pos hallow Aquitare AC-Neutral Te              | (2 or mo<br>eaves (E<br>, and 4B<br>ns (B10)<br>ter Table<br>le on Aer<br>sition (D2<br>d (D3)<br>st (D5)<br>nds (D6)            | re require 39) ) e (C2) rial Image 2)      | ery (C9) |    |
| "DROLOG<br>ttland Hyd<br>mary Indica<br>Surface<br>High W<br>Saturar<br>Water I<br>Sedime<br>Drift De<br>Algal M<br>Iron De<br>Surface<br>Inunda                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | rology Indicators ators (minimum of a Water (A1) dater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) dat or Crust (B4) eposits (B5) e Soil Cracks (B6)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | :<br>one requi                                    | red; check                     | all that  | water-Stained Leav<br>(except MLRA 1, 2,<br>Salt Crust (B11)<br>Aquatic Invertebrate<br>Hydrogen Sulfide Or<br>Oxidized Rhizosphe<br>Presence of Reduce<br>Recent Iron Reducti<br>Stunted or Stresses                                    | res (B9)  4A, and 4B  es (B13)  dor (C1)  eres along Li  ed Iron (C4)  ion in Tilled  Plants (D1)            | ile is determined  B)  iving Roots (C3)  Soils (C6) | Second  W (N)  Di Si G G Si G Ri                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | ary Indicators 'ater-Stained L ILRA 1, 2, 4A rainage Patter ry-Season Wa aturation Visib eomorphic Pos hallow Aquitare AC-Neutral Teles           | (2 or mo<br>eaves (E<br>, and 4B<br>ns (B10)<br>ter Table<br>le on Aer<br>sition (D2<br>d (D3)<br>st (D5)<br>nds (D6)            | re require 39) ) e (C2) rial Image 2)      | ery (C9) |    |
| DROLOG<br>tland Hyd<br>mary Indica<br>Surface<br>High W<br>Saturat<br>Water I<br>Sedime<br>Drift De<br>Algal M<br>Iron De<br>Surface<br>Inunda<br>Sparse                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | rology Indicators ators (minimum of execution (A3) Marks (B1) ent Deposits (B2) eposits (B3) dat or Crust (B4) eposits (B5) e Soil Cracks (B6) tion Visible on Aerially Vegetated Conce                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | :<br>one requi                                    | red; check                     | all that  | water-Stained Leav<br>(except MLRA 1, 2,<br>Salt Crust (B11)<br>Aquatic Invertebrate<br>Hydrogen Sulfide Or<br>Oxidized Rhizosphe<br>Presence of Reduce<br>Recent Iron Reducti<br>Stunted or Stresses                                    | res (B9)  4A, and 4B  es (B13)  dor (C1)  eres along Li  ed Iron (C4)  ion in Tilled  Plants (D1)            | ile is determined  B)  iving Roots (C3)  Soils (C6) | Second  W (N)  Di Si G G Si G Ri                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | ary Indicators 'ater-Stained L ILRA 1, 2, 4A rainage Patter ry-Season Wa aturation Visib eomorphic Pos hallow Aquitare AC-Neutral Teles           | (2 or mo<br>eaves (E<br>, and 4B<br>ns (B10)<br>ter Table<br>le on Aer<br>sition (D2<br>d (D3)<br>st (D5)<br>nds (D6)            | re require 39) ) e (C2) rial Image 2)      | ery (C9) |    |
| "DROLOG etland Hyd mary Indica Surface High W Satural Water Sedime Drift De Algal M Iron De Surface Inunda Sparse                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | rology Indicators ators (minimum of a Water (A1) vater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) at or Crust (B4) eposits (B5) e Soil Cracks (B6) tion Visible on Aerially Vegetated Concations:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | :<br>one requi                                    | y (B7)                         | all that  | water-Stained Leav<br>(except MLRA 1, 2,<br>Salt Crust (B11)<br>Aquatic Invertebrate<br>Hydrogen Sulfide Or<br>Oxidized Rhizosphe<br>Presence of Reduce<br>Recent Iron Reducti<br>Stunted or Stresses                                    | res (B9)  4A, and 4E  es (B13)  dor (C1)  eres along Li  ed Iron (C4)  ion in Tilled  Plants (D1)            | ile is determined  B)  iving Roots (C3)  Soils (C6) | Second  W (N)  Di Si G G Si G Ri                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | ary Indicators 'ater-Stained L ILRA 1, 2, 4A rainage Patter ry-Season Wa aturation Visib eomorphic Pos hallow Aquitare AC-Neutral Teles           | (2 or mo<br>eaves (E<br>, and 4B<br>ns (B10)<br>ter Table<br>le on Aer<br>sition (D2<br>d (D3)<br>st (D5)<br>nds (D6)            | re require 39) ) e (C2) rial Image 2)      | ery (C9) |    |
| Marks:  Mary Indication  Surface High W Saturat Water   Sedime Drift De Algal M Iron De Surface Inunda Sparse                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | None of the soil la  SY  rology Indicators ators (minimum of a Water (A1) /ater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) flat or Crust (B4) eposits (B5) e Soil Cracks (B6) tion Visible on Aerialy Vegetated Concations: r Present?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | :<br>one requi                                    | y (B7)<br>ace (B8)             | all that  | water-Stained Leav<br>(except MLRA 1, 2,<br>Salt Crust (B11)<br>Aquatic Invertebrate<br>Hydrogen Sulfide Oo<br>Oxidized Rhizosphe<br>Presence of Reduce<br>Recent Iron Reducti<br>Stunted or Stresses<br>Other (Explain in Re            | res (B9)  4A, and 4E  es (B13)  dor (C1)  eres along Li  ed Iron (C4)  ion in Tilled  Plants (D1)  emarks)   | ile is determined  B)  iving Roots (C3)  Soils (C6) | Second  W (N)  Di Si G G Si G Ri                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | ary Indicators 'ater-Stained L ILRA 1, 2, 4A rainage Patter ry-Season Wa aturation Visib eomorphic Pos hallow Aquitare AC-Neutral Teles           | (2 or mo<br>eaves (E<br>, and 4B<br>ns (B10)<br>ter Table<br>le on Aer<br>sition (D2<br>d (D3)<br>st (D5)<br>nds (D6)            | re require 39) ) e (C2) rial Image 2)      | ery (C9) |    |
| Marks:  Mary Indication Processing Section Processi | None of the soil la  Tology Indicators ators (minimum of a water (A1) Vater Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) Alat or Crust (B4) eposits (B5) e Soil Cracks (B6) tion Visible on Aeri ally Vegetated Conc ations: r Present?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | : one requi al Imager ave Surfa                   | y (B7) ice (B8) No No          | all that  | water-Stained Leav<br>(except MLRA 1, 2,<br>Salt Crust (B11)<br>Aquatic Invertebrate<br>Hydrogen Sulfide Or<br>Oxidized Rhizosphe<br>Presence of Reducti<br>Recent Iron Reducti<br>Stunted or Stresses<br>Other (Explain in Re           | res (B9)  , 4A, and 4E  es (B13)  dor (C1)  eres along Li  ed Iron (C4)  ion in Tilled  Plants (D1)  emarks) | B)  iving Roots (C3)  Soils (C6) ) (LRR A)          | Second W (N D) Si G G Ri                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | ary Indicators 'ater-Stained L ILRA 1, 2, 4A rainage Patter ry-Season Wa aturation Visib eomorphic Pos hallow Aquitare AC-Neutral Teles           | (2 or mo<br>Leaves (E<br>, and 4B<br>ns (B10)<br>ter Table<br>le on Aer<br>sition (D2<br>d (D3)<br>st (D5)<br>nds (D6)<br>mmocks | re require 39) ) e (C2) rial Image 2)      | ery (C9) | lo |
| DROLOG tland Hyd mary Indica Surface High W Saturar Water Sedime Drift De Algal M Iron De Surface Inunda Sparse Id Observ face Wate ter Table F uration Pre                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | And the soil land the soil land and the soil lan | : one requi al Imager ave Surfa /es [ /es [ /es [ | y (B7)<br>ace (B8)<br>No<br>No | all that  | water-Stained Leav (except MLRA 1, 2, Salt Crust (B11) Aquatic Invertebrate Hydrogen Sulfide Or Oxidized Rhizosphe Presence of Reduct Recent Iron Reducti Stunted or Stresses Other (Explain in Re                                       | res (B9)  4A, and 4B  es (B13)  dor (C1)  eres along Li  ed Iron (C4)  ion in Tilled  Plants (D1)  emarks)   | B)  iving Roots (C3) Soils (C6) ) (LRR A)           | Second W (N D) Si G G Ri                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | ary Indicators fater-Stained L fLRA 1, 2, 4A rainage Patter ry-Season Wa aturation Visib eomorphic Postallow Aquitare AC-Neutral Telaised Ant Mou | (2 or mo<br>Leaves (E<br>, and 4B<br>ns (B10)<br>ter Table<br>le on Aer<br>sition (D2<br>d (D3)<br>st (D5)<br>nds (D6)<br>mmocks | re require 39)  (C2) rial Image 2)  (LRR A | ery (C9) | lo |
| "DROLOG  Interpretation Proceedings of the Processing States of the Pro | And the soil land the soil land and the soil lan | : one requi al Imager ave Surfa /es [ /es [ /es [ | y (B7)<br>ace (B8)<br>No<br>No | all that  | water-Stained Leav (except MLRA 1, 2, Salt Crust (B11) Aquatic Invertebrate Hydrogen Sulfide Or Oxidized Rhizosphe Presence of Reducet Recent Iron Reducti Stunted or Stresses Other (Explain in Reducti Depth (inches): Depth (inches): | res (B9)  4A, and 4B  es (B13)  dor (C1)  eres along Li  ed Iron (C4)  ion in Tilled  Plants (D1)  emarks)   | B)  iving Roots (C3) Soils (C6) ) (LRR A)           | Second W (N D) Si G G Ri                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | ary Indicators fater-Stained L fLRA 1, 2, 4A rainage Patter ry-Season Wa aturation Visib eomorphic Postallow Aquitare AC-Neutral Telaised Ant Mou | (2 or mo<br>Leaves (E<br>, and 4B<br>ns (B10)<br>ter Table<br>le on Aer<br>sition (D2<br>d (D3)<br>st (D5)<br>nds (D6)<br>mmocks | re require 39)  (C2) rial Image 2)  (LRR A | ery (C9) | lo |

### WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

| Project Site:                      | Port Gamble                          |                                                                                   |                           |                       |                      | City/Coun                     | ty: Port Gaml     | ble/Kitsap                          | Sampling         | Date:        | 3/24/          | 17           |
|------------------------------------|--------------------------------------|-----------------------------------------------------------------------------------|---------------------------|-----------------------|----------------------|-------------------------------|-------------------|-------------------------------------|------------------|--------------|----------------|--------------|
| Applicant/Owner:                   | Fischer Bouma                        | a Partnership                                                                     |                           |                       |                      |                               |                   | State: WA                           | Sampling         | Point:       | UPL            | TP 10        |
| Investigator(s):                   | J. Bartlett, L. V                    | Vestervelt, K. Boa                                                                |                           |                       |                      |                               | Section           | , Township, Ran                     | ge: <u>S7 T2</u> | 7N R2E       |                |              |
| Landform (hillslope, ter           | rrace, etc.):                        | <u>hillslope</u>                                                                  |                           |                       | Loc                  | al relief (conc               | ave, convex, no   | ne): <u>concave</u>                 |                  | Slope        | e (%):         | <u>15-30</u> |
| Subregion (LRR):                   | MLRA 2                               |                                                                                   | Lat:                      |                       |                      |                               | Long:             | <u> </u>                            |                  | Datum:       | <u>Trimble</u> |              |
| Soil Map Unit Name:                | Ragnar fine s                        | andy loam, 15 to                                                                  | 30 percer                 | t slopes              |                      |                               |                   | NWI clas                            | ssification:     |              |                |              |
| Are climatic / hydrologi           | c conditions on                      | the site typical for                                                              | r this time               | of year?              | Y                    | ′es ⊠                         | No 🗆              | (If no, explain i                   | in Remarks.      | )            |                |              |
| Are Vegetation $\square$ ,         | Soil □,                              | or Hydrology                                                                      | □, sigr                   | nificantly            | disturbe             | d? Are "                      | Normal Circums    | stances" present                    | ?                | Yes          | $\boxtimes$    | No 🗆         |
| Are Vegetation □,                  | Soil □,                              | or Hydrology                                                                      | □, nat                    | urally pro            | blematic             | ? (If ne                      | eded, explain a   | ny answers in Re                    | emarks.)         |              |                |              |
| SUMMARY OF FIN                     | DINGS – Atta                         | ach site map sl                                                                   | howing                    | samplir               | ıg poin              | t locations,                  | transects, in     | nportant featu                      | ıres, etc.       |              |                |              |
| Hydrophytic Vegetation             | n Present?                           |                                                                                   | Yes                       | □ N                   | 0 🛛                  |                               |                   |                                     |                  |              |                |              |
| Hydric Soil Present?               |                                      |                                                                                   | Yes                       | □ N                   | o 🛛                  | Is the Samp<br>within a We    |                   |                                     |                  | Yes          |                | No 🛛         |
| Wetland Hydrology Pre              | esent?                               |                                                                                   | Yes                       | □ N                   | o 🛛                  |                               |                   |                                     |                  |              |                |              |
| south end<br>current log           | . It passes prim<br>gging practices, | ty encompasses a<br>parily through undo<br>and a large syste<br>ment of the Lower | eveloped t<br>m of trails | timberlar<br>utilized | nd owned<br>by walke | by OPG; mo<br>rs, bikers, and | st of which is wo | oven with interlac                  | cing logging     | roads due    | to histo       | ric and      |
| VEGETATION - Us                    | e scientific r                       | names of plant                                                                    |                           |                       |                      |                               |                   |                                     |                  |              |                |              |
| Tree Stratum (Plot size            | e: 30' diameter)                     |                                                                                   | Absolute<br>% Cover       |                       | ninant<br>cies?      | Indicator<br>Status           | Dominance T       | est Worksheet:                      |                  |              |                |              |
| 1. Tsuga heterophylla              | 2                                    |                                                                                   | 80                        | yes                   |                      | FACU                          | Number of Do      | minant Species                      |                  |              |                | (4)          |
| 2. Thuja plicata                   |                                      |                                                                                   | <u>10</u>                 | no                    |                      | <u>FAC</u>                    |                   | , FACW, or FAC                      | :                | <u>0</u>     |                | (A)          |
| 3                                  |                                      |                                                                                   |                           |                       | _                    |                               | Total Number      | of Dominant                         |                  | 4            |                | (D)          |
| 4                                  |                                      |                                                                                   |                           |                       | _                    |                               | Species Acros     | ss All Strata:                      |                  | <u>4</u>     |                | (B)          |
| 50% = 45, 20% = 18                 |                                      |                                                                                   | <u>90</u>                 | = To                  | otal Cove            | er                            | Percent of Do     | minant Species                      |                  | 0            |                | (A /D)       |
| Sapling/Shrub Stratum              | (Plot size: <u>30'</u>               | diameter)                                                                         |                           |                       |                      |                               | That Are OBL      | , FACW, or FAC                      | :                | <u>0</u>     |                | (A/B)        |
| 1. Gaultheria shallon              |                                      |                                                                                   | <u>5</u>                  | <u>yes</u>            |                      | <u>FACU</u>                   | Prevalence In     | ndex worksheet                      | :                |              |                |              |
| 2. Vaccinium ovatum                |                                      |                                                                                   | <u>5</u>                  | <u>no</u>             |                      | <u>FACU</u>                   | Ī                 | otal % Cover of:                    |                  | Multip       | y by:          |              |
| 3                                  |                                      |                                                                                   |                           |                       | =                    |                               | OBL species       |                                     |                  | x1 =         |                | _            |
| 4                                  |                                      |                                                                                   |                           |                       | _                    |                               | FACW species      | s                                   |                  | x2 =         |                | _            |
| 5                                  |                                      |                                                                                   |                           |                       | _                    |                               | FAC species       |                                     |                  | x3 =         |                | =            |
| 50% = <u>30</u> , 20% = <u>12</u>  |                                      |                                                                                   | <u>60</u>                 | = To                  | otal Cove            | er                            | FACU species      | ·                                   |                  | x4 =         |                | _            |
| Herb Stratum (Plot size            | e: 10' diameter)                     |                                                                                   |                           |                       |                      |                               | UPL species       |                                     |                  | x5 =         |                | _            |
| Polystichum munit                  | um .                                 |                                                                                   | 20                        | yes                   |                      | FACU                          | Column Totals     | s·                                  | (A)              |              |                | (B)          |
| 2. Rubus laciniatus                |                                      |                                                                                   | <u>5</u>                  | yes                   |                      | FACU                          | Column Fotolic    |                                     | Index = B/A      | <b>\</b> =   |                | ` '          |
| 3.                                 |                                      |                                                                                   | _                         | ,                     |                      |                               | Hydrophytic       | Vegetation Indi                     |                  | <del>`</del> |                |              |
| 4.                                 |                                      |                                                                                   |                           |                       | =                    |                               |                   | id Test for Hydro                   |                  | etation      |                |              |
| 5.                                 |                                      |                                                                                   |                           |                       | _                    |                               |                   | inance Test is >                    |                  |              |                |              |
| 6.                                 |                                      |                                                                                   |                           |                       | =                    |                               |                   | alence Index is <                   |                  |              |                |              |
| <del></del>                        |                                      |                                                                                   |                           |                       | -                    |                               |                   | _                                   | _                |              |                |              |
| 7                                  |                                      |                                                                                   |                           |                       | =                    |                               |                   | hological Adapta<br>in Remarks or o |                  |              | ting           |              |
| 8<br>9                             |                                      |                                                                                   |                           |                       | _                    |                               |                   | and Non-Vascula                     | •                | ,            |                |              |
|                                    |                                      |                                                                                   |                           |                       | _                    |                               |                   |                                     |                  | 1            |                |              |
| 10                                 |                                      |                                                                                   |                           |                       | _                    |                               | ☐ Problem         | atic Hydrophytic                    | Vegetation       | ' (Explain)  |                |              |
| 11                                 |                                      |                                                                                   | 0.5                       |                       | -                    |                               | 1Indicators of    | hydric soil and w                   | etland hydr      | ology must   |                |              |
| 50% = <u>12.5</u> , 20% = <u>5</u> | DI / ' 40' ''                        | . `                                                                               | <u>25</u>                 | = 10                  | otal Cove            | er                            |                   | nless disturbed o                   |                  |              |                |              |
| Woody Vine Stratum (               | Plot size: 10 di                     | ameter)                                                                           |                           |                       |                      |                               |                   |                                     | ·                |              |                |              |
| 1                                  |                                      |                                                                                   |                           |                       | -                    |                               | Hydrophytic       |                                     |                  |              |                |              |
| 2                                  |                                      |                                                                                   |                           | _                     | =                    |                               | Vegetation        | Υ                                   | 'es              |              | No             | $\boxtimes$  |
| 50% =, 20% = _                     |                                      |                                                                                   |                           | = To                  | otal Cove            | er                            | Present?          |                                     |                  |              |                |              |
| % Bare Ground in Her               |                                      |                                                                                   |                           |                       |                      |                               |                   |                                     |                  |              |                |              |
| Remarks:                           | he hydrophytic                       | vegetation criterio                                                               | n is not m                | net becau             | ise there            | is not greate                 | r than 50% dom    | inance by FAC                       | species.         |              |                |              |
|                                    |                                      |                                                                                   |                           |                       |                      |                               |                   |                                     |                  |              |                |              |
|                                    |                                      |                                                                                   |                           |                       |                      |                               |                   |                                     |                  |              |                |              |

Project Site: Port Gamble Trail

| ohoo)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  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                                                                                              | %                                      |                       | `olor (m    | Redox Features oist) % Ty                                                                                                                                                                                                                                                    | pe <sup>1</sup> Loc <sup>2</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | <br>Texture                     | e Remarks                                                                                                                                                                                                                                                                                                                                |
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%                                    |                       | Color (m    | OISI) % TY                                                                                                                                                                                                                                                                   | pe Loc                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | rextur                          | Duff                                                                                                                                                                                                                                                                                                                                     |
| <u>1-16</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            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Indicators (2 or more required)  Water-Stained Leaves (B9)                                                                                                                                                                                                                                       |
| pth (inche<br>marks:<br>'DROLO<br>etland Hymary India<br>Surfac<br>High V                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              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| TDROLO etland Hyu mary India Surfac High V                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | None of the soil la  OGY  drology Indicators cators (minimum of the Water (A1)  Vater Table (A2) ation (A3)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | :                                      |                       | ck all tha  | at apply)  Water-Stained Leaves (B  (except MLRA 1, 2, 4A, 5)  Salt Crust (B11)                                                                                                                                                                                              | oil profile is determined by the second seco | Seco                            | endary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10)                                                                                                                                                                                                                         |
| DROLO  TDROLO  Taland Hye  mary Indic  Surface  High V  Satura  Water                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | None of the soil la  OGY  drology Indicators cators (minimum of the Water (A1)  Vater Table (A2) ation (A3)  Marks (B1)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | :                                      |                       | ck all tha  | at apply)  Water-Stained Leaves (B  (except MLRA 1, 2, 4A, 5)  Salt Crust (B11)  Aquatic Invertebrates (B1                                                                                                                                                                   | oil profile is determined by the second seco | Seco                            | andary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2)                                                                                                                                                                                             |
| DROLO tland Hydray India Surfac High V Satura Water Sedim                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | None of the soil la  OGY  drology Indicators cators (minimum of oce Water (A1)  Vater Table (A2) ation (A3)  Marks (B1) nent Deposits (B2)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | :                                      |                       | ck all tha  | at apply)  Water-Stained Leaves (B (except MLRA 1, 2, 4A, 5) Salt Crust (B11)  Aquatic Invertebrates (B1) Hydrogen Sulfide Odor (6)                                                                                                                                          | pil profile is determine service servi | Seco                            | endary Indicators (2 or more required)  Water-Stained Leaves (B9)  (MLRA 1, 2, 4A, and 4B)  Drainage Patterns (B10)  Dry-Season Water Table (C2)  Saturation Visible on Aerial Imagery (C9)                                                                                                                                              |
| TDROLO ttland Hydrary India Surface High V Satura Water Sedim Drift D                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | None of the soil la  OGY  drology Indicators cators (minimum of the Water (A1)  Vater Table (A2) ation (A3)  Marks (B1)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | :                                      |                       | ck all tha  | at apply)  Water-Stained Leaves (B  (except MLRA 1, 2, 4A, 5)  Salt Crust (B11)  Aquatic Invertebrates (B1                                                                                                                                                                   | pil profile is determing profile is determined profile in the profile in the profile is determined profile in the profil | Seco                            | andary Indicators (2 or more required) Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) Drainage Patterns (B10) Dry-Season Water Table (C2)                                                                                                                                                                                             |
| TDROLO tland Hy mary Indic Surfac High V Satura Water Sedim Drift D                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | None of the soil la  OGY  drology Indicators cators (minimum of the Water (A1)  Vater Table (A2) ation (A3)  Marks (B1) thent Deposits (B2) deposits (B3)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | :                                      |                       | ck all tha  | at apply)  Water-Stained Leaves (B (except MLRA 1, 2, 4A, 5) Salt Crust (B11) Aquatic Invertebrates (B1 Hydrogen Sulfide Odor (O                                                                                                                                             | pil profile is determing profile is determined profile in the profile in the profile is determined profile in the profil | Seco                            | andary Indicators (2 or more required)  Water-Stained Leaves (B9)  (MLRA 1, 2, 4A, and 4B)  Drainage Patterns (B10)  Dry-Season Water Table (C2)  Saturation Visible on Aerial Imagery (C9)  Geomorphic Position (D2)                                                                                                                    |
| TDROLO  TOROLO  Torolo | None of the soil la  OGY  drology Indicators cators (minimum of the Water (A1)  Vater Table (A2) ation (A3)  Marks (B1) ment Deposits (B2) deposits (B3)  Mat or Crust (B4)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | :                                      |                       | ck all tha  | at apply)  Water-Stained Leaves (B (except MLRA 1, 2, 4A, 4) Salt Crust (B11) Aquatic Invertebrates (B1) Hydrogen Sulfide Odor (C) Oxidized Rhizospheres a Presence of Reduced Iro                                                                                           | pil profile is determing profile is determined profile in the profile in the profile is determined profile in the profile in t | Seco                            | indary Indicators (2 or more required)  Water-Stained Leaves (B9)  (MLRA 1, 2, 4A, and 4B)  Drainage Patterns (B10)  Dry-Season Water Table (C2)  Saturation Visible on Aerial Imagery (C9)  Geomorphic Position (D2)  Shallow Aquitard (D3)                                                                                             |
| TDROLO  Taland Hye mary Indic  Surface High V Satura Water Sedim Drift D Algal I Iron D Surface                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | None of the soil la  PGY  drology Indicators cators (minimum of the Water (A1)  Vater Table (A2) ation (A3)  Marks (B1) ment Deposits (B2) peposits (B3)  Mat or Crust (B4) peposits (B5)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | :<br>one requ                          | nired; cher           | ck all tha  | at apply)  Water-Stained Leaves (B (except MLRA 1, 2, 4A, 5) Salt Crust (B11) Aquatic Invertebrates (B1) Hydrogen Sulfide Odor (COxidized Rhizospheres at Presence of Reduced Iron Recent Iron Reduction in                                                                  | pil profile is determing profile is determined profile in the profile in the profile is determined profile in the profile in the profile in the profile is determined profile in the profile in  | Seco                            | ondary Indicators (2 or more required)  Water-Stained Leaves (B9)  (MLRA 1, 2, 4A, and 4B)  Drainage Patterns (B10)  Dry-Season Water Table (C2)  Saturation Visible on Aerial Imagery (C9)  Geomorphic Position (D2)  Shallow Aquitard (D3)  FAC-Neutral Test (D5)                                                                      |
| yth (inche<br>marks:  "DROLO  triand Hyde mary India  Surfac  Water  Sedim Drift D  Algal I Iron D  Surfac Inunda                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | None of the soil la  OGY  drology Indicators cators (minimum of the Water (A1)  Vater Table (A2) ation (A3)  Marks (B1) thent Deposits (B2) the posits (B3)  Mat or Crust (B4) the posits (B5) the Soil Cracks (B6)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | :<br>one requ                          | nired; chec           | ck all tha  | at apply)  Water-Stained Leaves (B (except MLRA 1, 2, 4A, 5) Salt Crust (B11) Aquatic Invertebrates (B1 Hydrogen Sulfide Odor (C Oxidized Rhizospheres a Presence of Reduced Iro Recent Iron Reduction in Stunted or Stresses Plan                                           | pil profile is determing profile is determined profile in the profile in the profile is determined profile in the profile in the profile in the profile is determined profile in the profile in  | Seco                            | mone of the hydric soil indicators.  Indary Indicators (2 or more required)  Water-Stained Leaves (B9)  (MLRA 1, 2, 4A, and 4B)  Drainage Patterns (B10)  Dry-Season Water Table (C2)  Saturation Visible on Aerial Imagery (C9)  Geomorphic Position (D2)  Shallow Aquitard (D3)  FAC-Neutral Test (D5)  Raised Ant Mounds (D6) (LRR A) |
| Port (inches marks:  Port of the control of the con | None of the soil la  OGY  drology Indicators cators (minimum of the Water (A1)  Vater Table (A2) ation (A3)  Marks (B1) thent Deposits (B2) the Deposits (B3) Mat or Crust (B4) the Proposits (B5) the Soil Cracks (B6) ation Visible on Aericlely Vegetated Concerns                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | :<br>one requ                          | nired; chec           | ck all tha  | at apply)  Water-Stained Leaves (B (except MLRA 1, 2, 4A, 5) Salt Crust (B11) Aquatic Invertebrates (B1 Hydrogen Sulfide Odor (C Oxidized Rhizospheres a Presence of Reduced Iro Recent Iron Reduction in Stunted or Stresses Plan                                           | pil profile is determing profile is determined profile in the profile in the profile is determined profile in the profile in  | Seco                            | mone of the hydric soil indicators.  Indary Indicators (2 or more required)  Water-Stained Leaves (B9)  (MLRA 1, 2, 4A, and 4B)  Drainage Patterns (B10)  Dry-Season Water Table (C2)  Saturation Visible on Aerial Imagery (C9)  Geomorphic Position (D2)  Shallow Aquitard (D3)  FAC-Neutral Test (D5)  Raised Ant Mounds (D6) (LRR A) |
| Pth (inches marks:  PDROLO etland Hydramary India Surface High V Satura Water Sedim Drift D Algal I Iron D Surface Inunda Spars eld Obser                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | None of the soil la  INOTE TO SET TO  | :<br>one requ<br>al Image<br>ave Surf  | nired; chec           | ck all tha  | at apply)  Water-Stained Leaves (B (except MLRA 1, 2, 4A, 5) Salt Crust (B11) Aquatic Invertebrates (B1 Hydrogen Sulfide Odor (C Oxidized Rhizospheres a Presence of Reduced Iro Recent Iron Reduction in Stunted or Stresses Plan                                           | pil profile is determing profile is determined profile in the profile in the profile is determined profile in the profile in  | Seco                            | mone of the hydric soil indicators.  Indary Indicators (2 or more required)  Water-Stained Leaves (B9)  (MLRA 1, 2, 4A, and 4B)  Drainage Patterns (B10)  Dry-Season Water Table (C2)  Saturation Visible on Aerial Imagery (C9)  Geomorphic Position (D2)  Shallow Aquitard (D3)  FAC-Neutral Test (D5)  Raised Ant Mounds (D6) (LRR A) |
| Pth (inche marks:  PDROLO etland Hymary Indio Surface High Water Sedim Drift D Algal I Iron D Surface Inunda Spars                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | None of the soil la  PGY  drology Indicators cators (minimum of the Water (A1)  Nater Table (A2) ation (A3)  Marks (B1) ment Deposits (B2) peposits (B3) Mat or Crust (B4) peposits (B5) pe Soil Cracks (B6) ation Visible on Aeriely Vegetated Concevations: er Present?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | :<br>one requ<br>al Image<br>ave Surf  | ery (B7)              | ck all that | water-Stained Leaves (B (except MLRA 1, 2, 4A, 4) Salt Crust (B11) Aquatic Invertebrates (B1) Hydrogen Sulfide Odor (C) Oxidized Rhizospheres a Presence of Reduced Iro Recent Iron Reduction in Stunted or Stresses Plan Other (Explain in Remark                           | pil profile is determing profile is determined profile in the profile in the profile is determined profile in the profile in  | Seco                            | mone of the hydric soil indicators.  Indary Indicators (2 or more required)  Water-Stained Leaves (B9)  (MLRA 1, 2, 4A, and 4B)  Drainage Patterns (B10)  Dry-Season Water Table (C2)  Saturation Visible on Aerial Imagery (C9)  Geomorphic Position (D2)  Shallow Aquitard (D3)  FAC-Neutral Test (D5)  Raised Ant Mounds (D6) (LRR A) |
| Surface Water Table turation P                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | None of the soil la  OGY  drology Indicators cators (minimum of the Water (A1)  Vater Table (A2) ation (A3)  Marks (B1) Ment Deposits (B2) Ment Or Crust (B4) Meposits (B5) Mere Soil Cracks (B6) ation Visible on Aeri Mely Vegetated Concevations:  er Present?  Present?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | al Image<br>ave Surf                   | ery (B7)<br>face (B8) | ck all that | at apply)  Water-Stained Leaves (B (except MLRA 1, 2, 4A, 5) Salt Crust (B11) Aquatic Invertebrates (B1) Hydrogen Sulfide Odor (C Oxidized Rhizospheres a Presence of Reduced Iro Recent Iron Reduction in Stunted or Stresses Plan Other (Explain in Remark                 | pil profile is determing profile is determined profile in the profile in the profile is determined profile in the profile in  | Seco                            | mone of the hydric soil indicators.  Indary Indicators (2 or more required)  Water-Stained Leaves (B9)  (MLRA 1, 2, 4A, and 4B)  Drainage Patterns (B10)  Dry-Season Water Table (C2)  Saturation Visible on Aerial Imagery (C9)  Geomorphic Position (D2)  Shallow Aquitard (D3)  FAC-Neutral Test (D5)  Raised Ant Mounds (D6) (LRR A) |
| Port (inches marks:  Port (inc | None of the soil la  INONE OF THE SOIL LA  INDEE OF THE SOIL LA  INOT THE SOIL LA  INDEE OF THE SOIL LA  INDEE OF THE SOIL LA  INDEE | : one requ al Image ave Surf /es   /es | ery (B7) ace (B8) No  | ck all that | at apply)  Water-Stained Leaves (B (except MLRA 1, 2, 4A, 5) Salt Crust (B11) Aquatic Invertebrates (B1 Hydrogen Sulfide Odor (C Oxidized Rhizospheres a Presence of Reduced Iro Recent Iron Reduction in Stunted or Stresses Plan Other (Explain in Remark  Depth (inches): | pil profile is determination of the profile is determinated by the profile is determina | Seco                            | andary Indicators (2 or more required)  Water-Stained Leaves (B9)  (MLRA 1, 2, 4A, and 4B)  Drainage Patterns (B10)  Dry-Season Water Table (C2)  Saturation Visible on Aerial Imagery (C9)  Geomorphic Position (D2)  Shallow Aquitard (D3)  FAC-Neutral Test (D5)  Raised Ant Mounds (D6) (LRR A)  Frost-Heave Hummocks (D7)           |

### WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

| Project Site:                      | Port Gamble                           |                     |                      | City/Cou              | nty: Port Gamble/Kitsap                                                    | Sampling Date:                   | 3/24/17           |
|------------------------------------|---------------------------------------|---------------------|----------------------|-----------------------|----------------------------------------------------------------------------|----------------------------------|-------------------|
| Applicant/Owner:                   | Fischer Bouma Partnership             |                     |                      |                       | State: WA                                                                  | Sampling Point:                  | <u>UPL TP 11</u>  |
| Investigator(s):                   | J. Bartlett, L. Westervelt, K. Boa    | <u>a</u>            |                      |                       | Section, Township, Range                                                   | :: <u>S7 T27N R2E</u>            |                   |
| Landform (hillslope, te            | errace, etc.): <u>hillslope</u>       |                     | Lo                   | cal relief (cond      | cave, convex, none): <u>concave</u>                                        | Slope (                          | (%): <u>15-30</u> |
| Subregion (LRR):                   | MLRA 2                                | Lat:                |                      |                       | Long:                                                                      | Datum: Tr                        | <u>imble</u>      |
| Soil Map Unit Name:                | Ragnar fine sandy loam, 15 to         | 30 percent s        | <u>slopes</u>        |                       | NWI classi                                                                 | fication:                        |                   |
| Are climatic / hydrolog            | jic conditions on the site typical fo | r this time of      | year?                | Yes ⊠                 | No ☐ (If no, explain in                                                    | Remarks.)                        |                   |
| Are Vegetation                     |                                       |                     | cantly disturb       |                       | "Normal Circumstances" present?                                            |                                  | ⊠ No □            |
| Are Vegetation                     | , Soil □, or Hydrology                | □, natura           | ally problemat       | ic? (If no            | eeded, explain any answers in Rem                                          | ıarks.)                          |                   |
| SUMMARY OF FIN                     | IDINGS – Attach site map s            | howing sa           | mpling poi           | nt locations          | , transects, important feature                                             | es, etc.                         |                   |
| Hydrophytic Vegetatio              | n Present?                            | Yes [               | □ No 🏻               |                       |                                                                            |                                  |                   |
| Hydric Soil Present?               |                                       | Yes [               | □ No 🏻               | Is the Sam within a W |                                                                            | Yes                              | □ No ⊠            |
| Wetland Hydrology Pr               | esent?                                | Yes [               | ☐ No 🛛               |                       |                                                                            |                                  |                   |
|                                    |                                       |                     |                      |                       | etween Port Gamble at the north er                                         |                                  |                   |
|                                    |                                       |                     |                      |                       | ost of which is woven with interlacin<br>d equestrian hobbyists weave betw |                                  |                   |
|                                    | the North Segment of the Lower        |                     |                      |                       |                                                                            |                                  |                   |
| VEGETATION – U                     | se scientific names of plan           |                     |                      |                       |                                                                            |                                  |                   |
| Tree Stratum (Plot siz             | e: 30' diameter)                      | Absolute<br>% Cover | Dominant<br>Species? | Indicator<br>Status   | Dominance Test Worksheet:                                                  |                                  |                   |
| 1. Thuja plicata                   |                                       | <u>80</u>           | <u>yes</u>           | FAC                   | Number of Dominant Species                                                 | _                                | (4)               |
| 2. Salix lucida sp. las            | <u>siandra</u>                        | <u>15</u>           | <u>no</u>            | FACW                  | That Are OBL, FACW, or FAC:                                                | <u>2</u>                         | (A)               |
| 3                                  |                                       |                     |                      |                       | Total Number of Dominant                                                   | 4                                | (D)               |
| 4                                  |                                       |                     |                      |                       | Species Across All Strata:                                                 | <u>4</u>                         | (B)               |
| 50% = <u>47.5,</u> 20% = <u>19</u> | <u>9</u>                              | <u>95</u>           | = Total Co           | /er                   | Percent of Dominant Species                                                | 50                               | (A/B)             |
| Sapling/Shrub Stratun              | n (Plot size: 30' diameter)           |                     |                      |                       | That Are OBL, FACW, or FAC:                                                | <u>50</u>                        | (٨/٥)             |
| 1. Rubus spectabilis               |                                       | <u>30</u>           | <u>yes</u>           | FAC                   | Prevalence Index worksheet:                                                |                                  |                   |
| 2. Gaultheria shallor              | 1                                     | <u>15</u>           | <u>yes</u>           | <u>FACU</u>           | Total % Cover of:                                                          | Multiply                         | by:               |
| 3                                  |                                       |                     |                      |                       | OBL species                                                                | x1 =                             |                   |
| 4                                  |                                       |                     |                      |                       | FACW species                                                               | x2 =                             |                   |
| 5                                  |                                       |                     |                      |                       | FAC species                                                                | x3 =                             |                   |
| 50% = 22.5, 20% = 9                |                                       | <u>45</u>           | = Total Co           | ver .                 | FACU species                                                               | x4 =                             |                   |
| Herb Stratum (Plot siz             | ze: 10' diameter)                     |                     |                      |                       | UPL species                                                                | x5 =                             |                   |
| Polystichum muni                   | <u>'tum</u>                           | <u>20</u>           | <u>yes</u>           | <u>FACU</u>           | Column Totals:(                                                            | •                                | (B)               |
| 2                                  |                                       |                     |                      |                       | Prevalence Ir                                                              | ndex = B/A =                     |                   |
| 3                                  |                                       |                     |                      |                       | Hydrophytic Vegetation Indica                                              |                                  |                   |
| 4                                  |                                       |                     |                      |                       | 1 – Rapid Test for Hydroph                                                 |                                  |                   |
| 5                                  |                                       |                     |                      |                       | 2 - Dominance Test is >50                                                  | %                                |                   |
| 6                                  |                                       |                     |                      |                       | ☐ 3 - Prevalence Index is <u>&lt;</u> 3.                                   | .01                              |                   |
| 7                                  |                                       |                     |                      |                       | 4 - Morphological Adaptation                                               |                                  | ng                |
| 8                                  |                                       |                     |                      |                       | data in Remarks or on a                                                    |                                  |                   |
| 9                                  |                                       |                     |                      |                       | 5 - Wetland Non-Vascular                                                   | Plants'                          |                   |
| 10                                 |                                       |                     |                      |                       | ☐ Problematic Hydrophytic V                                                | egetation <sup>1</sup> (Explain) |                   |
| 11                                 |                                       | -                   |                      |                       | <sup>1</sup> Indicators of hydric soil and wet                             | land hydrology must              |                   |
| 50% = <u>10</u> , 20% = <u>4</u>   |                                       | <u>20</u>           | = Total Co           | /er                   | be present, unless disturbed or p                                          |                                  |                   |
| _                                  | (Plot size: 10' diameter)             |                     |                      |                       |                                                                            | <del></del>                      |                   |
| 1                                  |                                       |                     |                      |                       | Hydrophytic                                                                |                                  |                   |
| 2                                  |                                       |                     |                      |                       | Vegetation Yes                                                             | s 🗆                              | No 🛛              |
| 50% =, 20% =                       |                                       |                     | = Total Co           | /er                   | Present?                                                                   |                                  |                   |
| % Bare Ground in He                |                                       |                     |                      |                       |                                                                            |                                  |                   |
| Remarks:                           | The hydrophytic vegetation criteri    | on is not met       | because the          | re is not greate      | er than 50% dominance by FAC sp                                            | ecies.                           |                   |
|                                    |                                       |                     |                      |                       |                                                                            |                                  |                   |
|                                    |                                       |                     |                      |                       |                                                                            |                                  |                   |

Project Site: Port Gamble Trail

SOIL Sampling Point: UPL TP 11 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Redox Features (inches) Color (moist) % Color (moist) % Type<sup>1</sup> Loc<sup>2</sup> Texture Remarks 10YR 2/2 100 sa si lo no redoximorphic features 0-2 2-3 10YR 3/4 100 sa si lo no redoximorphic features 3-16 10YR 3/2 100 sa cl lo no redoximorphic features sa - sand si - silt lo - loam cl - clay <sup>1</sup>Type: C= Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. <sup>2</sup>Location: PL=Pore Lining, M=Matrix, RC=Root Channel Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils3: Histosol (A1) Sandy Redox (S5) 2 cm Muck (A10) Histic Epipedon (A2) П Stripped Matrix (S6)  $\Box$ Red Parent Material (TF2) Black Histic (A3) Loamy Mucky Mineral (F1) (except MLRA 1) Very Shallow Dark Surface (TF12) Loamy Gleyed Matrix (F2) Hydrogen Sulfide (A4) Other (Explain in Remarks) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Thick Dark Surface (A12) Redox Dark Surface (F6) <sup>3</sup>Indicators of hydrophytic vegetation and П Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) wetland hydrology must be present, П Sandy Gleyed Matrix (S4) Redox Depressions (F8) unless disturbed or problematic. Restrictive Layer (if present): Type: **Hydric Soils Present?** Yes No  $\boxtimes$ Depth (inches): Remarks: None of the soil layers meet the definition of a depleted matrix so this soil profile is determined to meet none of the hydric soil indicators. **HYDROLOGY** Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Secondary Indicators (2 or more required) П Surface Water (A1) Water-Stained Leaves (B9) Water-Stained Leaves (B9) High Water Table (A2) (except MLRA 1, 2, 4A, and 4B) (MLRA 1, 2, 4A, and 4B) Saturation (A3) Salt Crust (B11) Drainage Patterns (B10) П Water Marks (B1) Aquatic Invertebrates (B13) П Dry-Season Water Table (C2) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aerial Imagery (C9) Geomorphic Position (D2) Drift Deposits (B3) Oxidized Rhizospheres along Living Roots (C3) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aguitard (D3) Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) FAC-Neutral Test (D5) Stunted or Stresses Plants (D1) (LRR A) П Surface Soil Cracks (B6) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Frost-Heave Hummocks (D7) Sparsely Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes No  $\boxtimes$ Depth (inches): Water Table Present? Yes  $\boxtimes$ No Depth (inches): Saturation Present? Wetland Hydrology Present? Yes No  $\boxtimes$ Yes No  $\boxtimes$ Depth (inches): (includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: Hydrology was not present during the field visit and there was no evidence of wetland hydrology. Remarks:

### WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

| Project Site:                      | Port Gamble                    |                                           |                                | City/Coun               | ty: Port Gamble/Kitsap                                                                                         | Sampling Date:        | 3/24/17             |
|------------------------------------|--------------------------------|-------------------------------------------|--------------------------------|-------------------------|----------------------------------------------------------------------------------------------------------------|-----------------------|---------------------|
| Applicant/Owner:                   | Fischer Bouma Partnership      | !                                         |                                |                         | State: WA                                                                                                      | Sampling Point:       | UPL TP 12           |
| Investigator(s):                   | J. Bartlett, L. Westervelt, K. | Boa                                       |                                |                         | Section, Township, Range                                                                                       | e: <u>S7 T27N R2E</u> |                     |
| Landform (hillslope, ter           | race, etc.): <u>hillslope</u>  |                                           | Loca                           | al relief (conc         | ave, convex, none): <u>concave</u>                                                                             | Slope                 | e (%): <u>15-30</u> |
| Subregion (LRR):                   | MLRA 2                         | Lat:                                      | _                              |                         | Long:                                                                                                          | Datum:                | <u>Trimble</u>      |
| Soil Map Unit Name:                | Ragnar fine sandy loam,        | 15 to 30 percent slo                      | opes                           |                         | NWI classi                                                                                                     | ification:            |                     |
| Are climatic / hydrologic          | c conditions on the site typic | al for this time of y                     | ear? Y                         | es 🛚                    | No                                                                                                             | Remarks.)             |                     |
| Are Vegetation $\square$ ,         | Soil ☐, or Hydrolo             | gy 🔲, signific                            | antly disturbed                | l? Are "                | Normal Circumstances" present?                                                                                 | Yes                   | ⊠ No □              |
| Are Vegetation $\square$ ,         | Soil □, or Hydrolo             | gy □, natural                             | ly problematic                 | ? (If ne                | eded, explain any answers in Ren                                                                               | narks.)               |                     |
| SUMMARY OF FINI                    | DINGS – Attach site ma         | ap showing san                            | npling point                   | locations,              | transects, important feature                                                                                   | es, etc.              |                     |
| Hydrophytic Vegetation             | Present?                       | Yes 🗆                                     | No 🛛                           |                         |                                                                                                                |                       |                     |
| Hydric Soil Present?               |                                | Yes 🔲                                     | No 🛛                           | Is the Samp within a We |                                                                                                                | Yes                   | □ No ⊠              |
| Wetland Hydrology Pre              | esent?                         | Yes 🔲                                     | No 🛛                           |                         |                                                                                                                |                       |                     |
| south end.<br>current log          | It passes primarily through    | undeveloped timb<br>system of trails util | erland owned<br>ized by walker | by OPG; mo              | etween Port Gamble at the north e<br>st of which is woven with interlacir<br>d equestrian hobbyists weave betw | ng logging roads due  | to historic and     |
| VEGETATION – Us                    | e scientific names of p        |                                           |                                |                         |                                                                                                                |                       |                     |
| Tree Stratum (Plot size            | e: 30' diameter)               | Absolute<br>% Cover                       | Dominant<br>Species?           | Indicator<br>Status     | Dominance Test Worksheet:                                                                                      |                       |                     |
| 1. Alnus rubra                     |                                | <u>80</u>                                 | <u>yes</u>                     | FAC                     | Number of Dominant Species                                                                                     |                       |                     |
| 2                                  |                                |                                           |                                |                         | That Are OBL, FACW, or FAC:                                                                                    | <u>3</u>              | (A)                 |
| 3                                  |                                |                                           |                                |                         | Total Number of Dominant                                                                                       |                       | (5)                 |
| 4                                  |                                |                                           |                                |                         | Species Across All Strata:                                                                                     | <u>6</u>              | (B)                 |
| 50% = <u>40</u> , 20% = <u>16</u>  |                                | <u>80</u>                                 | = Total Cove                   | r                       | Percent of Dominant Species                                                                                    |                       | (4.15)              |
| Sapling/Shrub Stratum              | (Plot size: 30' diameter)      |                                           |                                |                         | That Are OBL, FACW, or FAC:                                                                                    | <u>50</u>             | (A/B)               |
| 1. Rubus spectabilis               |                                | <u>15</u>                                 | <u>yes</u>                     | FAC                     | Prevalence Index worksheet:                                                                                    |                       |                     |
| 2. Vaccinium ovatum                |                                | <u>5</u>                                  | <u>yes</u>                     | FACU                    | Total % Cover of:                                                                                              | <u>Multipl</u>        | ly by:              |
| 3. <u>Ilex aquilinum</u>           |                                | <u>5</u>                                  | <u>yes</u>                     | <u>UPL</u>              | OBL species                                                                                                    | x1 =                  |                     |
| 4                                  |                                |                                           |                                |                         | FACW species                                                                                                   | x2 =                  |                     |
| 5                                  |                                |                                           |                                |                         | FAC species                                                                                                    | x3 =                  |                     |
| 50% = <u>12.5</u> , 20% = <u>5</u> |                                | <u>25</u>                                 | = Total Cove                   | r                       | FACU species                                                                                                   | x4 =                  |                     |
| Herb Stratum (Plot size            | e: 10' diameter)               |                                           |                                |                         | UPL species                                                                                                    | x5 =                  |                     |
| 1. Rubus laciniatus                | , <u> </u>                     | <u>20</u>                                 | <u>yes</u>                     | FACU                    |                                                                                                                | A)                    | (B)                 |
| 2. Carex spp.                      |                                | <u>==</u><br><u>5</u>                     | <u>yes</u>                     | FAC                     |                                                                                                                | ndex = B/A =          | (2)                 |
| 3.                                 |                                | <u> </u>                                  | <u>ycs</u>                     | 1710                    | Hydrophytic Vegetation Indica                                                                                  |                       |                     |
| J                                  |                                |                                           |                                |                         | ☐ 1 – Rapid Test for Hydropl                                                                                   |                       |                     |
| 5.                                 |                                |                                           |                                |                         | 2 - Dominance Test is >50                                                                                      |                       |                     |
| <del></del>                        |                                |                                           |                                |                         |                                                                                                                |                       |                     |
| 6                                  |                                |                                           |                                |                         | ☐ 3 - Prevalence Index is <u>&lt;</u> 3                                                                        |                       |                     |
| 7                                  |                                |                                           |                                |                         | 4 - Morphological Adaptati<br>data in Remarks or on a                                                          |                       | rting               |
| 8                                  |                                |                                           |                                | —                       |                                                                                                                |                       |                     |
| 9                                  |                                |                                           |                                |                         | 5 - Wetland Non-Vascular                                                                                       |                       |                     |
| 10                                 |                                |                                           |                                |                         | ☐ Problematic Hydrophytic V                                                                                    | egetation (Explain)   |                     |
| 11                                 |                                |                                           |                                |                         | <sup>1</sup> Indicators of hydric soil and wet                                                                 | tland hydrology must  |                     |
| 50% = <u>12.5</u> , 20% = <u>5</u> |                                | <u>25</u>                                 | = Total Cove                   | r                       | be present, unless disturbed or                                                                                |                       |                     |
| Woody Vine Stratum (F              | Plot size: 10' diameter)       |                                           |                                |                         |                                                                                                                |                       |                     |
| 1                                  |                                |                                           |                                |                         | Hydrophytic                                                                                                    |                       |                     |
| 2                                  |                                |                                           |                                |                         | Vegetation Yes                                                                                                 | s 🗆                   | No 🛛                |
| 50% =, 20% = _                     |                                |                                           | = Total Cove                   | r                       | Present?                                                                                                       | _                     | _                   |
| % Bare Ground in Herb              | b Stratum <u>75</u>            |                                           |                                |                         |                                                                                                                |                       |                     |
| Remarks:                           | he hydrophytic vegetation c    | riterion is not met b                     | ecause there                   | is not greater          | r than 50% dominance by FAC sp                                                                                 | pecies.               |                     |
|                                    |                                |                                           |                                |                         |                                                                                                                |                       |                     |
|                                    |                                |                                           |                                |                         |                                                                                                                |                       |                     |

Project Site: Port Gamble Trail

|                                                                                                                                                | Matrix                                                                                                                                                                                                                                                     | (                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |           |                |                                                                            | Redox Fea                                                                                                                                                                                                                                                                                                                                                                                                                                                       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--------------------------------------|--------------------------------------------------------------------------------|------------------------|----------|--|
| ches)                                                                                                                                          | Color (moist)                                                                                                                                                                                                                                              | %                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | ,<br>5    | Color (n       | noist)                                                                     | %                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Type <sup>1</sup>                                                                                               | Loc <sup>2</sup>                   | Texture                                    |                                                                                                                                                                                                                                               | Rema                                                                           | rks                    |          |  |
| <u>0-3</u>                                                                                                                                     | 10YR 2/2                                                                                                                                                                                                                                                   | <u>10</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                 |                                    | <u>sa si lo</u>                            | no redoximor                                                                                                                                                                                                                                  | phic featu                                                                     | res                    |          |  |
| <u>3-5</u>                                                                                                                                     |                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | —         |                | =                                                                          | - 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| <u>5-16</u>                                                                                                                                    | <u>10YR 4/3</u>                                                                                                                                                                                                                                            | 9                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | <u>5</u>  | <u>7.5YR</u>   | <u>4/6</u>                                                                 | <u>5</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | <u>C</u>                                                                                                        | <u>M</u>                           | gr sa lo                                   |                                                                                                                                                                                                                                               |                                                                                |                        |          |  |
|                                                                                                                                                |                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | _         |                | _<br>_                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                 |                                    |                                            | sa - sand                                                                                                                                                                                                                                     |                                                                                |                        |          |  |
|                                                                                                                                                |                                                                                                                                                                                                                                                            | _                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |           |                | _                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                 |                                    |                                            | <u>si - silt</u>                                                                                                                                                                                                                              |                                                                                |                        |          |  |
|                                                                                                                                                |                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |           |                | _                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                 |                                    |                                            | <u>lo - Ioam</u>                                                                                                                                                                                                                              |                                                                                |                        |          |  |
|                                                                                                                                                |                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |           |                | _                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                 |                                    |                                            | gr - gravel                                                                                                                                                                                                                                   |                                                                                |                        |          |  |
| pe: C= C                                                                                                                                       | oncentration, D=De                                                                                                                                                                                                                                         | pletion,                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | RM=F      | Reduced Ma     | atrix, CS=                                                                 | Covered or C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | oated Sand (                                                                                                    | Grains. <sup>2</sup> Lo            | cation: PL=P                               | ore Lining, M=Mat                                                                                                                                                                                                                             | rix, RC=R                                                                      | oot Char               | nnel     |  |
| dric Soil                                                                                                                                      | Indicators: (Appli                                                                                                                                                                                                                                         | cable to                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | all LF    | RRs, unles     | s otherw                                                                   | ise noted.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                 |                                    | Indica                                     | tors for Problema                                                                                                                                                                                                                             | atic Hydri                                                                     | : Soils <sup>3</sup> : |          |  |
| Histos                                                                                                                                         | ol (A1)                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |           |                | Sand                                                                       | y Redox (S5)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                 |                                    |                                            | 2 cm Muck (A10)                                                                                                                                                                                                                               |                                                                                |                        |          |  |
| Histic I                                                                                                                                       | Epipedon (A2)                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |           |                | Stripp                                                                     | oed Matrix (S6                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 5)                                                                                                              |                                    |                                            | Red Parent Mater                                                                                                                                                                                                                              | rial (TF2)                                                                     |                        |          |  |
| Black I                                                                                                                                        | Histic (A3)                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |           |                | Loam                                                                       | ny Mucky Mine                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | eral (F1) <b>(exc</b>                                                                                           | ept MLRA 1)                        |                                            | Very Shallow Dar                                                                                                                                                                                                                              | k Surface                                                                      | (TF12)                 |          |  |
| Hydro                                                                                                                                          | gen Sulfide (A4)                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |           |                | Loam                                                                       | ny Gleyed Mat                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | rix (F2)                                                                                                        |                                    |                                            | Other (Explain in                                                                                                                                                                                                                             | Remarks)                                                                       |                        |          |  |
| Deplet                                                                                                                                         | ed Below Dark Sur                                                                                                                                                                                                                                          | face (A1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 11)       |                | Deple                                                                      | eted Matrix (F3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 3)                                                                                                              |                                    |                                            |                                                                                                                                                                                                                                               |                                                                                |                        |          |  |
| Thick I                                                                                                                                        | Dark Surface (A12)                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |           |                | Redo                                                                       | x Dark Surfac                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | e (F6)                                                                                                          |                                    | 3                                          |                                                                                                                                                                                                              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| Sandy                                                                                                                                          | Mucky Mineral (S1                                                                                                                                                                                                                                          | )                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        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| Sandy                                                                                                                                          | Gleyed Matrix (S4                                                                                                                                                                                                                                          | )                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        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| strictive I                                                                                                                                    | Layer (if present):                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          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| emarks:                                                                                                                                        | None of the soil la                                                                                                                                                                                                                                        | ayers me                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 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| 'DROLO                                                                                                                                         |                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          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| DROLO                                                                                                                                          | o <b>G</b> Y                                                                                                                                                                                                                                               | s:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       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| DROLO<br>tland Hyd<br>mary Indic                                                                                                               | GY<br>drology Indicators                                                                                                                                                                                                                                   | s:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       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                                 | more req                                                                       |                        |          |  |
| DROLO<br>tland Hyd<br>mary Indio<br>Surfac                                                                                                     | GY<br>drology Indicators<br>cators (minimum of                                                                                                                                                                                                             | s:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       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                                 | more req                                                                       |                        |          |  |
| DROLO<br>tland Hym<br>nary Indio<br>Surfac<br>High V                                                                                           | drology Indicators<br>cators (minimum of<br>the Water (A1)                                                                                                                                                                                                 | s:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       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                                 | more reques (B9)                                                               |                        |          |  |
| DROLO tland Hyr nary Indio Surfac High V                                                                                                       | drology Indicators<br>cators (minimum of<br>the Water (A1)<br>Water Table (A2)                                                                                                                                                                             | s:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       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                                 | more req<br>es (B9)<br><b>i 4B)</b><br>810)                                    |                        |          |  |
| DROLO tland Hyd nary Indid Surfac High V Satura Water                                                                                          | drology Indicators<br>cators (minimum of<br>the Water (A1)<br>Water Table (A2)<br>ation (A3)                                                                                                                                                               | s:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       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                                 | more reques (B9)  14B) 310) able (C2)                                          | uired)                 | 9)       |  |
| DROLO tland Hyd mary India Surfac High V Satura Water Sedim                                                                                    | drology Indicators<br>cators (minimum of<br>ce Water (A1)<br>Vater Table (A2)<br>ation (A3)<br>Marks (B1)                                                                                                                                                  | s:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       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                                 | more reques (B9) 4 4B) 310) able (C2) Aerial Image                             | uired)                 | 9)       |  |
| DROLO tland Hym mary Indio Surfac High V Satura Water Sedim Drift D                                                                            | drology Indicators<br>cators (minimum of<br>ce Water (A1)<br>Water Table (A2)<br>ation (A3)<br>Marks (B1)<br>nent Deposits (B2)                                                                                                                            | s:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       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                                 | more reques (B9) 1 4B) 310) able (C2) Aerial Ima                               | uired)                 | 9)       |  |
| TDROLO tland Hye mary Indic Surfac High V Satura Water Sedim Drift D                                                                           | drology Indicators<br>cators (minimum of<br>the Water (A1)<br>Vater Table (A2)<br>ation (A3)<br>Marks (B1)<br>thent Deposits (B2)<br>deposits (B3)                                                                                                         | s:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       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                                 | more reques (B9) 1 4B) 810) Sable (C2) Aerial Image (D2) 3)                    | uired)                 | 9)       |  |
| DROLO tland Hye mary Indic Surfac High V Satura Water Sedim Drift D Algal I                                                                    | drology Indicators<br>cators (minimum of<br>ce Water (A1)<br>Vater Table (A2)<br>ation (A3)<br>Marks (B1)<br>ment Deposits (B2)<br>deposits (B3)<br>Mat or Crust (B4)                                                                                      | s:<br>one req                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            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                                 | more req<br>es (B9)<br>14B)<br>310)<br>able (C2)<br>Aerial Ima<br>n (D2)<br>3) | uired)<br>agery (C     | 9)       |  |
| DROLO tland Hyd mary India Surfac High V Satura Water Sedim Drift D Algal I Iron D Surfac                                                      | drology Indicators<br>cators (minimum of<br>ce Water (A1)<br>Water Table (A2)<br>ation (A3)<br>Marks (B1)<br>ment Deposits (B2)<br>deposits (B3)<br>Mat or Crust (B4)<br>deposits (B5)                                                                     | s:<br>one req                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | quired;   | check all tr   | nat apply) Wate (exce Salt ( Aqua Hydro Oxidi Prese Rece Stunt             | or-Stained Leave<br>opt MLRA 1, 2<br>Crust (B11)<br>tic Invertebrate<br>ogen Sulfide Co<br>zed Rhizospho<br>ence of Reduce<br>ont Iron Reduct                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | ves (B9) 2, 4A, and 4E es (B13) Odor (C1) eres along Li ed Iron (C4) tion in Tilled 3 s Plants (D1)             | ying Roots (C3)                    | Seconda  W3  (M)  Dr.  Dr.  Sa  Ge  Sh  Ra | ary Indicators (2 or<br>ater-Stained Leave<br>ILRA 1, 2, 4A, and<br>ainage Patterns (E<br>y-Season Water T<br>aturation Visible on<br>ecomorphic Position<br>allow Aquitard (D3<br>IC-Neutral Test (D                                         | more reques (B9) 14B) 310) able (C2) Aerial Ima 1 (D2) 3) 5) (D6) (LRR         | uired)<br>agery (C     | 9)       |  |
| DROLO tland Hyd mary Indic Surfac High V Satura Water Sedim Drift D Algal I Iron D Surfac Inunda                                               | drology Indicators cators (minimum of ce Water (A1) Water Table (A2) ation (A3) Marks (B1) ment Deposits (B2) deposits (B3) Mat or Crust (B4) deposits (B5) de Soil Cracks (B6)                                                                            | s:<br>one req                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | quired; 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| DROLO tland Hymary Indice Surface High V Satura Water Sedim Drift D Algal I Iron D Surface Inunda                                              | drology Indicators cators (minimum of the Water (A1) Vater Table (A2) ation (A3) Marks (B1) thent Deposits (B2) theposits (B3) Mat or Crust (B4) theposits (B5) the Soil Cracks (B6) ation Visible on Aei they Vegetated Con                               | s:<br>one req                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | quired; 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  | check all th   | mat apply) Wate (excessalt ( Aqua Hydro Oxidi Prese Stunt Other            | er-Stained Leavent MLRA 1, 2<br>Crust (B11)<br>tic Invertebrate<br>ogen Sulfide C<br>zed Rhizospho<br>ence of Reduct<br>ent Iron Reduct<br>ted or Stresses<br>r (Explain in Re                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | ves (B9) 2, 4A, and 4E es (B13) Odor (C1) eres along Li ed Iron (C4) tion in Tilled : s Plants (D1) emarks)     | ying Roots (C3)                    | Seconda  W3  (M)  Dr.  Dr.  Sa  Ge  Sh  Ra | ary Indicators (2 or<br>ater-Stained Leave<br>ILRA 1, 2, 4A, and<br>ainage Patterns (E<br>y-Season Water T<br>aturation Visible on<br>comorphic Position<br>allow Aquitard (D3<br>IC-Neutral Test (D<br>aised Ant Mounds                      | more reques (B9) 14B) 310) able (C2) Aerial Ima 1 (D2) 3) 5) (D6) (LRR         | uired)<br>agery (C     | 9)       |  |
| YDROLO  stland Hye mary Indic  Surface High V Satura  Water Sedim Drift D Algal I Iron D Surface Inunda Spars  std Obser rface Wat ster Table  | drology Indicators cators (minimum of ce Water (A1) Vater Table (A2) ation (A3) Marks (B1) Ment Deposits (B2) Deposits (B3) Mat or Crust (B4) Deposits (B5) De Soil Cracks (B6) ation Visible on Aeiely Vegetated Convations: er Present? Present?         | one req                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | quired;   | check all tr   | mat apply) Wate (exce Salt ( Aqua Hydro Oxidi Prese Stunt Other            | or-Stained Leaver of MLRA 1, 2 Crust (B11) tic Invertebrate ogen Sulfide Cored Rhizosphoence of Reduction Iron Reductied or Stresses (Explain in Reduction Cored Reduction Iron Reduction (Explain in Reduction Reductio | ves (B9) 2, 4A, and 4E es (B13) Door (C1) eres along Li red Iron (C4) tion in Tilled is s Plants (D1) emarks) : | ving Roots (C3) Soils (C6) (LRR A) | Seconda  Wi  (M)  Dr.  Sa  Ge  Sh  FA      | ary Indicators (2 or<br>ater-Stained Leave<br>ILRA 1, 2, 4A, and<br>ainage Patterns (E<br>y-Season Water T<br>aturation Visible on<br>comorphic Position<br>allow Aquitard (D3<br>IC-Neutral Test (D<br>aised Ant Mounds                      | more reques (B9) 14B) 310) able (C2) Aerial Ima 1 (D2) 3) 5) (D6) (LRR         | uired)<br>agery (C     | 9)<br>No |  |
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| DROLO tland Hyd nary India Surface High V Satura Water Sedim Drift D Algal I Iron D Surface Inunda Spars Id Obser face Wat ter Table uration P | drology Indicators cators (minimum of ce Water (A1) Water Table (A2) ation (A3) Marks (B1) ment Deposits (B2) deposits (B3) Mat or Crust (B4) deposits (B5) de Soil Cracks (B6) ation Visible on Aerely Vegetated Convations: er Present? Present? resent? | one required in the second sec | quired;   | check all tr   | nat apply) Wate (exce Salt ( Aqua Hydre Oxidi Prese Stunt Other            | or-Stained Leavert MLRA 1, 2 Crust (B11) tic Invertebrate ogen Sulfide Cored Rhizosphe ence of Reduct ent Iron Reduct ent Iron Reduct ent or Stresses or (Explain in Reduct Depth (inches) Depth (inches)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | ves (B9) 2, 4A, and 4E es (B13) Door (C1) eres along Li ed Iron (C4) tion in Tilled is Plants (D1) emarks)  : : | ving Roots (C3) Soils (C6) (LRR A) | Seconda  Wi  (M)  Dr.  Sa  Ge  Sh  FA      | ary Indicators (2 or<br>ater-Stained Leave<br>ILRA 1, 2, 4A, and<br>ainage Patterns (E<br>y-Season Water T<br>attration Visible on<br>comorphic Position<br>allow Aquitard (D.<br>a.C-Neutral Test (D.<br>aised Ant Mounds<br>ost-Heave Hummo | more reques (B9) 14B) 310) able (C2) Aerial Ima 1 (D2) 3) 5) (D6) (LRR         | uired)                 | ,        |  |

# **RATING SUMMARY – Western Washington**

| Name of wetland (or ID #): Wetlar                       | nd A                   | Date                | e of site visit:    | 1/17/17                       |
|---------------------------------------------------------|------------------------|---------------------|---------------------|-------------------------------|
| Rated by <u>Katie Boa</u>                               | _Trained by Ecc        | ology? Yes <u>X</u> | No Dat              | te of training <u>11/16</u>   |
| HGM Class used for rating Slope                         |                        | Wetland has m       | nultiple HGM        | classes? <u> </u>             |
| NOTE: Form is not complete<br>Source of base aerial pho | oto/map <u>Goog</u> l  | le Earth            |                     |                               |
| OVERALL WETLAND CATEGO                                  | <b>RY</b> <u>IV</u> (I | pased on funct      | ions <u>X</u> or sp | ecial characteristics         |
| 1. Category of wetland based                            | on FUNCTIO             | ONS                 |                     |                               |
| Category I – Tota                                       | al score = 23 – :      | 27                  | [                   | Seems for each                |
| Category II – Tot                                       | tal score = 20 -       | - 22                |                     | Score for each function based |
| Category III – To                                       | tal score = 16         | <b>–</b> 19         |                     | on three<br>ratings           |
| X Category IV – To                                      | otal score = 9 –       | 15                  |                     | (order of ratings is not      |
| FUNCTION Improving                                      | Hydrologic             | Habitat             |                     | important)                    |
| Water Quality                                           |                        |                     |                     | 9 = H H H                     |

| FUNCTION               | Improving Water Quality |   |          | H | ydrolo | ogic     | 1     | Habita  | at       |       |
|------------------------|-------------------------|---|----------|---|--------|----------|-------|---------|----------|-------|
|                        |                         |   |          |   | Circle | the ap   | propr | iate ra | tings    |       |
| Site Potential         | Н                       | М | <u>L</u> | Н | М      | L        | Н     | М       | <u>L</u> |       |
| Landscape Potential    | Н                       | М | <u>L</u> | Н | М      | <u>L</u> | Н     | M       | L        |       |
| Value                  | <u>H</u>                | М | L        | Н | M      | L        | Н     | M       | L        | TOTAL |
| Score Based on Ratings |                         | 5 |          |   | 4      |          |       | 5       |          | 14    |

| Score for each function based on three ratings (order of ratings is not important)                                             |
|--------------------------------------------------------------------------------------------------------------------------------|
| 9 = H,H,H<br>8 = H,H,M<br>7 = H,H,L<br>7 = H,M,M<br>6 = H,M,L<br>6 = M,M,M<br>5 = H,L,L<br>5 = M,M,L<br>4 = M,L,L<br>3 = L,L,L |

### 2. Category based on SPECIAL CHARACTERISTICS of wetland

| CHARACTERISTIC                     | CATEGORY    |
|------------------------------------|-------------|
| Estuarine                          | I II        |
| Wetland of High Conservation Value | I           |
| Bog                                | I           |
| Mature Forest                      | I           |
| Old Growth Forest                  | I           |
| Coastal Lagoon                     | I II        |
| Interdunal                         | I II III IV |
| None of the above                  | N/A         |

# Maps and figures required to answer questions correctly for Western Washington

### **Depressional Wetlands**

| Map of:                                                                        | To answer questions: | Figure # |
|--------------------------------------------------------------------------------|----------------------|----------|
| Cowardin plant classes                                                         | D 1.3, H 1.1, H 1.4  |          |
| Hydroperiods                                                                   | D 1.4, H 1.2         |          |
| Location of outlet (can be added to map of hydroperiods)                       | D 1.1, D 4.1         |          |
| Boundary of area within 150 ft of the wetland (can be added to another figure) | D 2.2, D 5.2         |          |
| Map of the contributing basin                                                  | D 4.3, D 5.3         |          |
| 1 km Polygon: Area that extends 1 km from entire wetland edge - including      | H 2.1, H 2.2, H 2.3  |          |
| polygons for accessible habitat and undisturbed habitat                        |                      |          |
| Screen capture of map of 303(d) listed waters in basin (from Ecology website)  | D 3.1, D 3.2         |          |
| Screen capture of list of TMDLs for WRIA in which unit is found (from web)     | D 3.3                |          |

### Riverine Wetlands

| Map of:                                                                        | To answer questions: | Figure # |
|--------------------------------------------------------------------------------|----------------------|----------|
| Cowardin plant classes                                                         | H 1.1, H 1.4         |          |
| Hydroperiods                                                                   | H 1.2                |          |
| Ponded depressions                                                             | R 1.1                |          |
| Boundary of area within 150 ft of the wetland (can be added to another figure) | R 2.4                |          |
| Plant cover of trees, shrubs, and herbaceous plants                            | R 1.2, R 4.2         |          |
| Width of unit vs. width of stream (can be added to another figure)             | R 4.1                |          |
| Map of the contributing basin                                                  | R 2.2, R 2.3, R 5.2  |          |
| 1 km Polygon: Area that extends 1 km from entire wetland edge - including      | H 2.1, H 2.2, H 2.3  |          |
| polygons for accessible habitat and undisturbed habitat                        |                      |          |
| Screen capture of map of 303(d) listed waters in basin (from Ecology website)  | R 3.1                |          |
| Screen capture of list of TMDLs for WRIA in which unit is found (from web)     | R 3.2, R 3.3         |          |

### Lake Fringe Wetlands

| Map of:                                                                        | To answer questions:       | Figure # |
|--------------------------------------------------------------------------------|----------------------------|----------|
| Cowardin plant classes                                                         | L 1.1, L 4.1, H 1.1, H 1.4 |          |
| Plant cover of trees, shrubs, and herbaceous plants                            | L 1.2                      |          |
| Boundary of area within 150 ft of the wetland (can be added to another figure) | L 2.2                      |          |
| 1 km Polygon: Area that extends 1 km from entire wetland edge - including      | H 2.1, H 2.2, H 2.3        |          |
| polygons for accessible habitat and undisturbed habitat                        |                            |          |
| Screen capture of map of 303(d) listed waters in basin (from Ecology website)  | L 3.1, L 3.2               |          |
| Screen capture of list of TMDLs for WRIA in which unit is found (from web)     | L 3.3                      |          |

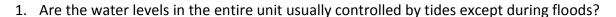
### Slope Wetlands

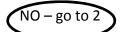
| Map of:                                                                         | To answer questions: | Figure # |
|---------------------------------------------------------------------------------|----------------------|----------|
| Cowardin plant classes                                                          | H 1.1, H 1.4         | 9        |
| Hydroperiods                                                                    | H 1.2                | 9        |
| Plant cover of <b>dense</b> trees, shrubs, and herbaceous plants                | S 1.3                | 9        |
| Plant cover of <b>dense</b> , <b>rigid</b> trees, shrubs, and herbaceous plants | S 4.1                | 0        |
| (can be added to figure above)                                                  |                      | 9        |
| Boundary of 150 ft buffer (can be added to another figure)                      | S 2.1, S 5.1         | 9        |
| 1 km Polygon: Area that extends 1 km from entire wetland edge - including       | H 2.1, H 2.2, H 2.3  | 1 -      |
| polygons for accessible habitat and undisturbed habitat                         |                      | 15       |
| Screen capture of map of 303(d) listed waters in basin (from Ecology website)   | S 3.1, S 3.2         | 17       |
| Screen capture of list of TMDLs for WRIA in which unit is found (from web)      | S 3.3                | 17       |

### **HGM Classification of Wetlands in Western Washington**

For guestions 1-7, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-7 apply, and go to Question 8.





YES – the wetland class is Tidal Fringe – go to 1.1

1.1 Is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)?

### NO – Saltwater Tidal Fringe (Estuarine)

YES - Freshwater Tidal Fringe

If your wetland can be classified as a Freshwater Tidal Fringe use the forms for **Riverine** wetlands. If it is Saltwater Tidal Fringe it is an **Estuarine** wetland and is not scored. This method **cannot** be used to score functions for estuarine wetlands.

2. The entire wetland unit is flat and precipitation is the only source (>90%) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit.

NO – go to 3

**YES** – The wetland class is **Flats** 

If your wetland can be classified as a Flats wetland, use the form for **Depressional** wetlands.

- 3. Does the entire wetland unit **meet all** of the following criteria?
  - \_\_\_The vegetated part of the wetland is on the shores of a body of permanent open water (without any plants on the surface at any time of the year) at least 20 ac (8 ha) in size;
    - At least 30% of the open water area is deeper than 6.6 ft (2 m).

**YES** – The wetland class is **Lake Fringe** (Lacustrine Fringe)

- 4. Does the entire wetland unit **meet all** of the following criteria?
  - The wetland is on a slope (slope can be very gradual),
  - \_\_\_\_The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks,
  - \_\_\_The water leaves the wetland without being impounded.

NO - go to 5

**YES** – The wetland class is **Slope** 

**NOTE**: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 ft deep).

- 5. Does the entire wetland unit **meet all** of the following criteria?
  - \_\_\_The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river,
  - \_\_\_\_The overbank flooding occurs at least once every 2 years.

NO - go to 6

YES - The wetland class is Riverine NOTE:

The Riverine unit can contain depressions that are filled with water when the river is not flooding

6. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year? This means that any outlet, if present, is higher than the interior of the wetland.

NO - go to 7

**YES** – The wetland class is **Depressional** 

7. Is the entire wetland unit located in a very flat area with no obvious depression and no overbank flooding? The unit does not pond surface water more than a few inches. The unit seems to be maintained by high groundwater in the area. The wetland may be ditched, but has no obvious natural outlet.

NO - go to 8

**YES** – The wetland class is **Depressional** 

8. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

**NOTE**: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the HGM class listed in column 2 is less than 10% of the unit; classify the wetland using the class that represents more than 90% of the total area.

| HGM classes within the wetland unit   | HGM class to  |
|---------------------------------------|---------------|
| being rated                           | use in rating |
| Slope + Riverine                      | Riverine      |
| Slope + Depressional                  | Depressional  |
| Slope + Lake Fringe                   | Lake Fringe   |
| Depressional + Riverine along stream  | Depressional  |
| within boundary of depression         |               |
| Depressional + Lake Fringe            | Depressional  |
| Riverine + Lake Fringe                | Riverine      |
| Salt Water Tidal Fringe and any other | Treat as      |
| class of freshwater wetland           | ESTUARINE     |

If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.

| SLOPE WETLANDS                                                                                                                                                                                                                                                                                                               |   |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|
| Water Quality Functions - Indicators that the site functions to improve water quality                                                                                                                                                                                                                                        |   |
| S 1.0. Does the site have the potential to improve water quality?                                                                                                                                                                                                                                                            |   |
| S 1.1. Characteristics of the average slope of the wetland: (a 1% slope has a 1 ft vertical drop in elevation for every 100 ft of horizontal distance)                                                                                                                                                                       |   |
| Slope is 1% or less       points = 3         Slope is > 1%-2%       points = 2         Slope is > 2%-5%       points = 1                                                                                                                                                                                                     | 1 |
| Slope is greater than 5% points = 0  S 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions): Yes = 3 No = 0                                                                                                                                                              | 0 |
| S 1.3. Characteristics of the plants in the wetland that trap sediments and pollutants:  Choose the points appropriate for the description that best fits the plants in the wetland. Dense means you have trouble seeing the soil surface (>75% cover), and uncut means not grazed or mowed and plants are higher than 6 in. |   |
| Dense, uncut, herbaceous plants > 90% of the wetland area points = 6 Dense, uncut, herbaceous plants > $\frac{1}{2}$ of area points = 2 Dense, uncut, herbaceous plants > $\frac{1}{4}$ of area points = 1 Does not meet any of the criteria above for plants points = 0                                                     | 0 |
| Total for S 1 Add the points in the boxes above                                                                                                                                                                                                                                                                              | 1 |

Rating of Site Potential If score is: 12 = H 6-11 = M X 0-5 = L

Record the rating on the first page

| S 2.0. Does the landscape have the potential to support the water quality function of the site?                                            |   |
|--------------------------------------------------------------------------------------------------------------------------------------------|---|
| S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?  Yes = 1 No = 0         | 0 |
| S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?  Other sources  Yes = 1 No = 0 | 0 |
| Total for S 2 Add the points in the boxes above                                                                                            | 0 |

Rating of Landscape Potential If score is: 1-2 = M X 0 = L

Record the rating on the first page

| S 3.0. Is the water quality improvement provided by the site valuable to society?                                                                                                                      |   |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|
| S 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list?  Yes = 1 No = 0                                                   | 0 |
| S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue? At least one aquatic resource in the basin is on the $303(d)$ list.  Yes = 1 No = 0                                     | 1 |
| S 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality? <i>Answer YES</i> if there is a TMDL for the basin in which unit is found. Yes = 2 No = 0 | 2 |
| Total for S 3 Add the points in the boxes above                                                                                                                                                        | 3 |

Rating of Value If score is: X 2-4 = H \_\_\_1 = M \_\_\_0 = L

Record the rating on the first page

| SLOPE WETLANDS                                                                                                                                                                                                                               |                  |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| Hydrologic Functions - Indicators that the site functions to reduce flooding and stream erosion                                                                                                                                              |                  |
| S 4.0. Does the site have the potential to reduce flooding and stream erosion?                                                                                                                                                               |                  |
| S 4.1. Characteristics of plants that reduce the velocity of surface flows during storms: Choose the points appropriate for the description that best fits conditions in the wetland. Stems of plants should be thick enough (usually > 1/2) |                  |
| in), or dense enough, to remain erect during surface flows.                                                                                                                                                                                  | 0                |
| Dense, uncut, <b>rigid</b> plants cover > 90% of the area of the wetland points = 1                                                                                                                                                          |                  |
| All other conditions points = 0                                                                                                                                                                                                              |                  |
| Rating of Site Potential If score is: 1 = M X 0 = L Record the rating of                                                                                                                                                                     | n the first page |

| S 5.0. Does the landscape have the potential to support the hydrologic functions of the site?                                                   |                |
|-------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
| S 5.1. Is more than 25% of the area within 150 ft upslope of wetland in land uses or cover that generate excess surface runoff?  Yes = 1 No = 0 | 0              |
| Rating of Landscape Potential If score is: 1 = M X 0 = L Record the rating or                                                                   | the first page |

| S 6.0. Are the hydrologic functions provided by the site valuable to society?                                                                                                                                                                                                                                                                                    |   |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|
| S 6.1. Distance to the nearest areas downstream that have flooding problems:  The sub-basin immediately down-gradient of site has flooding problems that result in damage to human or natural resources (e.g., houses or salmon redds)  Surface flooding problems are in a sub-basin farther down-gradient  No flooding problems anywhere downstream  points = 0 | 1 |
| S 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?  Yes = 2 No = 0                                                                                                                                                                                                                         |   |
| Total for S 6 Add the points in the boxes above                                                                                                                                                                                                                                                                                                                  | 1 |

Rating of Value If score is: 2-4 = H X 1 = M 0 = L

Record the rating on the first page

NOTES and FIELD OBSERVATIONS:

#### These questions apply to wetlands of all HGM classes. **HABITAT FUNCTIONS** - Indicators that site functions to provide important habitat H 1.0. Does the site have the potential to provide habitat? H 1.1. Structure of plant community: Indicators are Cowardin classes and strata within the Forested class. Check the Cowardin plant classes in the wetland. Up to 10 patches may be combined for each class to meet the threshold of ¼ ac or more than 10% of the unit if it is smaller than 2.5 ac. Add the number of structures checked. Aquatic bed 4 structures or more: points = 4 Emergent 3 structures: points = 2 0 Scrub-shrub (areas where shrubs have > 30% cover) 2 structures: points = 1 X Forested (areas where trees have > 30% cover) 1 structure: points = 0 If the unit has a Forested class, check if: \_\_\_\_The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the Forested polygon H 1.2. Hydroperiods Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or ¼ ac to count (see text for descriptions of hydroperiods). Permanently flooded or inundated 4 or more types present: points = 3 Seasonally flooded or inundated 3 types present: points = 2 Occasionally flooded or inundated 2 types present: points = 1 1 X Saturated only 1 type present: points = 0 Permanently flowing stream or river in, or adjacent to, the wetland X Seasonally flowing stream in, or adjacent to, the wetland Lake Fringe wetland 2 points Freshwater tidal wetland 2 points H 1.3. Richness of plant species Count the number of plant species in the wetland that cover at least 10 ft<sup>2</sup>. Different patches of the same species can be combined to meet the size threshold and you do not have to name the species. Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle 1 If you counted: > 19 species points = 2 5 - 19 species points = 1 < 5 species points = 0 H 1.4. Interspersion of habitats Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. If you have four or more plant classes or three classes and open water, the rating is always high. 1 None = 0 points Low = 1 point Moderate = 2 points All three diagrams in this row are **HIGH** = 3points

### Wetland name or number Wetland A

| •                                                                                                                                                                    |                                                   |                  |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------|------------------|
| H 1.5. Special habitat features:                                                                                                                                     |                                                   |                  |
| Check the habitat features that are present in the wetland. The number of checks is                                                                                  | • •                                               |                  |
| Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long                                                                                        | g).                                               |                  |
| Standing snags (dbh > 4 in) within the wetland                                                                                                                       |                                                   |                  |
| Undercut banks are present for at least 6.6 ft (2 m) and/or overhanging plants over a stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (2 m) |                                                   |                  |
| Stable steep banks of fine material that might be used by beaver or muskrat f                                                                                        | or denning (> 30 degree                           | 1                |
| slope) OR signs of recent beaver activity are present (cut shrubs or trees that have not yet weathered where wood is exposed)                                        |                                                   |                  |
| At least ¼ ac of thin-stemmed persistent plants or woody branches are presen                                                                                         | t in areas that are                               |                  |
| permanently or seasonally inundated (structures for egg-laying by amphibiar                                                                                          | ns)                                               |                  |
| $\underline{X}$ Invasive plants cover less than 25% of the wetland area in every stratum of pl                                                                       | ants (see H 1.1 for list of                       |                  |
| strata)                                                                                                                                                              |                                                   |                  |
| Total for H 1 Add th                                                                                                                                                 | e points in the boxes above                       | 4                |
| Rating of Site Potential If score is:15-18 = H7-14 = M _X _0-6 = L                                                                                                   | Record the rating or                              | the first page   |
| H 2.0. Does the landscape have the potential to support the habitat functions of                                                                                     | the site?                                         |                  |
| H 2.1. Accessible habitat (include only habitat that directly abuts wetland unit).                                                                                   |                                                   |                  |
| Calculate: % undisturbed habitat + [(% moderate and low intensity lar                                                                                                | nd uses)/21 = %                                   |                  |
| If total accessible habitat is:                                                                                                                                      | 10 03C3// 2] =                                    |                  |
| > <sup>1</sup> / <sub>3</sub> (33.3%) of 1 km Polygon                                                                                                                | points = 3                                        | 2                |
| 20-33% of 1 km Polygon                                                                                                                                               | points = 2                                        | _                |
| 10-19% of 1 km Polygon                                                                                                                                               | points = 1                                        |                  |
| < 10% of 1 km Polygon                                                                                                                                                | points = 0                                        |                  |
| H 2.2. Undisturbed habitat in 1 km Polygon around the wetland.                                                                                                       | pomics                                            |                  |
| Calculate: % undisturbed habitat + ((% moderate and low intensity lar                                                                                                | nd uses)/2] = %                                   |                  |
| Undisturbed habitat > 50% of Polygon                                                                                                                                 | points = 3                                        |                  |
| Undisturbed habitat 10-50% and in 1-3 patches                                                                                                                        | points = 2                                        | 0                |
| Undisturbed habitat 10-50% and > 3 patches                                                                                                                           | points = 1                                        |                  |
| Undisturbed habitat < 10% of 1 km Polygon                                                                                                                            | points = 0                                        |                  |
| H 2.3. Land use intensity in 1 km Polygon: If                                                                                                                        | points – o                                        |                  |
| > 50% of 1 km Polygon is high intensity land use                                                                                                                     | points = (- 2)                                    | 0                |
| ≤ 50% of 1 km Polygon is high intensity                                                                                                                              | points = (-2)                                     |                  |
|                                                                                                                                                                      | •                                                 | 2                |
| Total for H 2 Add th  Rating of Landscape Potential If score is:4-6 = HX1-3 = M<1 = L                                                                                | e points in the boxes above  Record the rating on | the first nage   |
| Rating of Landscape Potential in Score is: 4-6 - H 1-3 - W 1-5 - W                                                                                                   | Record the rating on                              | the jirst page   |
| H 3.0. Is the habitat provided by the site valuable to society?                                                                                                      |                                                   |                  |
| 11.2.4. December site was side helpitet for exercise upload in level acquisitions or molicise? C                                                                     |                                                   |                  |
| H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? <i>Cl</i> that applies to the wetland being rated.                        | noose only the nighest score                      |                  |
| Site meets ANY of the following criteria:                                                                                                                            | points = 2                                        |                  |
| It has 3 or more priority habitats within 100 m (see next page)                                                                                                      | points – 2                                        |                  |
| It provides habitat for Threatened or Endangered species (any plant or animal of                                                                                     | on the state or federal lists)                    |                  |
| It is mapped as a location for an individual WDFW priority species                                                                                                   |                                                   |                  |
| It is a Wetland of High Conservation Value as determined by the Department of Natural Resources                                                                      |                                                   |                  |
| It has been categorized as an important habitat site in a local or regional comprehensive plan, in a                                                                 |                                                   |                  |
| Shoreline Master Plan, or in a watershed plan                                                                                                                        |                                                   |                  |
| Site has 1 or 2 priority habitats (listed on next page) within 100 m                                                                                                 | points = 1                                        |                  |
| Site does not meet any of the criteria above                                                                                                                         | points = 0                                        |                  |
| Rating of Value If score is: 2 = H X 1 = M 0 = L                                                                                                                     | Record the rating or                              | n the first page |
|                                                                                                                                                                      |                                                   |                  |

### **WDFW Priority Habitats**

<u>Priority habitats listed by WDFW</u> (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. <a href="http://wdfw.wa.gov/publications/00165/wdfw00165.pdf">http://wdfw.wa.gov/publications/00165/wdfw00165.pdf</a> or access the list from here: <a href="http://wdfw.wa.gov/conservation/phs/list/">http://wdfw.wa.gov/conservation/phs/list/</a>)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland unit: NOTE: This question is

independent of the land use between the wetland unit and the priority habitat. **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha). Biodiversity Areas and Corridors: Areas of habitat that are relatively important to various species of native fish and wildlife (full descriptions in WDFW PHS report). Herbaceous Balds: Variable size patches of grass and forbs on shallow soils over bedrock. Old-growth/Mature forests: Old-growth west of Cascade crest – Stands of at least 2 tree species, forming a multilayered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) > 32 in (81 cm) dbh or > 200 years of age. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in oldgrowth; 80-200 years old west of the Cascade crest. Oregon White Oak: Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (full descriptions in WDFW PHS report p. 158 – see web link above). X Riparian: The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other. Westside Prairies: Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (full descriptions in WDFW PHS report p. 161 – see web link above). X Instream: The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources. Nearshore: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (full descriptions of habitats and the definition of relatively undisturbed are in WDFW report – see web link on previous page). Caves: A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human. **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation. Talus: Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs. \_\_\_\_Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.

**Note:** All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

### **CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS**

| Wetland Type                                                                                                                                                                                                                         | Category |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| vecialia Type                                                                                                                                                                                                                        | Category |
| Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.                                                                                                                         |          |
| SC 1.0. Estuarine wetlands                                                                                                                                                                                                           |          |
| Does the wetland meet the following criteria for Estuarine wetlands?                                                                                                                                                                 |          |
| — The dominant water regime is tidal,                                                                                                                                                                                                |          |
| — Vegetated, and                                                                                                                                                                                                                     |          |
| — With a salinity greater than 0.5 ppt Yes –Go to <b>SC 1.1</b> No= <b>Yot an estuarine wetland</b>                                                                                                                                  |          |
| SC 1.1. Is the wetland within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area                                                                                                                      |          |
| Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151?                                                                                                                           | Cat. I   |
| Yes = Category I No - Go to SC 1.2                                                                                                                                                                                                   |          |
| SC 1.2. Is the wetland unit at least 1 ac in size and meets at least two of the following three conditions?                                                                                                                          |          |
| — The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less                                                                                                                        | Cat. I   |
| than 10% cover of non-native plant species. (If non-native species are <i>Spartina</i> , see page 25)                                                                                                                                | Cat. I   |
| — At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-                                                                                                                           |          |
| mowed grassland. — The wetland has at least two of the following features: tidal channels, depressions with open water, or                                                                                                           | Cat. II  |
| contiguous freshwater wetlands.  Yes = Category I  No = Category II                                                                                                                                                                  |          |
| contiguous incanwater wetianas.                                                                                                                                                                                                      |          |
| SC 2.0. Wetlands of High Conservation Value (WHCV)                                                                                                                                                                                   |          |
| SC 2.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High                                                                                                                     | Cat. I   |
| Conservation Value? Yes – Go to SC 2.2 No – Go to SC 2.3                                                                                                                                                                             | Cat. I   |
| SC 2.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value?  Yes = Category I  No = Not a WHCV                                                                                                       |          |
| Yes = Category I No = Not a WHCV SC 2.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland?                                                                                                        |          |
| http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf                                                                                                                                                                       |          |
| Yes – Contact WNHP/WDNR and go to SC 2.4 No = Not a WHCV                                                                                                                                                                             |          |
| SC 2.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and listed it on                                                                                                                    |          |
| their website? Yes = Category I No = Not a WHCV                                                                                                                                                                                      |          |
| SC 3.0. Bogs                                                                                                                                                                                                                         |          |
| Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? Use the key                                                                                                                      |          |
| below. If you answer YES you will still need to rate the wetland based on its functions.                                                                                                                                             |          |
| SC 3.1. Does an area within the wetland unit have organic soil horizons, either peats or mucks, that compose 16 in or                                                                                                                |          |
| more of the first 32 in of the soil profile? Yes – Go to SC 3.3 No – Go to SC 3.2                                                                                                                                                    |          |
| SC 3.2. Does an area within the wetland unit have organic soils, either peats or mucks, that are less than 16 in deep over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or |          |
| pond? Yes – Go to SC 3.3 No = 1 not a bog                                                                                                                                                                                            |          |
| SC 3.3. Does an area with peats or mucks have more than 70% cover of mosses at ground level, AND at least a 30%                                                                                                                      |          |
| cover of plant species listed in Table 4? Yes = Is a Category I bog No – Go to SC 3.4                                                                                                                                                |          |
| NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by                                                                                                                        |          |
| measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the                                                                                                                     |          |
| plant species in Table 4 are present, the wetland is a bog.                                                                                                                                                                          | Cat. I   |
| SC 3.4. Is an area with peats or mucks forested (> 30% cover) with Sitka spruce, subalpine fir, western red cedar,                                                                                                                   |          |
| western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the                                                                                                                              |          |
| species (or combination of species) listed in Table 4 provide more than 30% of the cover under the canopy?  Yes = Is a Category I bog No = Is not a bog                                                                              |          |
| res = is a Category i bog NO = is not a bog                                                                                                                                                                                          |          |

| SC 4.0. Forested Wetlands                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |          |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| Does the wetland have at least 1 contiguous acre of forest that meets one of these criteria for the WA Department of Fish and Wildlife's forests as priority habitats? If you answer YES you will still need to rate the wetland based on its functions.                                                                                                                                                                                                                                                                   |          |
| <ul> <li>Old-growth forests (west of Cascade crest): Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 in (81 cm) or more.</li> <li>Mature forests (west of the Cascade Crest): Stands where the largest trees are 80- 200 years old OR the species that make up the canopy have an average diameter (dbh) exceeding 21 in (53 cm).</li> </ul> |          |
| Yes = Category I No = Not a forested wetland for this section                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Cat. I   |
| SC 5.0. Wetlands in Coastal Lagoons                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |          |
| Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?  — The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from                                                                                                                                                                                                                                                                                                                             |          |
| marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks                                                                                                                                                                                                                                                                                                                                                                                                                                              |          |
| — The lagoon in which the wetland is located contains ponded water that is saline or brackish (> 0.5 ppt)                                                                                                                                                                                                                                                                                                                                                                                                                  |          |
| during most of the year in at least a portion of the lagoon (needs to be measured near the bottom)  Yes – Go to SC 5.1 No = Not a wetland in a coastal lagoon                                                                                                                                                                                                                                                                                                                                                              | Cat. I   |
| SC 5.1. Does the wetland meet all of the following three conditions?                                                                                                                                                                                                                                                                                                                                                                                                                                                       |          |
| — The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less                                                                                                                                                                                                                                                                                                                                                                                                             |          |
| than 20% cover of aggressive, opportunistic plant species (see list of species on p. 100).                                                                                                                                                                                                                                                                                                                                                                                                                                 | Cat. II  |
| <ul> <li>— At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                             |          |
| — The wetland is larger than $^{1}/_{10}$ ac (4350 ft <sup>2</sup> )                                                                                                                                                                                                                                                                                                                                                                                                                                                       |          |
| Yes = Category I No = Category II                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |          |
| SC 6.0. Interdunal Wetlands                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |          |
| Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? If                                                                                                                                                                                                                                                                                                                                                                                                                    |          |
| you answer yes you will still need to rate the wetland based on its habitat functions.  In practical terms that means the following geographic areas:                                                                                                                                                                                                                                                                                                                                                                      |          |
| — Long Beach Peninsula: Lands west of SR 103                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |          |
| <ul> <li>— Grayland-Westport: Lands west of SR 105</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Cat I    |
| <ul><li>Ocean Shores-Copalis: Lands west of SR 115 and SR 109</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                    |          |
| Yes – Go to SC 6.1 No = not an interdunal wetland for rating                                                                                                                                                                                                                                                                                                                                                                                                                                                               |          |
| SC 6.1. Is the wetland 1 ac or larger and scores an 8 or 9 for the habitat functions on the form (rates H,H,H or H,H,M                                                                                                                                                                                                                                                                                                                                                                                                     | Cat. II  |
| for the three aspects of function)? Yes = Category I No – Go to SC 6.2                                                                                                                                                                                                                                                                                                                                                                                                                                                     |          |
| SC 6.2. Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger?  Yes = Category II No – Go to SC 6.3                                                                                                                                                                                                                                                                                                                                                                                       | Cat. III |
| SC 6.3. Is the unit between 0.1 and 1 ac, or is it in a mosaic of wetlands that is between 0.1 and 1 ac?                                                                                                                                                                                                                                                                                                                                                                                                                   | cat. III |
| Yes = Category III No = Category IV                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |          |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Cat. IV  |
| Category of wetland based on Special Characteristics                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | N/A      |

Wetland name or number Wetland A

# **RATING SUMMARY – Western Washington**

| Name of wetland (or ID #): _ | <u>Wetland B</u>                             | _Date of site visit | :: <u>1/17/17</u>                | _            |
|------------------------------|----------------------------------------------|---------------------|----------------------------------|--------------|
| Rated by <u>Katie Boa</u>    | _Trained by Ecology                          | /? Yes <u>X</u> No  | _ Date of training 11/20         | 16           |
| HGM Class used for rating_   | Depressional                                 | Wetland has mu      | ltiple HGM classes?Y             | <u>′ X</u> N |
|                              | mplete without the rial photo/map <u>Goo</u> | •                   | <b>d</b> (figures can be combine | ed).         |
| OVERALL WETLAND CAT          | T <b>EGORY <u>III</u></b> (ba                | ased on functions   | X or special character           | istics)      |
| 1. Category of wetland       | based on FUNCT                               | IONS                |                                  |              |

Category I – Total score = 23 – 27 Category II – Total score = 20 – 22 X Category III – Total score = 16 – 19 Category IV – Total score = 9 – 15

| FUNCTION               |          | nprov<br>ter Q | ing<br>uality | H        | ydrolo   | gic      |       | Habita   | at    |       |
|------------------------|----------|----------------|---------------|----------|----------|----------|-------|----------|-------|-------|
|                        |          |                |               |          | Circle t | the ap   | propr | iate ra  | tings |       |
| Site Potential         | Н        | M              | L             | <u>H</u> | М        | L        | Н     | M        | L     |       |
| Landscape Potential    | Н        | М              | <u>L</u>      | Н        | М        | <u>L</u> | Н     | <u>M</u> | L     |       |
| Value                  | <u>H</u> | М              | L             | Н        | M        | L        | Н     | <u>M</u> | L     | TOTAL |
| Score Based on Ratings |          | 6              |               |          | 6        |          |       | 6        |       | 18    |

### Score for each function based on three ratings (order of ratings ìs not important) 9 = H,H,H8 = H,H,M7 = H,H,L 7 = H,M,M6 = H,M,L6 = M,M,M5 = H,L,L 5 = M,M,L 4 = M, L, L3 = L,L,L

### 2. Category based on SPECIAL CHARACTERISTICS of wetland

| CHARACTERISTIC                     | CATEGORY    |  |
|------------------------------------|-------------|--|
| Estuarine                          | I II        |  |
| Wetland of High Conservation Value | I           |  |
| Bog                                | I           |  |
| Mature Forest                      | I           |  |
| Old Growth Forest                  | I           |  |
| Coastal Lagoon                     | I II        |  |
| Interdunal                         | I II III IV |  |
| None of the above                  | N/A         |  |

# Maps and figures required to answer questions correctly for Western Washington

### **Depressional Wetlands**

| Map of:                                                                                                                           | To answer questions: | Figure # |
|-----------------------------------------------------------------------------------------------------------------------------------|----------------------|----------|
| Cowardin plant classes                                                                                                            | D 1.3, H 1.1, H 1.4  | 9        |
| Hydroperiods                                                                                                                      | D 1.4, H 1.2         | 9        |
| Location of outlet (can be added to map of hydroperiods)                                                                          | D 1.1, D 4.1         | 9        |
| Boundary of area within 150 ft of the wetland (can be added to another figure)                                                    | D 2.2, D 5.2         | 9        |
| Map of the contributing basin                                                                                                     | D 4.3, D 5.3         | 15       |
| 1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat | H 2.1, H 2.2, H 2.3  | 15       |
| Screen capture of map of 303(d) listed waters in basin (from Ecology website)                                                     | D 3.1, D 3.2         | 17       |
| Screen capture of list of TMDLs for WRIA in which unit is found (from web)                                                        | D 3.3                | 17       |

### **Riverine Wetlands**

| Map of:                                                                        | To answer questions: | Figure # |
|--------------------------------------------------------------------------------|----------------------|----------|
| Cowardin plant classes                                                         | H 1.1, H 1.4         |          |
| Hydroperiods                                                                   | H 1.2                |          |
| Ponded depressions                                                             | R 1.1                |          |
| Boundary of area within 150 ft of the wetland (can be added to another figure) | R 2.4                |          |
| Plant cover of trees, shrubs, and herbaceous plants                            | R 1.2, R 4.2         |          |
| Width of unit vs. width of stream (can be added to another figure)             | R 4.1                |          |
| Map of the contributing basin                                                  | R 2.2, R 2.3, R 5.2  |          |
| 1 km Polygon: Area that extends 1 km from entire wetland edge - including      | H 2.1, H 2.2, H 2.3  |          |
| polygons for accessible habitat and undisturbed habitat                        |                      |          |
| Screen capture of map of 303(d) listed waters in basin (from Ecology website)  | R 3.1                |          |
| Screen capture of list of TMDLs for WRIA in which unit is found (from web)     | R 3.2, R 3.3         |          |

### Lake Fringe Wetlands

| Map of:                                                                        | To answer questions:       | Figure # |
|--------------------------------------------------------------------------------|----------------------------|----------|
| Cowardin plant classes                                                         | L 1.1, L 4.1, H 1.1, H 1.4 |          |
| Plant cover of trees, shrubs, and herbaceous plants                            | L 1.2                      |          |
| Boundary of area within 150 ft of the wetland (can be added to another figure) | L 2.2                      |          |
| 1 km Polygon: Area that extends 1 km from entire wetland edge - including      | H 2.1, H 2.2, H 2.3        |          |
| polygons for accessible habitat and undisturbed habitat                        |                            |          |
| Screen capture of map of 303(d) listed waters in basin (from Ecology website)  | L 3.1, L 3.2               |          |
| Screen capture of list of TMDLs for WRIA in which unit is found (from web)     | L 3.3                      |          |

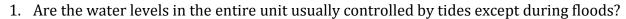
### Slope Wetlands

| Map of:                                                                         | To answer questions: | Figure # |
|---------------------------------------------------------------------------------|----------------------|----------|
| Cowardin plant classes                                                          | H 1.1, H 1.4         |          |
| Hydroperiods                                                                    | H 1.2                |          |
| Plant cover of <b>dense</b> trees, shrubs, and herbaceous plants                | S 1.3                |          |
| Plant cover of <b>dense</b> , <b>rigid</b> trees, shrubs, and herbaceous plants | S 4.1                |          |
| (can be added to figure above)                                                  |                      |          |
| Boundary of 150 ft buffer (can be added to another figure)                      | S 2.1, S 5.1         |          |
| 1 km Polygon: Area that extends 1 km from entire wetland edge - including       | H 2.1, H 2.2, H 2.3  |          |
| polygons for accessible habitat and undisturbed habitat                         |                      |          |
| Screen capture of map of 303(d) listed waters in basin (from Ecology website)   | S 3.1, S 3.2         |          |
| Screen capture of list of TMDLs for WRIA in which unit is found (from web)      | S 3.3                |          |

# **HGM Classification of Wetlands in Western Washington**

For questions 1-7, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-7 apply, and go to Question 8.





**YES** – the wetland class is **Tidal Fringe** – go to 1.1

1.1 Is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)?

### **NO - Saltwater Tidal Fringe (Estuarine)**

### **YES - Freshwater Tidal Fringe**

If your wetland can be classified as a Freshwater Tidal Fringe use the forms for **Riverine** wetlands. If it is Saltwater Tidal Fringe it is an **Estuarine** wetland and is not scored. This method **cannot** be used to score functions for estuarine wetlands.

2. The entire wetland unit is flat and precipitation is the only source (>90%) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit.

NO go to 3

**YES** – The wetland class is **Flats** 

If your wetland can be classified as a Flats wetland, use the form for **Depressional** wetlands.

- 3. Does the entire wetland unit **meet all** of the following criteria?
  - \_\_The vegetated part of the wetland is on the shores of a body of permanent open water (without any plants on the surface at any time of the year) at least 20 ac (8 ha) in size;
  - \_\_At least 30% of the open water area is deeper than 6.6 ft (2 m).



**YES** – The wetland class is **Lake Fringe** (Lacustrine Fringe)

- 4. Does the entire wetland unit **meet all** of the following criteria?
  - The wetland is on a slope (slope can be very gradual),
  - \_\_\_The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks,
    - \_The water leaves the wetland without being impounded.

(NO) go to 5

**YES** – The wetland class is **Slope** 

**NOTE**: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 ft deep).

- 5. Does the entire wetland unit **meet all** of the following criteria?
  - \_\_\_The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river,
  - \_\_\_The overbank flooding occurs at least once every 2 years.

Wetland name or number Wetland B

L go to 6

**YES** – The wetland class is **Riverine** 

**NOTE**: The Riverine unit can contain depressions that are filled with water when the river is not flooding

6. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year? This means that any outlet, if present, is higher than the interior of the wetland.

NO - go to 7

**(YES)**- The wetland class is **Depressional** 

7. Is the entire wetland unit located in a very flat area with no obvious depression and no overbank flooding? The unit does not pond surface water more than a few inches. The unit seems to be maintained by high groundwater in the area. The wetland may be ditched, but has no obvious natural outlet.

NO - go to 8

**YES** – The wetland class is **Depressional** 

8. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

**NOTE**: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the HGM class listed in column 2 is less than 10% of the unit; classify the wetland using the class that represents more than 90% of the total area.

| HGM classes within the wetland unit   | HGM class to  |
|---------------------------------------|---------------|
| being rated                           | use in rating |
| Slope + Riverine                      | Riverine      |
| Slope + Depressional                  | Depressional  |
| Slope + Lake Fringe                   | Lake Fringe   |
| Depressional + Riverine along stream  | Depressional  |
| within boundary of depression         |               |
| Depressional + Lake Fringe            | Depressional  |
| Riverine + Lake Fringe                | Riverine      |
| Salt Water Tidal Fringe and any other | Treat as      |
| class of freshwater wetland           | ESTUARINE     |

If you are still unable to determine which of the above criteria apply to your wetland, or if you have more than 2 HGM classes within a wetland boundary, classify the wetland as Depressional for the rating.

| DEPRESSIONAL AND FLATS WETLANDS  Water Quality Functions - Indicators that the site functions to improve water quality                                                                                                                                                                                                                                                                             |            |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
| D 1.0. Does the site have the potential to improve water quality?                                                                                                                                                                                                                                                                                                                                  |            |
| D 1.1. Characteristics of surface water outflows from the wetland:  Wetland is a depression or flat depression (QUESTION 7 on key) with no surface water leaving it (no outlet).  points = 3                                                                                                                                                                                                       |            |
| Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet.  points = 2  Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 1  Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch. points = 1                                                      | 2          |
| D 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions). Yes = 4 No = 0                                                                                                                                                                                                                                                                         | 0          |
| D 1.3. Characteristics and distribution of persistent plants (Emergent, Scrub-shrub, and/or Forested Cowardin classes):  Wetland has persistent, ungrazed, plants > 95% of area  Wetland has persistent, ungrazed, plants > $\frac{1}{10}$ of area  Wetland has persistent, ungrazed plants > $\frac{1}{10}$ of area  Wetland has persistent, ungrazed plants < $\frac{1}{10}$ of area  points = 0 | 3          |
| D 1.4. Characteristics of seasonal ponding or inundation:  This is the area that is ponded for at least 2 months. See description in manual.  Area seasonally ponded is > ½ total area of wetland  Area seasonally ponded is > ½ total area of wetland  Area seasonally ponded is < ½ total area of wetland  points = 2  points = 0                                                                | 2          |
| Total for D 1 Add the points in the boxes above                                                                                                                                                                                                                                                                                                                                                    | 7          |
| Rating of Site Potential If score is:12-16 = HX_6-11 = M0-5 = L Record the rating on the first                                                                                                                                                                                                                                                                                                     | page       |
| D 2.0. Does the landscape have the potential to support the water quality function of the site?                                                                                                                                                                                                                                                                                                    |            |
| D 2.1. Does the wetland unit receive stormwater discharges? Yes = 1 No = 0                                                                                                                                                                                                                                                                                                                         | 0          |
| D 2.2. Is $> 10\%$ of the area within 150 ft of the wetland in land uses that generate pollutants? Yes = 1 No = 0                                                                                                                                                                                                                                                                                  | 0          |
| D 2.3. Are there septic systems within 250 ft of the wetland?  Yes = 1 No = 0                                                                                                                                                                                                                                                                                                                      | 0          |
| D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1-D 2.3?  Source  Yes = 1 No = 0                                                                                                                                                                                                                                                         | 0          |
| Total for D 2 Add the points in the boxes above                                                                                                                                                                                                                                                                                                                                                    | 0          |
| Rating of Landscape Potential If score is:3 or 4 = H1 or 2 = MX0 = L                                                                                                                                                                                                                                                                                                                               | first page |
| D 3.0. Is the water quality improvement provided by the site valuable to society?                                                                                                                                                                                                                                                                                                                  | T          |
| D 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list?  Yes = 1 No = 0                                                                                                                                                                                                                                               | 1          |
| D 3.2. Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list? Yes = 1 No = 0                                                                                                                                                                                                                                                                                      | 1          |
| D 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (answer YES if there is a TMDL for the basin in which the unit is found)?  Yes = 2 No = 0                                                                                                                                                                                              | 2          |
| Total for D 3 Add the points in the boxes above                                                                                                                                                                                                                                                                                                                                                    | 4          |
| Rating of Value If score is: X 2-4 = H 1 = M 0 = L Record the rating on the first page                                                                                                                                                                                                                                                                                                             |            |

| DEPRESSIONAL AND FLATS WETLANDS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |              |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|
| Hydrologic Functions - Indicators that the site functions to reduce flooding and stream degradat                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | ion          |
| D 4.0. Does the site have the potential to reduce flooding and erosion?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |              |
| D 4.1. Characteristics of surface water outflows from the wetland:  Wetland is a depression or flat depression with no surface water leaving it (no outlet)  Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet points = 2  Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch  Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing  points = 0                                                                                                                                                                                                                                                                                                                                                                                                                                    | 2            |
| D 4.2. Depth of storage during wet periods: Estimate the height of ponding above the bottom of the outlet. For wetlands with no outlet, measure from the surface of permanent water or if dry, the deepest part.  Marks of ponding are 3 ft or more above the surface or bottom of outlet points = 7  Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet points = 5  Marks are at least 0.5 ft to < 2 ft from surface or bottom of outlet points = 3  The wetland is a "headwater" wetland points = 3  Wetland is flat but has small depressions on the surface that trap water points = 1  Marks of ponding less than 0.5 ft (6 in) points = 0                                                                                                                                                                                                                                                            | 5            |
| D 4.3. Contribution of the wetland to storage in the watershed: Estimate the ratio of the area of upstream basin contributing surface water to the wetland to the area of the wetland unit itself.  The area of the basin is less than 10 times the area of the unit points = 5  The area of the basin is 10 to 100 times the area of the unit points = 3  The area of the basin is more than 100 times the area of the unit points = 0  Entire wetland is in the Flats class points = 5                                                                                                                                                                                                                                                                                                                                                                                                                                         | 5            |
| Total for D 4 Add the points in the boxes above                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 12           |
| Rating of Site Potential If score is: X 12-16 = H 6-11 = M 0-5 = L Record the rating on the                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | e first page |
| D 5.0. Does the landscape have the potential to support hydrologic functions of the site?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |              |
| D 5.1. Does the wetland receive stormwater discharges? Yes = 1 No = 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 0            |
| D 5.2. Is >10% of the area within 150 ft of the wetland in land uses that generate excess runoff? Yes = 1 No = 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 0            |
| D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses (residential at >1 residence/ac, urban, commercial, agriculture, etc.)?  Yes = 1 No = 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 0            |
| Total for D 5 Add the points in the boxes above                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 0            |
| Rating of Landscape Potential If score is: 3 = H 1 or 2 = M X 0 = L Record the rating on the                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | e first page |
| D 6.0. Are the hydrologic functions provided by the site valuable to society?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |              |
| D 6.1. The unit is in a landscape that has flooding problems. Choose the description that best matches conditions around the wetland unit being rated. Do not add points. Choose the highest score if more than one condition is met.  The wetland captures surface water that would otherwise flow down-gradient into areas where flooding has damaged human or natural resources (e.g., houses or salmon redds):  • Flooding occurs in a sub-basin that is immediately down-gradient of unit. points = 2  • Surface flooding problems are in a sub-basin farther down-gradient. points = 1  Flooding from groundwater is an issue in the sub-basin. points = 1  The existing or potential outflow from the wetland is so constrained by human or natural conditions that the water stored by the wetland cannot reach areas that flood. Explain why points = 0  There are no problems with flooding downstream of the wetland. | 1            |
| D 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?  Yes = 2 No = 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 0            |
| Total for D 6 Add the points in the boxes above                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 1            |
| Rating of Value If score is:2-4 = HX1 = M0 = L                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |              |

Wetland Rating System for Western WA: 2014 Update Rating Form – Effective January 1, 2015

#### These questions apply to wetlands of all HGM classes. **HABITAT FUNCTIONS** - Indicators that site functions to provide important habitat H 1.0. Does the site have the potential to provide habitat? H 1.1. Structure of plant community: Indicators are Cowardin classes and strata within the Forested class. Check the Cowardin plant classes in the wetland. Up to 10 patches may be combined for each class to meet the threshold of ¼ ac or more than 10% of the unit if it is smaller than 2.5 ac. Add the number of structures checked. Aquatic bed 4 structures or more: points = 4 Emergent 3 structures: points = 2 1 Scrub-shrub (areas where shrubs have > 30% cover) 2 structures: points = 1 X Forested (areas where trees have > 30% cover) 1 structure: points = 0 If the unit has a Forested class, check if: X The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the Forested polygon H 1.2. Hydroperiods Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or ¼ ac to count (see text for descriptions of hydroperiods). X Permanently flooded or inundated 4 or more types present: points = 3 X Seasonally flooded or inundated 3 types present: points = 2 Occasionally flooded or inundated 2 types present: points = 1 2 Saturated only 1 type present: points = 0 Permanently flowing stream or river in, or adjacent to, the wetland X Seasonally flowing stream in, or adjacent to, the wetland Lake Fringe wetland 2 points Freshwater tidal wetland 2 points H 1.3. Richness of plant species Count the number of plant species in the wetland that cover at least 10 ft<sup>2</sup>. Different patches of the same species can be combined to meet the size threshold and you do not have to name the species. Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle 1 If you counted: > 19 species points = 2 5 - 19 species points = 1 < 5 species points = 0 H 1.4. Interspersion of habitats Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. If you have four or more plant classes or three classes and open water, the rating is always high. 1 None = 0 points Low = 1 point Moderate = 2 points All three diagrams in this row are **HIGH** = 3points

| Check the habitat features:  Check the habitat features that are present in the wetland. The number of checks is the number of points.  X Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long).  X Standing snags (dbh > 4 in) within the wetland  X Undercut banks are present for at least 6.6 ft (2 m) and/or overhanging plants extends at least 3.3 ft (1 m) over a stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (10 m)  Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 30 degree slope) OR signs of recent beaver activity are present (cut shrubs or trees that have not yet weathered where wood is exposed)  X At least ¼ ac of thin-stemmed persistent plants or woody branches are present in areas that are permanently or seasonally inundated (structures for egg-laying by amphibians)  Invasive plants cover less than 25% of the wetland area in every stratum of plants (see H 1.1 for list of strata)                                                                                                                                                                                                                                                                                                | 4                |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| Total for H 1 Add the points in the boxes above                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 9                |
| Rating of Site Potential If score is: 15-18 = H X 7-14 = M 0-6 = L Record the rating of                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | า the first page |
| H 2.0. Does the landscape have the potential to support the habitat functions of the site?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                  |
| H 2.1. Accessible habitat (include only habitat that directly abuts wetland unit).  Calculate: % undisturbed habitat + [(% moderate and low intensity land uses)/2] =%  If total accessible habitat is: $ > \frac{1}{3} (33.3\%) $ of 1 km Polygon points = 3 $ 20-33\% $ of 1 km Polygon points = 2 $ 10-19\% $ of 1 km Polygon points = 1 $ < 10\% $ of 1 km Polygon points = 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 2                |
| H 2.2. Undisturbed habitat in 1 km Polygon around the wetland.  Calculate: % undisturbed habitat + [(% moderate and low intensity land uses)/2] =%  Undisturbed habitat > 50% of Polygon points = 3  Undisturbed habitat 10-50% and in 1-3 patches points = 2  Undisturbed habitat 10-50% and > 3 patches points = 1  Undisturbed habitat < 10% of 1 km Polygon points = 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 0                |
| H 2.3. Land use intensity in 1 km Polygon: If  > 50% of 1 km Polygon is high intensity land use ≤ 50% of 1 km Polygon is high intensity  points = 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 0                |
| Total for H 2 Add the points in the boxes above                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | . 2              |
| Rating of Landscape Potential If score is:4-6 = HX1-3 = M<1 = L                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | tne jirst page   |
| points – 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                  |
| Rating of Value If score is:2 = HX1 = M0 = L  Record the rating of Value In the latest and the latest area of the statest and the latest area of the rating of Value In the latest area of the rating of Value In the latest area of the rating of Value In the latest area of the rating of Value In the latest area of the rating of Value In the latest area of the rating of Value In the latest area of the rating of Value In the latest area of the rating of Value In the latest area of the rating of Value In the latest area of the rating of Value In the latest area of the rating of Value In the latest area of the rating of Value In the latest area of the rating of Value In the latest area of the rating of Value In the latest area of the rating of Value In the latest area of the rating of Value In the latest area of the rating of Value In the latest area of the rating of Value In the latest area of the rating of the latest area of the latest area. | n the first page |

Wetland Rating System for Western WA: 2014 Update Rating Form – Effective January 1, 2015

## **WDFW Priority Habitats**

<u>Priority habitats listed by WDFW</u> (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. <a href="http://wdfw.wa.gov/publications/00165/wdfw00165.pdf">http://wdfw.wa.gov/publications/00165/wdfw00165.pdf</a> or access the list from here: <a href="http://wdfw.wa.gov/conservation/phs/list/">http://wdfw.wa.gov/conservation/phs/list/</a>)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland unit: **NOTE:** This question is

independent of the land use between the wetland unit and the priority habitat. **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha). **Biodiversity Areas and Corridors**: Areas of habitat that are relatively important to various species of native fish and wildlife (full descriptions in WDFW PHS report). **Herbaceous Balds:** Variable size patches of grass and forbs on shallow soils over bedrock. Old-growth/Mature forests: Old-growth west of Cascade crest - Stands of at least 2 tree species, forming a multilayered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) > 32 in (81 cm) dbh or > 200 years of age. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west of the Cascade crest. **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (full descriptions in WDFW PHS report p. 158 – see web link above). **E Riparian**: The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other. **Westside Prairies:** Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (full descriptions in WDFW PHS report p. 161 – see web link above). **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources. Nearshore: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (full descriptions of habitats and the definition of relatively undisturbed are in WDFW report see web link on previous page). **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human. **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation. Talus: Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs. Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed

elsewhere.

### **CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS**

| Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.  SC 1.0. Estuarine wetlands  Does the wetland meet the following criteria for Estuarine wetlands?  — The dominant water regime is tidal,  — Vegetated, and  — With a salinity greater than 0.5 ppt  Yes — Go to SC 1.1  No — Not an estuarine wetland  SC 1.1. Is the wetland within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151? Yes = Category I No - Go to SC 1.2  SC 1.2. Is the wetland unit at least 1 ac in size and meets at least two of the following three conditions?  — The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. (If non-native species are Spartina, see page 25)  — At least % of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland.  — The wetland has at least two of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands.  Yes = Category I No = Category II  SC 2.0. Wetlands of High Conservation Value (WHCV)  SC 2.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value?  Yes = Category I No = Not a WHCV  SC 2.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland?  http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf  Yes = Category I No = Not a WHCV  SC 2.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and listed it on their website?  Yes = Category I No = Not a WHCV                                                                                                                                                                                                                                                                | Wattend Time                                                                                                                                                                                                                                                                                                                                    | Catagory |
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| Does the wetland meet the following criteria for Estuarine wetlands?  — The dominant water regime is tidal, — Vegetated, and — With a salinity greater than 0.5 ppt  SC 1.1. Is the wetland within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151?  Cat. I  SC 1.2. Is the wetland within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151?  Cat. I  SC 1.2. Is the wetland unit at least 1 ac in size and meets at least two of the following three conditions? — The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. (If non-native species are Spartina, see page 25) — At least % of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland. — The wetland has at least two of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands.  Yes = Category I  No = Category II  Cat.        | Wetland Type                                                                                                                                                                                                                                                                                                                                    | Category |
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| — The dominant water regime is tidal, — Vegetated, and — With a salinity greater than 0.5 ppt  Yes —Go to SC 1.1  No = Not an estuarine wetland  SC 1.1. Is the wetland within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151? Yes — Category I No - Go to SC 1.2  SC 1.2. Is the wetland unit at least 1 ac in size and meets at least two of the following three conditions? — The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. (If non-native species are Sportino, see page 25) — At least % of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or ungrazed or unmowed grassland. — The wetland has at least two of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands.  Yes — Go to SC 2.2  No — Category I No — Category I No — Category I No — Oo to SC 2.3  SC 2.0. Wetlands of High Conservation Value (WHCV)  SC 2.1. Has the WAD Pepartment of Natural Resources updated their website to include the list of Wetlands of High Conservation Value?  Yes — Go to SC 2.2  No — No ta WHCV  SC 2.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland?  http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf  Yes — Contact WNHP/WDNR and go to SC 2.4  No — Not a WHCV  SC 3.0. Bogs  Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? Use the key below. If you answer YES you will still need to rate the wetland based on its functions.  SC 3.1. Does an area within the wetland unit have organic soil, either peats or mucks, that are less than 16 in deep over bedrock, or an impermeable hardpan such as a slay or volcanic ash, or that are floating arms of a lake or yes — Go to SC 3.3  No — No To ta bog  SC 3.3. Does an area within the wetland unit have organic soil,       | SC 1.0. Estuarine wetlands                                                                                                                                                                                                                                                                                                                      |          |
| — Wegetated, and — With a salinity greater than 0.5 ppt Yes—Go to SC 1.1 No=Not an estuarine wetland SC 1.1. Is the wetland within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151? Yes = Category I No - Go to SC 1.2  SC 1.2. Is the wetland unit at least 1 ac in size and meets at least two of the following three conditions? — The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. (If non-native species are <i>Sportina</i> , see page 25) — At least ½ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland. — The wetland has at least two of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands.  SC 2.0. Wetlands of High Conservation Value (WHCV) SC 2.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? Yes = Cot os C 2.2 Yes = Category I No = Not a WHCV SC 2.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? http://www1.dnr.wa.gov/hhp/refdesk/datasearch/whnpwetlands.gdf Yes = Contact WNHP/WDNR and go to SC 2.4 No = Not a WHCV SC 2.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value—and listed it on their website?  SC 3.1. Bogs Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? Use the key below. If you answer YES you will still need to rate the wetland based on its functions.  SC 3.1. Does an area within the wetland unit have organic soil, oritinate, or that are floating—arts of a lake or your bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating—arts of a lake or yond?  SC 3.2. Does an area within the wetland unit have organic soils, either peats or mucks, th | Does the wetland meet the following criteria for Estuarine wetlands?                                                                                                                                                                                                                                                                            |          |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | — The dominant water regime is tidal,                                                                                                                                                                                                                                                                                                           |          |
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| Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151? Yes = Category! No - Go to SC 1.2  SC 1.2. Is the wetland unit at least 1 ac in size and meets at least two of the following three conditions?  — The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. (If non-native species are Sparting, see page 25)  — At least % of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland.  — The wetland has at least two of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands.  SC 2.0. Wetlands of High Conservation Value (WHCV)  SC 2.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value?  Yes — Go to SC 2.2  Is the wetland listed on the WDNR database as a Wetland of High Conservation Value?  Yes — Go to SC 2.2  Yes = Category! No = Not a WHCV  SC 2.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland?  http://www1.dnr.wa.gov/nhp/refdsk/datasearch/wnhpwetlands.pdf  Yes — Contact WNHP/WDNR and go to SC 2.4  No — Not a WHCV  SC 2.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value— with the wetland within the S/T/R as a Wetland of High Conservation value— on their website?  SC 3.0. Bogs  Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? Use the key below. If you answer YES you will still need to rate the wetland based on its functions.  SC 3.2. Does an area within the wetland unit have organic soil horizons, either peats or mucks, that are less than 16 in deep over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating or teo of a lake or pond?  Yes — Go to SC 3.3  No — So to SC 3.4  NO — So to SC 3.4  NOTE: If you are uncertain about the extent of mosses in        | — With a salinity greater than 0.5 ppt Yes –Go to <b>SC 1.1</b> No= <b>Not an estuarine wetland</b>                                                                                                                                                                                                                                             |          |
| The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. (If non-native species are <i>Spartina</i> , see page 25)  At least ¼ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland.  The wetland has at least two of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands.  Yes = Category I No = Category II  SC 2.0. Wetlands of High Conservation Value (WHCV)  SC 2.1. Has the WA Department of Natural Resources updated their website to include the list of Wellands of High Conservation Value?  Yes = Go to SC 2.2 No = 0 to SC 2.3  SC 2.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value?  Yes = Category I No = Not a WHCV  SC 2.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland?  http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhowetlands.pdf  Yes = Contact WNHP/WDNR and go to SC 2.4  No = Not a WHCV  SC 2.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and listed it on their website?  Yes = Contact WNHP/WDNR and go to SC 2.4  No = Not a WHCV  SC 3.0. Bogs  Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? Use the key below. If you answer YES you will still need to rate the wetland based on its functions.  SC 3.1. Does an area within the wetland unit have organic soils, either peats or mucks, that are loating and the plant species in the soil profile?  Yes = Go to SC 3.3  No = Not a bog  SC 3.3. Does an area within the wetland unit have organic soils, either peats or mucks, that are floating and the plant species listed in Table 4?  Yes = Is a Category I bog  No = Go to SC 3.4  NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the p | _                                                                                                                                                                                                                                                                                                                                               | Cat. I   |
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| SC 2.0. Wetlands of High Conservation Value (WHCV)  SC 2.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value?  Yes – Go to SC 2.2. No – Jo to SC 2.3 No – Jo to SC 2.4 No – Jo ta WHCV No – Jo ta No – Jo        |                                                                                                                                                                                                                                                                                                                                                 | Cat. II  |
| Cat. I  SC 2.1. Has the WA Department of Natural Resources updated their website to include the list of Weblands of High Conservation Value?  Yes — Go to SC 2.2  No — O to SC 2.3  SC 2.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value?  Yes — Category I  No = Not a WHCV  SC 2.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland?  http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf  Yes — Contact WNHP/WDNR and go to SC 2.4  No = Not a WHCV  SC 2.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and listed it on their website?  Yes = Category I  No = Not a WHCV  SC 3.0. Bogs  Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? Use the key below. If you answer YES you will still need to rate the wetland based on its functions.  SC 3.1. Does an area within the wetland unit have organic soil horizons, either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile?  Yes — Go to SC 3.3  No — O to SC 3.2  SC 3.2. Does an area within the wetland unit have organic soils, either peats or mucks, that are less than 16 in deep over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond?  Yes — Go to SC 3.3  No — So to SC 3.4  NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the plant species in Table 4 are present, the wetland is a bog.  SC 3.4. Is an area with peats or mucks forested (> 30% cover) with Sitka spruce, subalpline fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 4 provide more than 30% of the cover under the canopy?                                                            |                                                                                                                                                                                                                                                                                                                                                 |          |
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| NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the plant species in Table 4 are present, the wetland is a bog.  SC 3.4. Is an area with peats or mucks forested (> 30% cover) with Sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 4 provide more than 30% of the cover under the canopy?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | ·                                                                                                                                                                                                                                                                                                                                               |          |
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| plant species in Table 4 are present, the wetland is a bog.  SC 3.4. Is an area with peats or mucks forested (> 30% cover) with Sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 4 provide more than 30% of the cover under the canopy?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                 |          |
| SC 3.4. Is an area with peats or mucks forested (> 30% cover) with Sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 4 provide more than 30% of the cover under the canopy?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                 |          |
| western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 4 provide more than 30% of the cover under the canopy?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                 |          |
| species (or combination of species) listed in Table 4 provide more than 30% of the cover under the canopy?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                 |          |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                 |          |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                 |          |

| C 4.0. Forested Wetlands                                                                                                                                                                                                                  |         |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|
| Does the wetland have at least <u>1 contiguous acre</u> of forest that meets one of these criteria for the WA Department of Fish and Wildlife's forests as priority habitats? <i>If you answer YES you will still need to rate</i>        |         |
| the wetland based on its functions.                                                                                                                                                                                                       |         |
| <ul> <li>Old-growth forests (west of Cascade crest): Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) that are at least 200 years of</li> </ul> |         |
| age OR have a diameter at breast height (dbh) of 32 in (81 cm) or more.                                                                                                                                                                   |         |
| — Mature forests (west of the Cascade Crest): Stands where the largest trees are 80-200 years old OR the                                                                                                                                  |         |
| species that make up the canopy have an average diameter (dbh) exceeding 21 in (53 cm).                                                                                                                                                   |         |
| Yes = Category I No = Not a forested wetland for this section                                                                                                                                                                             | Cat. I  |
| C 5.0. Wetlands in Coastal Lagoons                                                                                                                                                                                                        |         |
| Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?                                                                                                                                                     |         |
| <ul> <li>The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from<br/>marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks</li> </ul>                               |         |
| — The lagoon in which the wetland is located contains ponded water that is saline or brackish (> 0.5 ppt)                                                                                                                                 |         |
| during most of the year in at least a portion of the lagoon (needs to be measured near the bottom)  Yes – Go to SC 5.1 No = Not a wetland in a coastal lagoon                                                                             | Cat. I  |
| C.5.1. Does the wetland meet all of the following three conditions?                                                                                                                                                                       |         |
| — The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less                                                                                                                            |         |
| than 20% cover of aggressive, opportunistic plant species (see list of species on p. 100).                                                                                                                                                | Cat. II |
| — At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland.                                                                                                                |         |
| — The wetland is larger than $^{1}/_{10}$ ac (4350 ft <sup>2</sup> )                                                                                                                                                                      |         |
| Yes = Category I No = Category II                                                                                                                                                                                                         |         |
| C 6.0. Interdunal Wetlands                                                                                                                                                                                                                |         |
| Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? If                                                                                                                                   |         |
| you answer yes you will still need to rate the wetland based on its habitat functions.  In practical terms that means the following geographic areas:                                                                                     |         |
| — Long Beach Peninsula: Lands west of SR 103                                                                                                                                                                                              |         |
| — Grayland-Westport: Lands west of SR 105                                                                                                                                                                                                 | Cat I   |
| Ocean Shores-Copalis: Lands west of SR 115 and SR 109                                                                                                                                                                                     |         |
| Yes – Go to SC 6.1 No = not an interdunal wetland for rating                                                                                                                                                                              |         |
| 6.1. Is the wetland 1 ac or larger and scores an 8 or 9 for the habitat functions on the form (rates H,H,H or H,H,M                                                                                                                       | Cat. II |
| for the three aspects of function)?  Yes = Category I  No – Go to SC 6.2                                                                                                                                                                  |         |
| C6.2. Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger?                                                                                                                                             | C-+ "   |
|                                                                                                                                                                                                                                           | Cat. II |
| Yes = <b>Category II</b> No – Go to <b>SC 6.3</b> C 6 3 Is the unit between 0.1 and 1 ac or is it in a mosaic of wetlands that is between 0.1 and 1 ac?                                                                                   |         |
| C 6.3. Is the unit between 0.1 and 1 ac, or is it in a mosaic of wetlands that is between 0.1 and 1 ac?                                                                                                                                   |         |
|                                                                                                                                                                                                                                           | Cat. IV |

Wetland name or number Wetland B

# **RATING SUMMARY – Western Washington**

| Name of wetland (or ID #): <u>Wet</u>           | land C                  | Date of s             | ite visit: _     | 1/17/17                       |               |
|-------------------------------------------------|-------------------------|-----------------------|------------------|-------------------------------|---------------|
| Rated by <u>Katie Boa</u>                       | Trained by I            | Ecology? Yes <u>X</u> | No               | _ Date of training            | <u> 11/16</u> |
| HGM Class used for rating Slo                   | <u>ρe</u> V             | Vetland has mul       | tiple HGN        | /I classes?YX                 | <u> </u>      |
| NOTE: Form is not compl Source of base aerial p | photo/map <u>Google</u> | e Earth               |                  |                               | ics \         |
| 1. Category of wetland bas                      |                         |                       | <u>, 7.</u> 01 . | special characterist          |               |
| <b>.</b>                                        | otal score = 23 – 2     |                       |                  |                               | $\neg$        |
| Category II – <sup>-</sup>                      | Total score = 20 –      | 22                    |                  | Score for each function based |               |
| Category III -                                  | Total score = 16 -      | - 19                  |                  | on three ratings              |               |
| <del></del> • <i>'</i>                          | – Total score = 9 –     |                       |                  | (order of ratings<br>  is not | ;             |
| FUNCTION Improving                              | Hydrologic              | Habitat               |                  | important)                    |               |
| Water Qualit                                    | v                       |                       |                  |                               |               |

| FUNCTION               |          | mprov<br>ter Q | ing<br>uality | H | ydrolo   | gic    |       | Habita  | at       |       |
|------------------------|----------|----------------|---------------|---|----------|--------|-------|---------|----------|-------|
|                        |          |                |               |   | Circle t | the ap | propr | iate ra | tings    |       |
| Site Potential         | Н        | М              | <u>L</u>      | Н | М        | L      | Н     | М       | <u>L</u> |       |
| Landscape Potential    | Н        | М              | <u>L</u>      | Н | М        | L      | Н     | M       | L        |       |
| Value                  | <u>H</u> | М              | L             | Н | <u>M</u> | L      | Н     | M       | L        | TOTAL |
| Score Based on Ratings |          | 5              |               |   | 4        |        |       | 5       |          | 14    |

Score for each function based on three ratings (order of ratings is not important)

9 = H,H,H
8 = H,H,M
7 = H,H,L
7 = H,M,M
6 = H,M,L
5 = M,M,M
5 = H,L,L
5 = M,M,L
4 = M,L,L
3 = L,L,L

### 2. Category based on SPECIAL CHARACTERISTICS of wetland

| CHARACTERISTIC                     | CATEGORY    |  |
|------------------------------------|-------------|--|
| Estuarine                          | I II        |  |
| Wetland of High Conservation Value | I           |  |
| Bog                                | I           |  |
| Mature Forest                      | I           |  |
| Old Growth Forest                  | I           |  |
| Coastal Lagoon                     | I II        |  |
| Interdunal                         | I II III IV |  |
| None of the above                  | N/A         |  |

# Maps and figures required to answer questions correctly for Western Washington

### **Depressional Wetlands**

| Map of:                                                                        | To answer questions: | Figure # |
|--------------------------------------------------------------------------------|----------------------|----------|
| Cowardin plant classes                                                         | D 1.3, H 1.1, H 1.4  |          |
| Hydroperiods                                                                   | D 1.4, H 1.2         |          |
| Location of outlet (can be added to map of hydroperiods)                       | D 1.1, D 4.1         |          |
| Boundary of area within 150 ft of the wetland (can be added to another figure) | D 2.2, D 5.2         |          |
| Map of the contributing basin                                                  | D 4.3, D 5.3         |          |
| 1 km Polygon: Area that extends 1 km from entire wetland edge - including      | H 2.1, H 2.2, H 2.3  |          |
| polygons for accessible habitat and undisturbed habitat                        |                      |          |
| Screen capture of map of 303(d) listed waters in basin (from Ecology website)  | D 3.1, D 3.2         |          |
| Screen capture of list of TMDLs for WRIA in which unit is found (from web)     | D 3.3                |          |

### Riverine Wetlands

| Map of:                                                                        | To answer questions: | Figure # |
|--------------------------------------------------------------------------------|----------------------|----------|
| Cowardin plant classes                                                         | H 1.1, H 1.4         |          |
| Hydroperiods                                                                   | H 1.2                |          |
| Ponded depressions                                                             | R 1.1                |          |
| Boundary of area within 150 ft of the wetland (can be added to another figure) | R 2.4                |          |
| Plant cover of trees, shrubs, and herbaceous plants                            | R 1.2, R 4.2         |          |
| Width of unit vs. width of stream (can be added to another figure)             | R 4.1                |          |
| Map of the contributing basin                                                  | R 2.2, R 2.3, R 5.2  |          |
| 1 km Polygon: Area that extends 1 km from entire wetland edge - including      | H 2.1, H 2.2, H 2.3  |          |
| polygons for accessible habitat and undisturbed habitat                        |                      |          |
| Screen capture of map of 303(d) listed waters in basin (from Ecology website)  | R 3.1                |          |
| Screen capture of list of TMDLs for WRIA in which unit is found (from web)     | R 3.2, R 3.3         |          |

### Lake Fringe Wetlands

| Map of:                                                                        | To answer questions:       | Figure # |
|--------------------------------------------------------------------------------|----------------------------|----------|
| Cowardin plant classes                                                         | L 1.1, L 4.1, H 1.1, H 1.4 |          |
| Plant cover of trees, shrubs, and herbaceous plants                            | L 1.2                      |          |
| Boundary of area within 150 ft of the wetland (can be added to another figure) | L 2.2                      |          |
| 1 km Polygon: Area that extends 1 km from entire wetland edge - including      | H 2.1, H 2.2, H 2.3        |          |
| polygons for accessible habitat and undisturbed habitat                        |                            |          |
| Screen capture of map of 303(d) listed waters in basin (from Ecology website)  | L 3.1, L 3.2               |          |
| Screen capture of list of TMDLs for WRIA in which unit is found (from web)     | L 3.3                      |          |

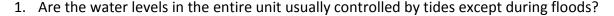
### Slope Wetlands

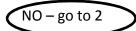
| Map of:                                                                         | To answer questions: | Figure # |
|---------------------------------------------------------------------------------|----------------------|----------|
| Cowardin plant classes                                                          | H 1.1, H 1.4         | 10       |
| Hydroperiods                                                                    | H 1.2                | 10       |
| Plant cover of <b>dense</b> trees, shrubs, and herbaceous plants                | S 1.3                | 10       |
| Plant cover of <b>dense</b> , <b>rigid</b> trees, shrubs, and herbaceous plants | S 4.1                | 10       |
| (can be added to figure above)                                                  |                      | 10       |
| Boundary of 150 ft buffer (can be added to another figure)                      | S 2.1, S 5.1         | 10       |
| 1 km Polygon: Area that extends 1 km from entire wetland edge - including       | H 2.1, H 2.2, H 2.3  | 15       |
| polygons for accessible habitat and undisturbed habitat                         |                      | 15       |
| Screen capture of map of 303(d) listed waters in basin (from Ecology website)   | S 3.1, S 3.2         | 17       |
| Screen capture of list of TMDLs for WRIA in which unit is found (from web)      | S 3.3                | 17       |

## **HGM Classification of Wetlands in Western Washington**

For guestions 1-7, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-7 apply, and go to Question 8.





**YES** – the wetland class is **Tidal Fringe** – go to 1.1

1.1 Is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)?

## NO – Saltwater Tidal Fringe (Estuarine)

YES - Freshwater Tidal Fringe

If your wetland can be classified as a Freshwater Tidal Fringe use the forms for **Riverine** wetlands. If it is Saltwater Tidal Fringe it is an **Estuarine** wetland and is not scored. This method **cannot** be used to score functions for estuarine wetlands.

2. The entire wetland unit is flat and precipitation is the only source (>90%) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit.

NO – go to 3

YES - The wetland class is Flats

If your wetland can be classified as a Flats wetland, use the form for **Depressional** wetlands.

- 3. Does the entire wetland unit **meet all** of the following criteria?
  - \_\_\_The vegetated part of the wetland is on the shores of a body of permanent open water (without any plants on the surface at any time of the year) at least 20 ac (8 ha) in size;
    - At least 30% of the open water area is deeper than 6.6 ft (2 m).

NO – go to 4

YES – The wetland class is Lake Fringe (Lacustrine Fringe)

- 4. Does the entire wetland unit **meet all** of the following criteria?
  - The wetland is on a slope (slope can be very gradual),
  - \_\_\_\_The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks,
  - \_\_\_\_The water leaves the wetland without being impounded.

NO - go to 5

YES – The wetland class is Slope

**NOTE**: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 ft deep).

- 5. Does the entire wetland unit **meet all** of the following criteria?
  - \_\_\_The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river,
  - \_\_\_The overbank flooding occurs at least once every 2 years.

NO - go to 6

YES - The wetland class is Riverine NOTE:

The Riverine unit can contain depressions that are filled with water when the river is not flooding

6. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year? This means that any outlet, if present, is higher than the interior of the wetland.

NO - go to 7

YES – The wetland class is Depressional

7. Is the entire wetland unit located in a very flat area with no obvious depression and no overbank flooding? The unit does not pond surface water more than a few inches. The unit seems to be maintained by high groundwater in the area. The wetland may be ditched, but has no obvious natural outlet.

NO - go to 8

YES – The wetland class is Depressional

8. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

**NOTE**: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the HGM class listed in column 2 is less than 10% of the unit; classify the wetland using the class that represents more than 90% of the total area.

| HGM classes within the wetland unit   | HGM class to  |
|---------------------------------------|---------------|
| being rated                           | use in rating |
| Slope + Riverine                      | Riverine      |
| Slope + Depressional                  | Depressional  |
| Slope + Lake Fringe                   | Lake Fringe   |
| Depressional + Riverine along stream  | Depressional  |
| within boundary of depression         |               |
| Depressional + Lake Fringe            | Depressional  |
| Riverine + Lake Fringe                | Riverine      |
| Salt Water Tidal Fringe and any other | Treat as      |
| class of freshwater wetland           | ESTUARINE     |

If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.

| SLOPE WETLANDS                                                                                                                                                                                                                                                                                                               |   |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|
| Water Quality Functions - Indicators that the site functions to improve water quality                                                                                                                                                                                                                                        |   |
| S 1.0. Does the site have the potential to improve water quality?                                                                                                                                                                                                                                                            |   |
| S 1.1. Characteristics of the average slope of the wetland: (a 1% slope has a 1 ft vertical drop in elevation for every 100 ft of horizontal distance)  Slope is 1% or less  points = 3                                                                                                                                      |   |
| Slope is > 1%-2% points = 2 Slope is > 2%-5% points = 1 Slope is greater than 5% points = 0                                                                                                                                                                                                                                  | 1 |
| S 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions): Yes = 3 No = 0                                                                                                                                                                                                   | 0 |
| S 1.3. Characteristics of the plants in the wetland that trap sediments and pollutants:  Choose the points appropriate for the description that best fits the plants in the wetland. Dense means you have trouble seeing the soil surface (>75% cover), and uncut means not grazed or mowed and plants are higher than 6 in. |   |
| Dense, uncut, herbaceous plants > 90% of the wetland area  Dense, uncut, herbaceous plants > ½ of area  Dense, woody, plants > ½ of area  Dense, uncut, herbaceous plants > ¼ of area  Does not meet any of the criteria above for plants  points = 0  points = 6  points = 3  points = 2  points = 1  points = 0            | 2 |
| Total for S 1 Add the points in the boxes above                                                                                                                                                                                                                                                                              | 3 |

Rating of Site Potential If score is: \_\_\_12 = H \_\_\_\_6-11 = M \_\_\_X \_\_0-5 = L

Record the rating on the first page

| S 2.0. Does the landscape have the potential to support the water quality function of the site?                                            |   |
|--------------------------------------------------------------------------------------------------------------------------------------------|---|
| S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?<br>Yes = 1  No = 0      | 0 |
| S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?  Other sources  Yes = 1 No = 0 |   |
| Total for S 2 Add the points in the boxes above                                                                                            | 0 |

Rating of Landscape Potential If score is: 1-2 = M X 0 = L

Record the rating on the first page

| S 3.0. Is the water quality improvement provided by the site valuable to society?                                                                                                                       |   |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|
| S 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list?  Yes = 1 No = 0                                                    | 1 |
| S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue? At least one aquatic resource in the basin is on the 303(d) list.  Yes = 1 No = 0                                        |   |
| S 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality? <i>Answer YES</i> if there is a TMDL for the basin in which unit is found.  Yes = 2 No = 0 |   |
| Total for S 3 Add the points in the boxes above                                                                                                                                                         | 4 |

Rating of Value If score is: X 2-4 = H \_\_\_1 = M \_\_\_0 = L

Record the rating on the first page

| SLOPE WETLANDS                                                                                                                                                                                                                               |                  |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| Hydrologic Functions - Indicators that the site functions to reduce flooding and stream eros                                                                                                                                                 | sion             |
| S 4.0. Does the site have the potential to reduce flooding and stream erosion?                                                                                                                                                               |                  |
| S 4.1. Characteristics of plants that reduce the velocity of surface flows during storms: Choose the points appropriate for the description that best fits conditions in the wetland. Stems of plants should be thick enough (usually > 1/2) |                  |
| in), or dense enough, to remain erect during surface flows.                                                                                                                                                                                  |                  |
| Dense, uncut, <b>rigid</b> plants cover > 90% of the area of the wetland points = 1                                                                                                                                                          |                  |
| All other conditions points = 0                                                                                                                                                                                                              |                  |
| Rating of Site Potential If score is: 1 = M X 0 = L Record the rating of                                                                                                                                                                     | n the first nage |

| S 5.0. Does the landscape have the potential to support the hydrologic functions of the site?                   |                |
|-----------------------------------------------------------------------------------------------------------------|----------------|
| S 5.1. Is more than 25% of the area within 150 ft upslope of wetland in land uses or cover that generate excess | 0              |
| surface runoff? Yes = 1 No = 0                                                                                  |                |
| Pating of Landscape Potential If score is: 1 - M Y 0 - I                                                        | the first nage |

| S 6.0. Are the hydrologic functions provided by the site valuable to society?                                                                                                                                                                                                                                                                                    |   |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|
| S 6.1. Distance to the nearest areas downstream that have flooding problems:  The sub-basin immediately down-gradient of site has flooding problems that result in damage to human or natural resources (e.g., houses or salmon redds)  Surface flooding problems are in a sub-basin farther down-gradient  No flooding problems anywhere downstream  points = 0 |   |
| S 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?  Yes = 2 No = 0                                                                                                                                                                                                                         |   |
| Total for S 6 Add the points in the boxes above                                                                                                                                                                                                                                                                                                                  | 1 |

Rating of Value If score is: 2-4 = H X 1 = M 0 = L

Record the rating on the first page

NOTES and FIELD OBSERVATIONS:

#### These questions apply to wetlands of all HGM classes. **HABITAT FUNCTIONS** - Indicators that site functions to provide important habitat H 1.0. Does the site have the potential to provide habitat? H 1.1. Structure of plant community: Indicators are Cowardin classes and strata within the Forested class. Check the Cowardin plant classes in the wetland. Up to 10 patches may be combined for each class to meet the threshold of ¼ ac or more than 10% of the unit if it is smaller than 2.5 ac. Add the number of structures checked. Aquatic bed 4 structures or more: points = 4 Emergent 3 structures: points = 2 1 Scrub-shrub (areas where shrubs have > 30% cover) 2 structures: points = 1 X Forested (areas where trees have > 30% cover) 1 structure: points = 0 If the unit has a Forested class, check if: X The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the Forested polygon H 1.2. Hydroperiods Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or ¼ ac to count (see text for descriptions of hydroperiods). Permanently flooded or inundated 4 or more types present: points = 3 Seasonally flooded or inundated 3 types present: points = 2 Occasionally flooded or inundated 2 types present: points = 1 1 X Saturated only 1 type present: points = 0 Permanently flowing stream or river in, or adjacent to, the wetland X Seasonally flowing stream in, or adjacent to, the wetland Lake Fringe wetland 2 points Freshwater tidal wetland 2 points H 1.3. Richness of plant species Count the number of plant species in the wetland that cover at least 10 ft<sup>2</sup>. Different patches of the same species can be combined to meet the size threshold and you do not have to name the species. Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle 1 If you counted: > 19 species points = 2 5 - 19 species points = 1< 5 species points = 0 H 1.4. Interspersion of habitats Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. If you have four or more plant classes or three classes and open water, the rating is always high. 1 None = 0 points Low = 1 point Moderate = 2 points All three diagrams in this row are **HIGH** = 3points

## Wetland name or number Wetland C

| H 1.5. Special habitat features:                                                                                                                                          |                               |                  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|------------------|
| Check the habitat features that are present in the wetland. The number of check                                                                                           | • •                           |                  |
| Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft lo                                                                                               | ong).                         |                  |
| Standing snags (dbh > 4 in) within the wetland                                                                                                                            |                               |                  |
| Undercut banks are present for at least 6.6 ft (2 m) and/or overhanging plan<br>over a stream (or ditch) in, or contiguous with the wetland, for at least 33 f            | , ,                           |                  |
| Stable steep banks of fine material that might be used by beaver or muskra                                                                                                | t for denning (> 30 degree    | 1                |
| slope) OR signs of recent beaver activity are present (cut shrubs or trees the where wood is exposed)                                                                     | nat have not yet weathered    |                  |
| At least ¼ ac of thin-stemmed persistent plants or woody branches are pres                                                                                                | ent in areas that are         |                  |
| permanently or seasonally inundated (structures for egg-laying by amphib                                                                                                  | ians)                         |                  |
| X Invasive plants cover less than 25% of the wetland area in every stratum of                                                                                             | plants (see H 1.1 for list of |                  |
| strata)                                                                                                                                                                   |                               |                  |
| Total for H 1 Add                                                                                                                                                         | the points in the boxes above | 5                |
| Rating of Site Potential If score is:15-18 = H7-14 = MX0-6 = L                                                                                                            | Record the rating on          | the first page   |
| H 2.0. Does the landscape have the potential to support the habitat functions of                                                                                          | of the site?                  |                  |
| H 2.1. Accessible habitat (include only habitat that directly abuts wetland unit).                                                                                        |                               |                  |
| Calculate: % undisturbed habitat + [(% moderate and low intensity                                                                                                         | land uses)/21 = %             |                  |
| If total accessible habitat is:                                                                                                                                           | aliu uses//2] =               |                  |
| $> \frac{1}{3}$ (33.3%) of 1 km Polygon                                                                                                                                   | noints = 3                    | 2                |
| 20-33% of 1 km Polygon                                                                                                                                                    | points = 3<br>points = 2      | 2                |
| 10-19% of 1 km Polygon                                                                                                                                                    | points = 1                    |                  |
|                                                                                                                                                                           | ·                             |                  |
| < 10% of 1 km Polygon                                                                                                                                                     | points = 0                    |                  |
| H 2.2. Undisturbed habitat in 1 km Polygon around the wetland.                                                                                                            |                               |                  |
| Calculate: % undisturbed habitat + [(% moderate and low intensity                                                                                                         |                               |                  |
| Undisturbed habitat > 50% of Polygon                                                                                                                                      | points = 3                    | 0                |
| Undisturbed habitat 10-50% and in 1-3 patches                                                                                                                             | points = 2                    |                  |
| Undisturbed habitat 10-50% and > 3 patches                                                                                                                                | points = 1                    |                  |
| Undisturbed habitat < 10% of 1 km Polygon                                                                                                                                 | points = 0                    |                  |
| H 2.3. Land use intensity in 1 km Polygon: If                                                                                                                             |                               |                  |
| > 50% of 1 km Polygon is high intensity land use                                                                                                                          | points = (- 2)                | 0                |
| ≤ 50% of 1 km Polygon is high intensity                                                                                                                                   | points = 0                    |                  |
| Total for H 2 Add                                                                                                                                                         | the points in the boxes above | 2                |
| Rating of Landscape Potential If score is: 4-6 = H X 1-3 = M < 1 = L                                                                                                      | Record the rating on t        | the first page   |
| 1120 le the hebitet averided by the site velveble to essiet.                                                                                                              |                               |                  |
| H 3.0. Is the habitat provided by the site valuable to society?                                                                                                           |                               |                  |
| H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies?                                                                                | Choose only the highest score |                  |
| that applies to the wetland being rated.                                                                                                                                  |                               |                  |
| Site meets ANY of the following criteria:                                                                                                                                 | points = 2                    |                  |
| It has 3 or more priority habitats within 100 m (see next page)                                                                                                           |                               |                  |
| <ul><li>It provides habitat for Threatened or Endangered species (any plant or anima</li><li>It is mapped as a location for an individual WDFW priority species</li></ul> | ·                             |                  |
| It is a Wetland of High Conservation Value as determined by the Department                                                                                                |                               |                  |
| It has been categorized as an important habitat site in a local or regional com                                                                                           | prehensive plan, in a         |                  |
| Shoreline Master Plan, or in a watershed plan Site has 1 or 2 priority habitats (listed on next page) within 100 m                                                        | points = 1                    |                  |
|                                                                                                                                                                           | •                             |                  |
| Site does not meet any of the criteria above                                                                                                                              | points = 0                    | the first        |
| <b>Rating of Value</b> If score is:2 = HX1 = M0 = L                                                                                                                       | Record the rating or          | ı ıne jirst page |

## **WDFW Priority Habitats**

<u>Priority habitats listed by WDFW</u> (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. <a href="http://wdfw.wa.gov/publications/00165/wdfw00165.pdf">http://wdfw.wa.gov/publications/00165/wdfw00165.pdf</a> or access the list from here: <a href="http://wdfw.wa.gov/conservation/phs/list/">http://wdfw.wa.gov/conservation/phs/list/</a>)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland unit: NOTE: This question is

independent of the land use between the wetland unit and the priority habitat. **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha). Biodiversity Areas and Corridors: Areas of habitat that are relatively important to various species of native fish and wildlife (full descriptions in WDFW PHS report). Herbaceous Balds: Variable size patches of grass and forbs on shallow soils over bedrock. Old-growth/Mature forests: Old-growth west of Cascade crest – Stands of at least 2 tree species, forming a multilayered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) > 32 in (81 cm) dbh or > 200 years of age. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in oldgrowth; 80-200 years old west of the Cascade crest. Oregon White Oak: Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (full descriptions in WDFW PHS report p. 158 – see web link above). X Riparian: The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other. Westside Prairies: Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (full descriptions in WDFW PHS report p. 161 – see web link above). X Instream: The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources. Nearshore: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (full descriptions of habitats and the definition of relatively undisturbed are in WDFW report – see web link on previous page). Caves: A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human. **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation. Talus: Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs. \_Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.

**Note:** All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

## **CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS**

| Wetland Type                                                                                                                                                                                                                             | Catagory |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| wedanu Type                                                                                                                                                                                                                              | Category |
| Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.                                                                                                                             |          |
| SC 1.0. Estuarine wetlands                                                                                                                                                                                                               |          |
| Does the wetland meet the following criteria for Estuarine wetlands?                                                                                                                                                                     |          |
| — The dominant water regime is tidal,                                                                                                                                                                                                    |          |
| — Vegetated, and                                                                                                                                                                                                                         |          |
| — With a salinity greater than 0.5 ppt Yes –Go to <b>SC 1.1</b> No= <b>Not an estuarine wetland</b>                                                                                                                                      |          |
| SC 1.1. Is the wetland within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area                                                                                                                          |          |
| Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151?                                                                                                                               | Cat. I   |
| Yes = Category I No - Go to SC 1.2                                                                                                                                                                                                       | Cat. 1   |
| SC 1.2. Is the wetland unit at least 1 ac in size and meets at least two of the following three conditions?                                                                                                                              |          |
| — The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less                                                                                                                            | Cat. I   |
| than 10% cover of non-native plant species. (If non-native species are <i>Spartina</i> , see page 25)                                                                                                                                    | Cat. I   |
| — At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-                                                                                                                               |          |
| mowed grassland.                                                                                                                                                                                                                         | Cat. II  |
| <ul> <li>The wetland has at least two of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands.</li> <li>Yes = Category I</li> <li>No = Category II</li> </ul>                          |          |
| contiguous freshwater wetianus.                                                                                                                                                                                                          |          |
| SC 2.0. Wetlands of High Conservation Value (WHCV)                                                                                                                                                                                       |          |
| SC 2.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High                                                                                                                         |          |
| Conservation Value? Yes – Go to SC 2.2 No – Go to SC 2.3                                                                                                                                                                                 | Cat. I   |
| SC 2.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value?                                                                                                                                              |          |
| Yes = Category I No = Not a WHCV                                                                                                                                                                                                         |          |
| SC 2.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? <a href="http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf">http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf</a> |          |
| Yes – Contact WNHP/WDNR and go to SC 2.4 No = Not a WHCV                                                                                                                                                                                 |          |
| SC 2.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and listed it on                                                                                                                        |          |
| their website? Yes = Category I No = Not a WHCV                                                                                                                                                                                          |          |
| SC 3.0. Bogs                                                                                                                                                                                                                             |          |
| Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? Use the key                                                                                                                          |          |
| below. If you answer YES you will still need to rate the wetland based on its functions.                                                                                                                                                 |          |
| SC 3.1. Does an area within the wetland unit have organic soil horizons, either peats or mucks, that compose 16 in or                                                                                                                    |          |
| more of the first 32 in of the soil profile? Yes – Go to SC 3.3 No – Go to SC 3.2                                                                                                                                                        |          |
| SC 3.2. Does an area within the wetland unit have organic soils, either peats or mucks, that are less than 16 in deep                                                                                                                    |          |
| over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond?  Yes – Go to SC 3.3  No = 1 not a bog                                                                               |          |
| SC 3.3. Does an area with peats or mucks have more than 70% cover of mosses at ground level, AND at least a 30%                                                                                                                          |          |
| cover of plant species listed in Table 4? Yes = Is a Category I bog No – Go to SC 3.4                                                                                                                                                    |          |
| <b>NOTE:</b> If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by                                                                                                                     |          |
| measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the                                                                                                                         |          |
| plant species in Table 4 are present, the wetland is a bog.                                                                                                                                                                              | Cat. I   |
| SC 3.4. Is an area with peats or mucks forested (> 30% cover) with Sitka spruce, subalpine fir, western red cedar,                                                                                                                       |          |
| western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the                                                                                                                                  |          |
| species (or combination of species) listed in Table 4 provide more than 30% of the cover under the canopy?                                                                                                                               |          |
| Yes = Is a Category I bog No = Is not a bog                                                                                                                                                                                              |          |

| Category of wetland based on Special Characteristics                                                                                                                                                                                                                                                                                                                                    | Cutiit   |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| Yes = Category III No = Category IV                                                                                                                                                                                                                                                                                                                                                     | Cat. IV  |
| Yes = <b>Category II</b> No – Go to <b>SC 6.3</b> is the unit between 0.1 and 1 ac, or is it in a mosaic of wetlands that is between 0.1 and 1 ac?                                                                                                                                                                                                                                      | Cat. III |
| C 6.1. Is the wetland 1 ac or larger and scores an 8 or 9 for the habitat functions on the form (rates H,H,H or H,H,M for the three aspects of function)?  Yes = Category I  No – Go to SC 6.2  C 6.2. Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger?                                                                                          | Cat. II  |
| — Ocean Shores-Copalis: Lands west of SR 103  — Ocean Shores-Copalis: Lands west of SR 115 and SR 109  Yes – Go to SC 6.1  No = rot an interdunal wetland for rating                                                                                                                                                                                                                    | cati     |
| In practical terms that means the following geographic areas:  — Long Beach Peninsula: Lands west of SR 103  — Grayland-Westport: Lands west of SR 105                                                                                                                                                                                                                                  | Cat I    |
| Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? If you answer yes you will still need to rate the wetland based on its habitat functions.                                                                                                                                                                                          |          |
| — The wetland is larger than $^{1}/_{10}$ ac (4350 ft $^{2}$ )  Yes = Category I  No = Category II                                                                                                                                                                                                                                                                                      |          |
| than 20% cover of aggressive, opportunistic plant species (see list of species on p. 100).  — At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or unmowed grassland.                                                                                                                                                                   | Cat. II  |
| Yes – Go to SC 5.1 No = Not a wetland in a coastal lagoon C 5.1. Does the wetland meet all of the following three conditions?  — The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less                                                                                                                                           |          |
| — The lagoon in which the wetland is located contains ponded water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (needs to be measured near the bottom)                                                                                                                                                                            | Cat. I   |
| <ul> <li>The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from<br/>marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks</li> </ul>                                                                                                                                                                             |          |
| Oc 5.0. Wetlands in Coastal Lagoons  Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?                                                                                                                                                                                                                                                              |          |
| Yes = Category I No = Not a forested wetland for this section                                                                                                                                                                                                                                                                                                                           | Cat. I   |
| canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 in (81 cm) or more.  — Mature forests (west of the Cascade Crest): Stands where the largest trees are 80- 200 years old OR the species that make up the canopy have an average diameter (dbh) exceeding 21 in (53 cm). |          |
| <ul> <li>the wetland based on its functions.</li> <li>Old-growth forests (west of Cascade crest): Stands of at least two tree species, forming a multi-layered</li> </ul>                                                                                                                                                                                                               |          |
| Does the wetland have at least <u>1 contiguous acre</u> of forest that meets one of these criteria for the WA Department of Fish and Wildlife's forests as priority habitats? <i>If you answer YES you will still need to rate</i>                                                                                                                                                      |          |

Wetland name or number Wetland C

# **RATING SUMMARY – Western Washington**

| The second contraction of the second contra | re for each ction based three |                                                    |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|----------------------------------------------------|
| <b>DVERALL WETLAND CATEGORYIV</b> (based on functions_X_ or special characteris                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                               | 1. Category of                                     |
| NOTE: Form is not complete without the figures requested (figures can be combined)  Source of base aerial photo/map Google Earth                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                               | Source                                             |
| Rated by <u>Katie Boa</u> Trained by Ecology? Yes <u>X</u> No Date of training                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <u> </u>                      | Rated by <u>Katie B</u><br><b>HGM Class used f</b> |

## 2. Category based on SPECIAL CHARACTERISTICS of wetland

5

Ratings

| CHARACTERISTIC                     | CATEGORY    |
|------------------------------------|-------------|
| Estuarine                          | I II        |
| Wetland of High Conservation Value | I           |
| Bog                                | I           |
| Mature Forest                      | I           |
| Old Growth Forest                  | 1           |
| Coastal Lagoon                     | I II        |
| Interdunal                         | I II III IV |
| None of the above                  | N/A         |

5 = H,L,L

5 = M,M,L4 = M, L, L3 = L, L, L

14

# Maps and figures required to answer questions correctly for Western Washington

## **Depressional Wetlands**

| Map of:                                                                        | To answer questions: | Figure # |
|--------------------------------------------------------------------------------|----------------------|----------|
| Cowardin plant classes                                                         | D 1.3, H 1.1, H 1.4  |          |
| Hydroperiods                                                                   | D 1.4, H 1.2         |          |
| Location of outlet (can be added to map of hydroperiods)                       | D 1.1, D 4.1         |          |
| Boundary of area within 150 ft of the wetland (can be added to another figure) | D 2.2, D 5.2         |          |
| Map of the contributing basin                                                  | D 4.3, D 5.3         |          |
| 1 km Polygon: Area that extends 1 km from entire wetland edge - including      | H 2.1, H 2.2, H 2.3  |          |
| polygons for accessible habitat and undisturbed habitat                        |                      |          |
| Screen capture of map of 303(d) listed waters in basin (from Ecology website)  | D 3.1, D 3.2         |          |
| Screen capture of list of TMDLs for WRIA in which unit is found (from web)     | D 3.3                |          |

## Riverine Wetlands

| Map of:                                                                        | To answer questions: | Figure # |
|--------------------------------------------------------------------------------|----------------------|----------|
| Cowardin plant classes                                                         | H 1.1, H 1.4         |          |
| Hydroperiods                                                                   | H 1.2                |          |
| Ponded depressions                                                             | R 1.1                |          |
| Boundary of area within 150 ft of the wetland (can be added to another figure) | R 2.4                |          |
| Plant cover of trees, shrubs, and herbaceous plants                            | R 1.2, R 4.2         |          |
| Width of unit vs. width of stream (can be added to another figure)             | R 4.1                |          |
| Map of the contributing basin                                                  | R 2.2, R 2.3, R 5.2  |          |
| 1 km Polygon: Area that extends 1 km from entire wetland edge - including      | H 2.1, H 2.2, H 2.3  |          |
| polygons for accessible habitat and undisturbed habitat                        |                      |          |
| Screen capture of map of 303(d) listed waters in basin (from Ecology website)  | R 3.1                |          |
| Screen capture of list of TMDLs for WRIA in which unit is found (from web)     | R 3.2, R 3.3         |          |

## Lake Fringe Wetlands

| Map of:                                                                        | To answer questions:       | Figure # |
|--------------------------------------------------------------------------------|----------------------------|----------|
| Cowardin plant classes                                                         | L 1.1, L 4.1, H 1.1, H 1.4 |          |
| Plant cover of trees, shrubs, and herbaceous plants                            | L 1.2                      |          |
| Boundary of area within 150 ft of the wetland (can be added to another figure) | L 2.2                      |          |
| 1 km Polygon: Area that extends 1 km from entire wetland edge - including      | H 2.1, H 2.2, H 2.3        |          |
| polygons for accessible habitat and undisturbed habitat                        |                            |          |
| Screen capture of map of 303(d) listed waters in basin (from Ecology website)  | L 3.1, L 3.2               |          |
| Screen capture of list of TMDLs for WRIA in which unit is found (from web)     | L 3.3                      |          |

## Slope Wetlands

| Map of:                                                                         | To answer questions: | Figure # |
|---------------------------------------------------------------------------------|----------------------|----------|
| Cowardin plant classes                                                          | H 1.1, H 1.4         | 10       |
| Hydroperiods                                                                    | H 1.2                | 10       |
| Plant cover of <b>dense</b> trees, shrubs, and herbaceous plants                | S 1.3                | 10       |
| Plant cover of <b>dense</b> , <b>rigid</b> trees, shrubs, and herbaceous plants | S 4.1                | 10       |
| (can be added to figure above)                                                  |                      | 10       |
| Boundary of 150 ft buffer (can be added to another figure)                      | S 2.1, S 5.1         | 10       |
| 1 km Polygon: Area that extends 1 km from entire wetland edge - including       | H 2.1, H 2.2, H 2.3  | 15       |
| polygons for accessible habitat and undisturbed habitat                         |                      | 15       |
| Screen capture of map of 303(d) listed waters in basin (from Ecology website)   | S 3.1, S 3.2         | 17       |
| Screen capture of list of TMDLs for WRIA in which unit is found (from web)      | S 3.3                | 17       |

## **HGM Classification of Wetlands in Western Washington**

For questions 1-7, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-7 apply, and go to Question 8.

| 1. | Are the water levels in the entire unit usually co                                                                                                                                                                            | ontrolled by tides except during floods?                                                                                                                     |
|----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| (  | NO – go to 2 YES                                                                                                                                                                                                              | – the wetland class is <b>Tidal Fringe</b> – go to 1.1                                                                                                       |
| 1  | 1.1 Is the salinity of the water during periods of a                                                                                                                                                                          | nnual low flow below 0.5 ppt (parts per thousand)?                                                                                                           |
|    |                                                                                                                                                                                                                               | YES – Freshwater Tidal Fringe<br>ter Tidal Fringe use the forms for Riverine wetlands. If it is<br>nd and is not scored. This method cannot be used to score |
| 2. | The entire wetland unit is flat and precipitation surface water runoff are NOT sources of water                                                                                                                               | is the only source (>90%) of water to it. Groundwater and to the unit.                                                                                       |
| (  | NO – go to 3<br>If your wetland can be classified as a Flats wetla                                                                                                                                                            | <b>YES</b> – The wetland class is <b>Flats</b> and, use the form for <b>Depressional</b> wetlands.                                                           |
| 3. | Does the entire wetland unit <b>meet all</b> of the fol The vegetated part of the wetland is on the selection plants on the surface at any time of the year.  At least 30% of the open water area is deeper.                  | hores of a body of permanent open water (without any at least 20 ac (8 ha) in size;                                                                          |
| (  | NO – go to 4 YES – The wet                                                                                                                                                                                                    | and class is Lake Fringe (Lacustrine Fringe)                                                                                                                 |
| 4. | Does the entire wetland unit meet all of the folThe wetland is on a slope (slope can be veryThe water flows through the wetland in one seeps. It may flow subsurface, as sheetflow,The water leaves the wetland without being | gradual), direction (unidirectional) and usually comes from or in a swale without distinct banks,                                                            |
|    | NO – go to 5                                                                                                                                                                                                                  | YES – The wetland class is Slope                                                                                                                             |
|    | ·                                                                                                                                                                                                                             | type of wetlands except occasionally in very small and pressions are usually <3 ft diameter and less than 1 ft                                               |
| 5. | Does the entire wetland unit <b>meet all</b> of the folThe unit is in a valley, or stream channel, wh stream or river,The overbank flooding occurs at least onc                                                               | ere it gets inundated by overbank flooding from that                                                                                                         |

NO - go to 6

YES - The wetland class is Riverine NOTE:

The Riverine unit can contain depressions that are filled with water when the river is not flooding

6. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year? This means that any outlet, if present, is higher than the interior of the wetland.

NO - go to 7

**YES** – The wetland class is **Depressional** 

7. Is the entire wetland unit located in a very flat area with no obvious depression and no overbank flooding? The unit does not pond surface water more than a few inches. The unit seems to be maintained by high groundwater in the area. The wetland may be ditched, but has no obvious natural outlet.

NO - go to 8

**YES** – The wetland class is **Depressional** 

8. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

**NOTE**: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the HGM class listed in column 2 is less than 10% of the unit; classify the wetland using the class that represents more than 90% of the total area.

| HGM classes within the wetland unit   | HGM class to  |
|---------------------------------------|---------------|
| being rated                           | use in rating |
| Slope + Riverine                      | Riverine      |
| Slope + Depressional                  | Depressional  |
| Slope + Lake Fringe                   | Lake Fringe   |
| Depressional + Riverine along stream  | Depressional  |
| within boundary of depression         |               |
| Depressional + Lake Fringe            | Depressional  |
| Riverine + Lake Fringe                | Riverine      |
| Salt Water Tidal Fringe and any other | Treat as      |
| class of freshwater wetland           | ESTUARINE     |

If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.

| SLOPE WETLANDS  Water Quality Functions - Indicators that the site functions to improve water quality                                                                                                                              | ty                  |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|
| S 1.0. Does the site have the potential to improve water quality?                                                                                                                                                                  |                     |
| S 1.1. Characteristics of the average slope of the wetland: (a 1% slope has a 1 ft vertical drop in elevation for every 100 ft of horizontal distance)                                                                             |                     |
| Slope is 1% or less points = 3                                                                                                                                                                                                     | • 0                 |
| Slope is > 1%-2% points = 2                                                                                                                                                                                                        | .                   |
| Slope is > 2%-5% points = 1                                                                                                                                                                                                        |                     |
| Slope is greater than 5% points = 0                                                                                                                                                                                                | ,                   |
| S 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions): Yes = 3 No = 0                                                                                                         |                     |
| S 1.3. Characteristics of the plants in the wetland that trap sediments and pollutants:                                                                                                                                            |                     |
| Choose the points appropriate for the description that best fits the plants in the wetland. Dense means you have trouble seeing the soil surface (>75% cover), and uncut means not grazed or mowed and plants are highe than 6 in. | r                   |
| Dense, uncut, herbaceous plants > 90% of the wetland area points = 6 Dense, uncut, herbaceous plants > ½ of area points = 3                                                                                                        |                     |
| Dense, woody, plants > ½ of area points = 2                                                                                                                                                                                        |                     |
| Dense, uncut, herbaceous plants > ¼ of area points = 1                                                                                                                                                                             |                     |
| Does not meet any of the criteria above for plants points = 0                                                                                                                                                                      |                     |
| Total for S 1 Add the points in the boxes above                                                                                                                                                                                    | 1                   |
| Rating of Site Potential If score is: 12 = H 6-11 = M X 0-5 = L Record the rating                                                                                                                                                  | a on the first page |

S 2.0. Does the landscape have the potential to support the water quality function of the site?

S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?

Yes = 1 No = 0

S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?

Other sources

Yes = 1 No = 0

Total for S 2

Add the points in the boxes above

Rating of Landscape Potential If score is: 1-2 = M X 0 = L

Record the rating on the first page

| S 3.0. Is the water quality improvement provided by the site valuable to society?                                                                                                                       |   |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|
| S 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list?  Yes = 1 No = 0                                                    | 1 |
| S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue? At least one aquatic resource in the basin is on the $303(d)$ list.  Yes = 1 No = 0                                      | 1 |
| S 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality? <i>Answer YES</i> if there is a TMDL for the basin in which unit is found.  Yes = 2 No = 0 | 2 |
| Total for S 3 Add the points in the boxes above                                                                                                                                                         | 4 |

Rating of Value If score is: X 2-4 = H \_\_\_1 = M \_\_\_0 = L

Record the rating on the first page

| SLOPE WETLANDS                                                                                                                                                                                                                             |   |  |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|--|
| Hydrologic Functions - Indicators that the site functions to reduce flooding and stream erosion                                                                                                                                            |   |  |
| S 4.0. Does the site have the potential to reduce flooding and stream erosion?                                                                                                                                                             |   |  |
| S 4.1. Characteristics of plants that reduce the velocity of surface flows during storms: Choose the points appropriate for the description that best fits conditions in the wetland. Stems of plants should be thick enough (usually > 1/ |   |  |
| in), or dense enough, to remain erect during surface flows.                                                                                                                                                                                | 0 |  |
| Dense, uncut, <b>rigid</b> plants cover > 90% of the area of the wetland points = 1                                                                                                                                                        |   |  |
| All other conditions points = 0                                                                                                                                                                                                            |   |  |
| Rating of Site Potential If score is: 1 = M X 0 = L  Record the rating on the first p                                                                                                                                                      |   |  |

| S 5.0. Does the landscape have the potential to support the hydrologic functions of the site?                                                   |                |
|-------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
| S 5.1. Is more than 25% of the area within 150 ft upslope of wetland in land uses or cover that generate excess surface runoff?  Yes = 1 No = 0 | 0              |
| Rating of Landscape Potential If score is: 1 = M X 0 = L Record the rating or                                                                   | the first page |

| S 6.0. Are the hydrologic functions provided by the site valuable to society?                                                                                                                                                                                                                                                                                    |   |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|
| S 6.1. Distance to the nearest areas downstream that have flooding problems:  The sub-basin immediately down-gradient of site has flooding problems that result in damage to human or natural resources (e.g., houses or salmon redds)  Surface flooding problems are in a sub-basin farther down-gradient  No flooding problems anywhere downstream  points = 0 |   |
| S 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?  Yes = 2 No = 0                                                                                                                                                                                                                         |   |
| Total for S 6 Add the points in the boxes above                                                                                                                                                                                                                                                                                                                  | 1 |

Rating of Value If score is: \_\_\_\_2-4 = H \_\_X \_\_1 = M \_\_\_\_0 = L

Record the rating on the first page

NOTES and FIELD OBSERVATIONS:

#### These questions apply to wetlands of all HGM classes. **HABITAT FUNCTIONS** - Indicators that site functions to provide important habitat H 1.0. Does the site have the potential to provide habitat? H 1.1. Structure of plant community: Indicators are Cowardin classes and strata within the Forested class. Check the Cowardin plant classes in the wetland. Up to 10 patches may be combined for each class to meet the threshold of ¼ ac or more than 10% of the unit if it is smaller than 2.5 ac. Add the number of structures checked. Aquatic bed 4 structures or more: points = 4 Emergent 3 structures: points = 2 1 Scrub-shrub (areas where shrubs have > 30% cover) 2 structures: points = 1 X Forested (areas where trees have > 30% cover) 1 structure: points = 0 If the unit has a Forested class, check if: X The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the Forested polygon H 1.2. Hydroperiods Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or ¼ ac to count (see text for descriptions of hydroperiods). Permanently flooded or inundated 4 or more types present: points = 3 Seasonally flooded or inundated 3 types present: points = 2 Occasionally flooded or inundated 2 types present: points = 1 1 X Saturated only 1 type present: points = 0 Permanently flowing stream or river in, or adjacent to, the wetland X Seasonally flowing stream in, or adjacent to, the wetland Lake Fringe wetland 2 points Freshwater tidal wetland 2 points H 1.3. Richness of plant species Count the number of plant species in the wetland that cover at least 10 ft<sup>2</sup>. Different patches of the same species can be combined to meet the size threshold and you do not have to name the species. Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle 1 If you counted: > 19 species points = 2 5 - 19 species points = 1< 5 species points = 0 H 1.4. Interspersion of habitats Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. If you have four or more plant classes or three classes and open water, the rating is always high. 1 None = 0 points Low = 1 point Moderate = 2 points All three diagrams in this row are **HIGH** = 3points

## Wetland name or number Wetland D

|                                                                                                                                                                                              |                          | 1                |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|------------------|
| H 1.5. Special habitat features:                                                                                                                                                             |                          |                  |
| Check the habitat features that are present in the wetland. The number of checks is the n                                                                                                    | umber of points.         |                  |
| Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long).                                                                                                              |                          |                  |
| Standing snags (dbh > 4 in) within the wetland                                                                                                                                               |                          |                  |
| Undercut banks are present for at least 6.6 ft (2 m) and/or overhanging plants exten over a stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (10 m)                  | ds at least 3.3 ft (1 m) |                  |
| Stable steep banks of fine material that might be used by beaver or muskrat for den                                                                                                          | ning (> 30 degree        | 1                |
| slope) OR signs of recent beaver activity are present (cut shrubs or trees that have where wood is exposed)                                                                                  | not yet weathered        |                  |
| At least ¼ ac of thin-stemmed persistent plants or woody branches are present in are                                                                                                         | eas that are             |                  |
| permanently or seasonally inundated (structures for egg-laying by amphibians)                                                                                                                |                          |                  |
| $\underline{X}$ Invasive plants cover less than 25% of the wetland area in every stratum of plants (s                                                                                        | ee H 1.1 for list of     |                  |
| strata)                                                                                                                                                                                      |                          |                  |
| Total for H 1 Add the point                                                                                                                                                                  | s in the boxes above     | 5                |
| Rating of Site Potential If score is:15-18 = H7-14 = MX0-6 = L                                                                                                                               | Record the rating or     | the first page   |
| H 2.0. Does the landscape have the potential to support the habitat functions of the sit                                                                                                     | e?                       |                  |
| H 2.1. Accessible habitat (include only habitat that directly abuts wetland unit).                                                                                                           |                          |                  |
| Calculate: % undisturbed habitat + [(% moderate and low intensity land uses                                                                                                                  | 5)/2] = %                |                  |
| If total accessible habitat is:                                                                                                                                                              | 70                       |                  |
| $> \frac{1}{3}$ (33.3%) of 1 km Polygon                                                                                                                                                      | points = 3               | 2                |
| 20-33% of 1 km Polygon                                                                                                                                                                       | points = 2               | _                |
| 10-19% of 1 km Polygon                                                                                                                                                                       | points = 1               |                  |
| < 10% of 1 km Polygon                                                                                                                                                                        | points = 0               |                  |
| H 2.2. Undisturbed habitat in 1 km Polygon around the wetland.                                                                                                                               | points – o               |                  |
| Calculate: % undisturbed habitat + [(% moderate and low intensity land uses                                                                                                                  | -\/21 = 0/               |                  |
| Undisturbed habitat > 50% of Polygon                                                                                                                                                         | points = 3               |                  |
| Undisturbed habitat 10-50% and in 1-3 patches                                                                                                                                                | points = 2               | 0                |
| Undisturbed habitat 10-50% and > 3 patches                                                                                                                                                   | points = 1               |                  |
| Undisturbed habitat < 10% of 1 km Polygon                                                                                                                                                    | points = 0               |                  |
|                                                                                                                                                                                              | points – o               |                  |
| H 2.3. Land use intensity in 1 km Polygon: If                                                                                                                                                | noints - / 2)            | 0                |
| > 50% of 1 km Polygon is high intensity land use                                                                                                                                             | points = (- 2)           | 0                |
| ≤ 50% of 1 km Polygon is high intensity                                                                                                                                                      | points = 0               |                  |
| <u>'</u>                                                                                                                                                                                     | ts in the boxes above    | 2                |
| Rating of Landscape Potential If score is:4-6 = HX_1-3 = M< 1 = L                                                                                                                            | Record the rating on     | the first page   |
| H 3.0. Is the habitat provided by the site valuable to society?                                                                                                                              |                          | _                |
|                                                                                                                                                                                              | anly the highest seems   |                  |
| H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? <i>Choose a that applies to the wetland being rated.</i>                                          | any the mynest store     |                  |
| Site meets ANY of the following criteria:                                                                                                                                                    | points = 2               |                  |
| It has 3 or more priority habitats within 100 m (see next page)                                                                                                                              | points – 2               |                  |
| It provides habitat for Threatened or Endangered species (any plant or animal on the state or federal lists)                                                                                 |                          |                  |
| <ul><li>It is mapped as a location for an individual WDFW priority species</li><li>It is a Wetland of High Conservation Value as determined by the Department of Natural Resources</li></ul> |                          |                  |
| It has been categorized as an important habitat site in a local or regional comprehensive plan, in a                                                                                         |                          |                  |
| Shoreline Master Plan, or in a watershed plan                                                                                                                                                |                          |                  |
| Site has 1 or 2 priority habitats (listed on next page) within 100 m                                                                                                                         | points = 1               |                  |
| Site does not meet any of the criteria above                                                                                                                                                 | points = 0               |                  |
| Rating of Value If score is: 2 = H X 1 = M 0 = L  Record the rating of                                                                                                                       |                          | n the first page |
| <del></del>                                                                                                                                                                                  | J                        | ·                |

## **WDFW Priority Habitats**

<u>Priority habitats listed by WDFW</u> (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. <a href="http://wdfw.wa.gov/publications/00165/wdfw00165.pdf">http://wdfw.wa.gov/publications/00165/wdfw00165.pdf</a> or access the list from here: <a href="http://wdfw.wa.gov/conservation/phs/list/">http://wdfw.wa.gov/conservation/phs/list/</a>)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland unit: NOTE: This question is

independent of the land use between the wetland unit and the priority habitat. **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha). Biodiversity Areas and Corridors: Areas of habitat that are relatively important to various species of native fish and wildlife (full descriptions in WDFW PHS report). Herbaceous Balds: Variable size patches of grass and forbs on shallow soils over bedrock. Old-growth/Mature forests: Old-growth west of Cascade crest – Stands of at least 2 tree species, forming a multilayered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) > 32 in (81 cm) dbh or > 200 years of age. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in oldgrowth; 80-200 years old west of the Cascade crest. Oregon White Oak: Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (full descriptions in WDFW PHS report p. 158 – see web link above). X Riparian: The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other. Westside Prairies: Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (full descriptions in WDFW PHS report p. 161 – see web link above). X Instream: The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources. Nearshore: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (full descriptions of habitats and the definition of relatively undisturbed are in WDFW report – see web link on previous page). Caves: A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human. **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation. Talus: Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs. \_Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed

elsewhere.

## **CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS**

| Wetland Type                                                                                                                                                                                                                             | Catagory |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| wedanu Type                                                                                                                                                                                                                              | Category |
| Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.                                                                                                                             |          |
| SC 1.0. Estuarine wetlands                                                                                                                                                                                                               |          |
| Does the wetland meet the following criteria for Estuarine wetlands?                                                                                                                                                                     |          |
| — The dominant water regime is tidal,                                                                                                                                                                                                    |          |
| — Vegetated, and                                                                                                                                                                                                                         |          |
| — With a salinity greater than 0.5 ppt Yes –Go to <b>SC 1.1</b> No= <b>Not an estuarine wetland</b>                                                                                                                                      |          |
| SC 1.1. Is the wetland within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area                                                                                                                          |          |
| Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151?                                                                                                                               | Cat. I   |
| Yes = Category I No - Go to SC 1.2                                                                                                                                                                                                       | Cat. 1   |
| SC 1.2. Is the wetland unit at least 1 ac in size and meets at least two of the following three conditions?                                                                                                                              |          |
| — The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less                                                                                                                            | Cat. I   |
| than 10% cover of non-native plant species. (If non-native species are <i>Spartina</i> , see page 25)                                                                                                                                    | Cat. I   |
| — At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-                                                                                                                               |          |
| mowed grassland.                                                                                                                                                                                                                         | Cat. II  |
| <ul> <li>The wetland has at least two of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands.</li> <li>Yes = Category I</li> <li>No = Category II</li> </ul>                          |          |
| contiguous freshwater wetianus.                                                                                                                                                                                                          |          |
| SC 2.0. Wetlands of High Conservation Value (WHCV)                                                                                                                                                                                       |          |
| SC 2.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High                                                                                                                         |          |
| Conservation Value? Yes – Go to SC 2.2 No – Go to SC 2.3                                                                                                                                                                                 | Cat. I   |
| SC 2.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value?                                                                                                                                              |          |
| Yes = Category I No = Not a WHCV                                                                                                                                                                                                         |          |
| SC 2.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? <a href="http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf">http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf</a> |          |
| Yes – Contact WNHP/WDNR and go to SC 2.4 No = Not a WHCV                                                                                                                                                                                 |          |
| SC 2.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and listed it on                                                                                                                        |          |
| their website? Yes = Category I No = Not a WHCV                                                                                                                                                                                          |          |
| SC 3.0. Bogs                                                                                                                                                                                                                             |          |
| Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? Use the key                                                                                                                          |          |
| below. If you answer YES you will still need to rate the wetland based on its functions.                                                                                                                                                 |          |
| SC 3.1. Does an area within the wetland unit have organic soil horizons, either peats or mucks, that compose 16 in or                                                                                                                    |          |
| more of the first 32 in of the soil profile? Yes – Go to SC 3.3 No – Go to SC 3.2                                                                                                                                                        |          |
| SC 3.2. Does an area within the wetland unit have organic soils, either peats or mucks, that are less than 16 in deep                                                                                                                    |          |
| over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond?  Yes – Go to SC 3.3  No = 1 not a bog                                                                               |          |
| SC 3.3. Does an area with peats or mucks have more than 70% cover of mosses at ground level, AND at least a 30%                                                                                                                          |          |
| cover of plant species listed in Table 4? Yes = Is a Category I bog No – Go to SC 3.4                                                                                                                                                    |          |
| <b>NOTE:</b> If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by                                                                                                                     |          |
| measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the                                                                                                                         |          |
| plant species in Table 4 are present, the wetland is a bog.                                                                                                                                                                              | Cat. I   |
| SC 3.4. Is an area with peats or mucks forested (> 30% cover) with Sitka spruce, subalpine fir, western red cedar,                                                                                                                       |          |
| western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the                                                                                                                                  |          |
| species (or combination of species) listed in Table 4 provide more than 30% of the cover under the canopy?                                                                                                                               |          |
| Yes = Is a Category I bog No = Is not a bog                                                                                                                                                                                              |          |

| Does the wetland have at least 1 contiguous acre of forest that meets one of these criteria for the WA Department of Fish and Wildlife's forests as priority habitats? If you answer YES you will still need to rate the wetland based on its functions.  — Old-growth forests (west of Cascade crest): Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 in (81 cm) or more.  — Mature forests (west of the Cascade Crest): Stands where the largest trees are 80-200 years old OR the species that make up the canopy have an average diameter (dbh) exceeding 21 in (53 cm).  Yes = Category I No = lot a forested wetland for this section  SC 5.0. Wetlands in Coastal Lagoons  Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?  — The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks  — The lagoon in which the wetland is located contains ponded water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (needs to be measured near the bottom)  Yes - Go to SC 5.1 No = Not a wetland in a coastal lagoon  SC 5.1. Does the wetland meet all of the following three conditions?  — The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of aggressive, opportunistic plant species (see list of species on p. 100).  — At least ½ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un- mowed grassland.  — The wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? If you answer yes you will still need to rate the wetland based on its habitat functions. |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| - Old-growth forests (west of Cascade crest): Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 in (81 cm) or more.  - Mature forests (west of the Cascade Crest): Stands where the largest trees are 80- 200 years old OR the species that make up the canopy have an average diameter (dbh) exceeding 21 in (53 cm).  Yes = Category I  No = Not a forested wetland for this section  Cat.  SC 5.0. Wetlands in Coastal Lagoons  Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?  — The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks  — The lagoon in which the wetland is located contains ponded water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (needs to be measured near the bottom)  Yes — Go to SC 5.1  No = Not a wetland in a coastal lagoon  SC 5.1. Does the wetland meet all of the following three conditions?  — The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of aggressive, opportunistic plant species (see list of species on p. 100).  — At least ½ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or unmowed grassland.  — The wetland is larger than $^1/_{10}$ ac (4350 ft²)  Yes = Category I  No = Category I  No = Category II  SC 6.0. Interdunal Wetlands  Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? If                                                                                                                                                                                                 |
| Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?  — The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks  — The lagoon in which the wetland is located contains ponded water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (needs to be measured near the bottom)  Yes – Go to SC 5.1 No = Not a wetland in a coastal lagoon  SC 5.1. Does the wetland meet all of the following three conditions?  — The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of aggressive, opportunistic plant species (see list of species on p. 100).  — At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or unmowed grassland.  — The wetland is larger than ¹/¹0 ac (4350 ft²)  Yes = Category I No = Category II  SC 6.0. Interdunal Wetlands  Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? If                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?  — The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks  — The lagoon in which the wetland is located contains ponded water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (needs to be measured near the bottom)  Yes – Go to SC 5.1  No = Not a wetland in a coastal lagoon  SC 5.1. Does the wetland meet all of the following three conditions?  — The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of aggressive, opportunistic plant species (see list of species on p. 100).  — At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or unmowed grassland.  — The wetland is larger than ¹/10 ac (4350 ft²)  Yes = Category I  No = Category II  SC 6.0. Interdunal Wetlands  Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? If                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <ul> <li>The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks</li> <li>The lagoon in which the wetland is located contains ponded water that is saline or brackish (&gt; 0.5 ppt) during most of the year in at least a portion of the lagoon (needs to be measured near the bottom)         Yes – Go to SC 5.1 No = Not a wetland in a coastal lagoon</li> <li>SC 5.1. Does the wetland meet all of the following three conditions?         <ul> <li>The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of aggressive, opportunistic plant species (see list of species on p. 100).</li> <li>At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or unmowed grassland.</li> <li>The wetland is larger than ¹/₁0 ac (4350 ft²)</li> <li>Yes = Category I No = Category II</li> </ul> </li> <li>SC 6.0. Interdunal Wetlands         <ul> <li>Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? If</li> </ul> </li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| during most of the year in at least a portion of the lagoon (needs to be measured near the bottom)  Yes – Go to SC 5.1  No = Not a wetland in a coastal lagoon  SC 5.1. Does the wetland meet all of the following three conditions?  — The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of aggressive, opportunistic plant species (see list of species on p. 100).  — At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or unmowed grassland.  — The wetland is larger than ¹/10 ac (4350 ft²)  Yes = Category I  No = Category II  SC 6.0. Interdunal Wetlands  Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? If                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
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| — The wetland is larger than $^1/_{10}$ ac (4350 ft <sup>2</sup> )  Yes = Category I  No = Category II  SC 6.0. Interdunal Wetlands  Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? If                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? If                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| In practical terms that means the following geographic areas:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <ul> <li>Long Beach Peninsula: Lands west of SR 103</li> <li>Grayland-Westport: Lands west of SR 105</li> <li>Ocean Shores-Copalis: Lands west of SR 115 and SR 109         Yes – Go to SC 6.1         No = not an interdunal wetland for rating</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| SC 6.1. Is the wetland 1 ac or larger and scores an 8 or 9 for the habitat functions on the form (rates H,H,H or H,H,M for the three aspects of function)?  Yes = Category I  No – Go to SC 6.2  SC 6.2. Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Yes = Category II No – Go to SC 6.3  SC 6.3. Is the unit between 0.1 and 1 ac, or is it in a mosaic of wetlands that is between 0.1 and 1 ac?  Yes = Category III No = Category IV  Cat. I                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Category of wetland based on Special Characteristics  N/A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |

Wetland name or number Wetland D

# **RATING SUMMARY – Western Washington**

| Name of wetland (or ID #): Wetland E                                 | Date of site visit: <u>1/17/17</u>                             |
|----------------------------------------------------------------------|----------------------------------------------------------------|
| Rated by <u>Katie Boa</u> Train                                      | ed by Ecology? Yes X No Date of training 11/16                 |
| HGM Class used for rating Slope                                      | Wetland has multiple HGM classes?YXN                           |
| NOTE: Form is not complete without Source of base aerial photo/map _ | the figures requested (figures can be combined).  Google Earth |
| OVERALL WETLAND CATEGORY                                             | (based on functions X or special characteristics )             |
| 1. Category of wetland based on FUN                                  | ICTIONS                                                        |
| Category I – Total score =                                           | 23 – 27 Score for each                                         |
| Category II – Total score                                            | = 20 – 22 function based                                       |
| Category III – Total score                                           | = 16 – 19 on three ratings                                     |
| X Category IV – Total score                                          | (ardar of ratings                                              |
| FUNCTION Improving Hydrolo                                           | important                                                      |
| Water Quality                                                        | 9 = H,H,H                                                      |
| Circle t                                                             | the appropriate ratings 8 = H,H,M                              |

| FUNCTION               |          | nprov<br>ter Q | ung<br>uality | Н | ydrolo   | ogic     |       | Habita  | Эτ    |       |
|------------------------|----------|----------------|---------------|---|----------|----------|-------|---------|-------|-------|
|                        |          |                |               |   | Circle i | the ap   | propr | iate ra | tings |       |
| Site Potential         | Н        | М              | <u>L</u>      | Н | М        | L        | Н     | М       | L     |       |
| Landscape Potential    | Н        | М              | <u>L</u>      | Н | М        | <u>L</u> | Н     | M       | L     |       |
| Value                  | <u>H</u> | М              | L             | Н | M        | L        | Н     | M       | L     | TOTAL |
| Score Based on Ratings |          | 5              |               |   | 4        |          |       | 5       |       | 14    |

# Score for each function based on three ratings (order of ratings is not important) 9 = H,H,H 8 = H,H,M 7 = H,H,L 7 = H,M,M 6 = H,M,L 5 = M,M,M 5 = H,L,L 5 = M,M,L 4 = M,L,L 3 = L,L,L

## 2. Category based on SPECIAL CHARACTERISTICS of wetland

| CHARACTERISTIC                     | CATEGORY    |  |
|------------------------------------|-------------|--|
| Estuarine                          | I II        |  |
| Wetland of High Conservation Value | I           |  |
| Bog                                | I           |  |
| Mature Forest                      | I           |  |
| Old Growth Forest                  | I           |  |
| Coastal Lagoon                     | I II        |  |
| Interdunal                         | I II III IV |  |
| None of the above                  | N/A         |  |

# Maps and figures required to answer questions correctly for Western Washington

## **Depressional Wetlands**

| Map of:                                                                        | To answer questions: | Figure # |
|--------------------------------------------------------------------------------|----------------------|----------|
| Cowardin plant classes                                                         | D 1.3, H 1.1, H 1.4  |          |
| Hydroperiods                                                                   | D 1.4, H 1.2         |          |
| Location of outlet (can be added to map of hydroperiods)                       | D 1.1, D 4.1         |          |
| Boundary of area within 150 ft of the wetland (can be added to another figure) | D 2.2, D 5.2         |          |
| Map of the contributing basin                                                  | D 4.3, D 5.3         |          |
| 1 km Polygon: Area that extends 1 km from entire wetland edge - including      | H 2.1, H 2.2, H 2.3  |          |
| polygons for accessible habitat and undisturbed habitat                        |                      |          |
| Screen capture of map of 303(d) listed waters in basin (from Ecology website)  | D 3.1, D 3.2         |          |
| Screen capture of list of TMDLs for WRIA in which unit is found (from web)     | D 3.3                |          |

## Riverine Wetlands

| Map of:                                                                        | To answer questions: | Figure # |
|--------------------------------------------------------------------------------|----------------------|----------|
| Cowardin plant classes                                                         | H 1.1, H 1.4         |          |
| Hydroperiods                                                                   | H 1.2                |          |
| Ponded depressions                                                             | R 1.1                |          |
| Boundary of area within 150 ft of the wetland (can be added to another figure) | R 2.4                |          |
| Plant cover of trees, shrubs, and herbaceous plants                            | R 1.2, R 4.2         |          |
| Width of unit vs. width of stream (can be added to another figure)             | R 4.1                |          |
| Map of the contributing basin                                                  | R 2.2, R 2.3, R 5.2  |          |
| 1 km Polygon: Area that extends 1 km from entire wetland edge - including      | H 2.1, H 2.2, H 2.3  |          |
| polygons for accessible habitat and undisturbed habitat                        |                      |          |
| Screen capture of map of 303(d) listed waters in basin (from Ecology website)  | R 3.1                |          |
| Screen capture of list of TMDLs for WRIA in which unit is found (from web)     | R 3.2, R 3.3         |          |

## Lake Fringe Wetlands

| Map of:                                                                        | To answer questions:       | Figure # |
|--------------------------------------------------------------------------------|----------------------------|----------|
| Cowardin plant classes                                                         | L 1.1, L 4.1, H 1.1, H 1.4 |          |
| Plant cover of trees, shrubs, and herbaceous plants                            | L 1.2                      |          |
| Boundary of area within 150 ft of the wetland (can be added to another figure) | L 2.2                      |          |
| 1 km Polygon: Area that extends 1 km from entire wetland edge - including      | H 2.1, H 2.2, H 2.3        |          |
| polygons for accessible habitat and undisturbed habitat                        |                            |          |
| Screen capture of map of 303(d) listed waters in basin (from Ecology website)  | L 3.1, L 3.2               |          |
| Screen capture of list of TMDLs for WRIA in which unit is found (from web)     | L 3.3                      |          |

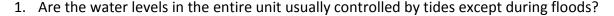
## Slope Wetlands

| Map of:                                                                         | To answer questions: | Figure # |
|---------------------------------------------------------------------------------|----------------------|----------|
| Cowardin plant classes                                                          | H 1.1, H 1.4         | 10       |
| Hydroperiods                                                                    | H 1.2                | 10       |
| Plant cover of <b>dense</b> trees, shrubs, and herbaceous plants                | S 1.3                | 10       |
| Plant cover of <b>dense</b> , <b>rigid</b> trees, shrubs, and herbaceous plants | S 4.1                | 10       |
| (can be added to figure above)                                                  |                      | 10       |
| Boundary of 150 ft buffer (can be added to another figure)                      | S 2.1, S 5.1         | 10       |
| 1 km Polygon: Area that extends 1 km from entire wetland edge - including       | H 2.1, H 2.2, H 2.3  | 1.5      |
| polygons for accessible habitat and undisturbed habitat                         |                      | 15       |
| Screen capture of map of 303(d) listed waters in basin (from Ecology website)   | S 3.1, S 3.2         | 17       |
| Screen capture of list of TMDLs for WRIA in which unit is found (from web)      | \$ 3.3               | 17       |

## **HGM Classification of Wetlands in Western Washington**

For questions 1-7, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-7 apply, and go to Question 8.



NO – go to 2

**YES** – the wetland class is **Tidal Fringe** – go to 1.1

1.1 Is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)?

### NO – Saltwater Tidal Fringe (Estuarine)

YES - Freshwater Tidal Fringe

If your wetland can be classified as a Freshwater Tidal Fringe use the forms for **Riverine** wetlands. If it is Saltwater Tidal Fringe it is an **Estuarine** wetland and is not scored. This method **cannot** be used to score functions for estuarine wetlands.

- 2. The entire wetland unit is flat and precipitation is the only source (>90%) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit.
  - NO go to 3

YES - The wetland class is Flats

If your wetland can be classified as a Flats wetland, use the form for **Depressional** wetlands.

- 3. Does the entire wetland unit **meet all** of the following criteria?
  - \_\_The vegetated part of the wetland is on the shores of a body of permanent open water (without any plants on the surface at any time of the year) at least 20 ac (8 ha) in size;
    - At least 30% of the open water area is deeper than 6.6 ft (2 m).

NO – go to 4

YES - The wetland class is Lake Fringe (Lacustrine Fringe)

- 4. Does the entire wetland unit **meet all** of the following criteria?
  - The wetland is on a slope (slope can be very gradual),
  - \_\_\_\_The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks,
  - \_\_\_\_The water leaves the wetland without being impounded.

NO - go to 5

**YES** – The wetland class is **Slope** 

**NOTE**: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 ft deep).

- 5. Does the entire wetland unit **meet all** of the following criteria?
  - \_\_\_The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river,
  - \_\_\_\_The overbank flooding occurs at least once every 2 years.

NO - go to 6

YES - The wetland class is Riverine NOTE:

The Riverine unit can contain depressions that are filled with water when the river is not flooding

6. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year? This means that any outlet, if present, is higher than the interior of the wetland.

NO - go to 7

**YES** – The wetland class is **Depressional** 

7. Is the entire wetland unit located in a very flat area with no obvious depression and no overbank flooding? The unit does not pond surface water more than a few inches. The unit seems to be maintained by high groundwater in the area. The wetland may be ditched, but has no obvious natural outlet.

NO - go to 8

**YES** – The wetland class is **Depressional** 

8. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

**NOTE**: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the HGM class listed in column 2 is less than 10% of the unit; classify the wetland using the class that represents more than 90% of the total area.

| HGM classes within the wetland unit   | HGM class to  |
|---------------------------------------|---------------|
| being rated                           | use in rating |
| Slope + Riverine                      | Riverine      |
| Slope + Depressional                  | Depressional  |
| Slope + Lake Fringe                   | Lake Fringe   |
| Depressional + Riverine along stream  | Depressional  |
| within boundary of depression         |               |
| Depressional + Lake Fringe            | Depressional  |
| Riverine + Lake Fringe                | Riverine      |
| Salt Water Tidal Fringe and any other | Treat as      |
| class of freshwater wetland           | ESTUARINE     |

If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.

| SLOPE WETLANDS                                                                                                                                                                                                                      |   |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|
| Water Quality Functions - Indicators that the site functions to improve water quality                                                                                                                                               |   |
| S 1.0. Does the site have the potential to improve water quality?                                                                                                                                                                   |   |
| S 1.1. Characteristics of the average slope of the wetland: (a 1% slope has a 1 ft vertical drop in elevation for every 100 ft of horizontal distance)                                                                              |   |
| Slope is 1% or less points = 3                                                                                                                                                                                                      | 0 |
| Slope is > 1%-2% points = 2                                                                                                                                                                                                         |   |
| Slope is > 2%-5% points = 1                                                                                                                                                                                                         |   |
| Slope is greater than 5% points = 0                                                                                                                                                                                                 |   |
| S 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions): Yes = 3 No = 0                                                                                                          | 0 |
| S 1.3. Characteristics of the plants in the wetland that trap sediments and pollutants:                                                                                                                                             |   |
| Choose the points appropriate for the description that best fits the plants in the wetland. Dense means you have trouble seeing the soil surface (>75% cover), and uncut means not grazed or mowed and plants are higher than 6 in. |   |
| Dense, uncut, herbaceous plants > 90% of the wetland area points = 6                                                                                                                                                                | 2 |
| Dense, uncut, herbaceous plants > ½ of area points = 3                                                                                                                                                                              |   |
| Dense, woody, plants > ½ of area points = 2                                                                                                                                                                                         |   |
| Dense, uncut, herbaceous plants > ¼ of area points = 1                                                                                                                                                                              |   |
| Does not meet any of the criteria above for plants points = 0                                                                                                                                                                       |   |
| Total for S 1 Add the points in the boxes above                                                                                                                                                                                     | 2 |

Rating of Site Potential If score is: 12 = H 6-11 = M X 0-5 = L Record th

Record the rating on the first page

| S 2.0. Does the landscape have the potential to support the water quality function of the site?                                            |   |
|--------------------------------------------------------------------------------------------------------------------------------------------|---|
| S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?  Yes = 1 No = 0         | 0 |
| S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?  Other sources  Yes = 1 No = 0 | 0 |
| Total for S 2 Add the points in the boxes above                                                                                            | 0 |

Rating of Landscape Potential If score is: 1-2 = M X 0 = L

Record the rating on the first page

| S 3.0. Is the water quality improvement provided by the site valuable to society?                                                                                                                      |   |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|
| S 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list?  Yes = 1 No = 0                                                   | 1 |
| S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue? At least one aquatic resource in the basin is on the $303(d)$ list.  Yes = 1 No = 0                                     | 1 |
| S 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality? <i>Answer YES</i> if there is a TMDL for the basin in which unit is found. Yes = 2 No = 0 | 2 |
| Total for S 3 Add the points in the boxes above                                                                                                                                                        | 4 |

Rating of Value If score is: X 2-4 = H \_\_\_1 = M \_\_\_0 = L

Record the rating on the first page

| SLOPE WETLANDS                                                                                                                                                                                                                               |                  |  |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|--|
| Hydrologic Functions - Indicators that the site functions to reduce flooding and stream erosion                                                                                                                                              |                  |  |
| S 4.0. Does the site have the potential to reduce flooding and stream erosion?                                                                                                                                                               |                  |  |
| S 4.1. Characteristics of plants that reduce the velocity of surface flows during storms: Choose the points appropriate for the description that best fits conditions in the wetland. Stems of plants should be thick enough (usually > 1/2) |                  |  |
| in), or dense enough, to remain erect during surface flows.                                                                                                                                                                                  | 0                |  |
| Dense, uncut, <b>rigid</b> plants cover > 90% of the area of the wetland points = 1                                                                                                                                                          |                  |  |
| All other conditions points = 0                                                                                                                                                                                                              |                  |  |
| Rating of Site Potential If score is: 1 = M X 0 = L Record the rating of                                                                                                                                                                     | n the first page |  |

| S 5.0. Does the landscape have the potential to support the hydrologic functions of the                            | site?                            |                  |
|--------------------------------------------------------------------------------------------------------------------|----------------------------------|------------------|
| S 5.1. Is more than 25% of the area within 150 ft upslope of wetland in land uses or cover that go surface runoff? | enerate excess<br>Yes = 1 No = 0 | 0                |
| Rating of Landscape Potential If score is: 1 = M X 0 = L                                                           | Record the rating or             | n the first page |

| S 6.0. Are the hydrologic functions provided by the site valuable to society?                                                                                                                                           |                                           |   |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------|---|
| S 6.1. Distance to the nearest areas downstream that have flooding problems:  The sub-basin immediately down-gradient of site has flooding problems that result in dar natural resources (e.g., houses or salmon redds) | mage to human or<br>points = 2            | 1 |
| Surface flooding problems are in a sub-basin farther down-gradient No flooding problems anywhere downstream                                                                                                             | points = 2<br>points = 1<br>points = 0    | • |
| S 6.2. Has the site been identified as important for flood storage or flood conveyance in a regio                                                                                                                       | nal flood control plan?<br>Yes = 2 No = 0 | 0 |
| Total for S 6 Add the poin                                                                                                                                                                                              | ts in the boxes above                     | 1 |

Rating of Value If score is: 2-4 = H X 1 = M 0 = L

Record the rating on the first page

NOTES and FIELD OBSERVATIONS:

#### These questions apply to wetlands of all HGM classes. **HABITAT FUNCTIONS** - Indicators that site functions to provide important habitat H 1.0. Does the site have the potential to provide habitat? H 1.1. Structure of plant community: Indicators are Cowardin classes and strata within the Forested class. Check the Cowardin plant classes in the wetland. Up to 10 patches may be combined for each class to meet the threshold of ¼ ac or more than 10% of the unit if it is smaller than 2.5 ac. Add the number of structures checked. Aquatic bed 4 structures or more: points = 4 Emergent 3 structures: points = 2 1 Scrub-shrub (areas where shrubs have > 30% cover) 2 structures: points = 1 X Forested (areas where trees have > 30% cover) 1 structure: points = 0 If the unit has a Forested class, check if: X The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the Forested polygon H 1.2. Hydroperiods Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or ¼ ac to count (see text for descriptions of hydroperiods). Permanently flooded or inundated 4 or more types present: points = 3 Seasonally flooded or inundated 3 types present: points = 2 Occasionally flooded or inundated 2 types present: points = 1 1 X Saturated only 1 type present: points = 0 Permanently flowing stream or river in, or adjacent to, the wetland X Seasonally flowing stream in, or adjacent to, the wetland Lake Fringe wetland 2 points Freshwater tidal wetland 2 points H 1.3. Richness of plant species Count the number of plant species in the wetland that cover at least 10 ft<sup>2</sup>. Different patches of the same species can be combined to meet the size threshold and you do not have to name the species. Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle 1 If you counted: > 19 species points = 2 5 - 19 species points = 1< 5 species points = 0 H 1.4. Interspersion of habitats Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. If you have four or more plant classes or three classes and open water, the rating is always high. 1 None = 0 points Low = 1 point Moderate = 2 points All three diagrams in this row are **HIGH** = 3points

## Wetland name or number Wetland E

|                                                                                                                                                                                                           | <del></del> -    |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| H 1.5. Special habitat features:                                                                                                                                                                          |                  |
| Check the habitat features that are present in the wetland. The number of checks is the number of points.                                                                                                 |                  |
| Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long).                                                                                                                           |                  |
| Standing snags (dbh > 4 in) within the wetland                                                                                                                                                            |                  |
| X Undercut banks are present for at least 6.6 ft (2 m) and/or overhanging plants extends at least 3.3 ft (1 m) over a stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (10 m)     |                  |
| Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 30 degree                                                                                                      | 2                |
| slope) OR signs of recent beaver activity are present (cut shrubs or trees that have not yet weathered where wood is exposed)                                                                             | -                |
| At least ¼ ac of thin-stemmed persistent plants or woody branches are present in areas that are                                                                                                           |                  |
| permanently or seasonally inundated (structures for egg-laying by amphibians)                                                                                                                             |                  |
| X Invasive plants cover less than 25% of the wetland area in every stratum of plants (see H 1.1 for list of                                                                                               |                  |
| strata)                                                                                                                                                                                                   |                  |
| Total for H 1 Add the points in the boxes above                                                                                                                                                           | 6                |
| Rating of Site Potential If score is: 15-18 = H 7-14 = M X 0-6 = L Record the rating or                                                                                                                   | the first page   |
| H 2.0. Does the landscape have the potential to support the habitat functions of the site?                                                                                                                | , , 3            |
|                                                                                                                                                                                                           |                  |
| H 2.1. Accessible habitat (include only habitat that directly abuts wetland unit).                                                                                                                        |                  |
| Calculate: % undisturbed habitat + [(% moderate and low intensity land uses)/2] =%                                                                                                                        |                  |
| If total accessible habitat is:                                                                                                                                                                           |                  |
| $> \frac{1}{3}$ (33.3%) of 1 km Polygon points = 3                                                                                                                                                        | 2                |
| 20-33% of 1 km Polygon points = 2                                                                                                                                                                         |                  |
| 10-19% of 1 km Polygon points = 1                                                                                                                                                                         |                  |
| < 10% of 1 km Polygon points = 0                                                                                                                                                                          |                  |
| H 2.2. Undisturbed habitat in 1 km Polygon around the wetland.                                                                                                                                            |                  |
| Calculate: % undisturbed habitat + [(% moderate and low intensity land uses)/2] =%                                                                                                                        |                  |
| Undisturbed habitat > 50% of Polygon points = 3                                                                                                                                                           |                  |
| · ·                                                                                                                                                                                                       | 0                |
| Undisturbed habitat 10-50% and in 1-3 patches points = 2                                                                                                                                                  |                  |
| Undisturbed habitat 10-50% and > 3 patches points = 1                                                                                                                                                     |                  |
| Undisturbed habitat < 10% of 1 km Polygon points = 0                                                                                                                                                      |                  |
| H 2.3. Land use intensity in 1 km Polygon: If                                                                                                                                                             |                  |
| > 50% of 1 km Polygon is high intensity land use points = (-2)                                                                                                                                            | 0                |
| ≤ 50% of 1 km Polygon is high intensity points = 0                                                                                                                                                        |                  |
| Total for H 2 Add the points in the boxes above                                                                                                                                                           | 2                |
| Rating of Landscape Potential If score is:4-6 = HX1-3 = M< 1 = L Record the rating on t                                                                                                                   | he first page    |
| *II 2 0 Jakka habitat waxiidad bu tha sita wababla ta aasiat. 2                                                                                                                                           |                  |
| H 3.0. Is the habitat provided by the site valuable to society?                                                                                                                                           |                  |
| H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? <i>Choose only the highest score</i>                                                                           |                  |
| that applies to the wetland being rated.                                                                                                                                                                  |                  |
| Site meets ANY of the following criteria: points = 2                                                                                                                                                      |                  |
| It has 3 or more priority habitats within 100 m (see next page)                                                                                                                                           |                  |
| <ul><li>It provides habitat for Threatened or Endangered species (any plant or animal on the state or federal lists)</li><li>It is mapped as a location for an individual WDFW priority species</li></ul> |                  |
| It is a Wetland of High Conservation Value as determined by the Department of Natural Resources                                                                                                           |                  |
| It has been categorized as an important habitat site in a local or regional comprehensive plan, in a                                                                                                      |                  |
| Shoreline Master Plan, or in a watershed plan                                                                                                                                                             |                  |
| Site has 1 or 2 priority habitats (listed on next page) within 100 m points = 1                                                                                                                           |                  |
| Site does not meet any of the criteria above points = 0                                                                                                                                                   |                  |
| Rating of Value If score is:2 = HX_1 = M0 = L Record the rating or                                                                                                                                        | n the first page |
|                                                                                                                                                                                                           |                  |

## **WDFW Priority Habitats**

<u>Priority habitats listed by WDFW</u> (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. <a href="http://wdfw.wa.gov/publications/00165/wdfw00165.pdf">http://wdfw.wa.gov/publications/00165/wdfw00165.pdf</a> or access the list from here: <a href="http://wdfw.wa.gov/conservation/phs/list/">http://wdfw.wa.gov/conservation/phs/list/</a>)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland unit: NOTE: This question is independent of the land use between the wetland unit and the priority habitat. **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha). Biodiversity Areas and Corridors: Areas of habitat that are relatively important to various species of native fish and wildlife (full descriptions in WDFW PHS report). Herbaceous Balds: Variable size patches of grass and forbs on shallow soils over bedrock. Old-growth/Mature forests: Old-growth west of Cascade crest – Stands of at least 2 tree species, forming a multilayered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) > 32 in (81 cm) dbh or > 200 years of age. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in oldgrowth; 80-200 years old west of the Cascade crest. Oregon White Oak: Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (full descriptions in WDFW PHS report p. 158 – see web link above). X Riparian: The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other. Westside Prairies: Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (full descriptions in WDFW PHS report p. 161 – see web link above). X Instream: The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources. Nearshore: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (full descriptions of habitats and the definition of relatively undisturbed are in WDFW report – see web link on previous page). Caves: A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human. **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation. Talus: Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs. \_Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed

elsewhere.

## **CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS**

| Wetland Type                                                                                                                                                                                                                             | Category |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| wedalia Type                                                                                                                                                                                                                             | Category |
| Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.                                                                                                                             |          |
| SC 1.0. Estuarine wetlands                                                                                                                                                                                                               |          |
| Does the wetland meet the following criteria for Estuarine wetlands?                                                                                                                                                                     |          |
| — The dominant water regime is tidal,                                                                                                                                                                                                    |          |
| — Vegetated, and                                                                                                                                                                                                                         |          |
| — With a salinity greater than 0.5 ppt Yes –Go to <b>SC 1.1</b> No= <b>Not an estuarine wetland</b>                                                                                                                                      |          |
| SC 1.1. Is the wetland within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area                                                                                                                          |          |
| Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151?                                                                                                                               | Cat. I   |
| Yes = Category I No - Go to SC 1.2                                                                                                                                                                                                       | Cuti     |
| SC 1.2. Is the wetland unit at least 1 ac in size and meets at least two of the following three conditions?                                                                                                                              |          |
| — The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less                                                                                                                            | Cat. I   |
| than 10% cover of non-native plant species. (If non-native species are <i>Spartina</i> , see page 25)                                                                                                                                    | Cat. I   |
| — At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-                                                                                                                               |          |
| mowed grassland.                                                                                                                                                                                                                         | Cat. II  |
| — The wetland has at least two of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands. Yes = Category I No = Category II                                                              |          |
| contiguous frestiwater wetianus.                                                                                                                                                                                                         |          |
| SC 2.0. Wetlands of High Conservation Value (WHCV)                                                                                                                                                                                       |          |
| SC 2.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High                                                                                                                         |          |
| Conservation Value? Yes – Go to SC 2.2 No – Go to SC 2.3                                                                                                                                                                                 | Cat. I   |
| SC 2.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value?                                                                                                                                              |          |
| Yes = Category I No = Not a WHCV                                                                                                                                                                                                         |          |
| SC 2.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? <a href="http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf">http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf</a> |          |
| Yes – Contact WNHP/WDNR and go to SC 2.4 No = Not a WHCV                                                                                                                                                                                 |          |
| SC 2.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and listed it on                                                                                                                        |          |
| their website? Yes = Category I No = Not a WHCV                                                                                                                                                                                          |          |
| SC 3.0. Bogs                                                                                                                                                                                                                             |          |
| Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? Use the key                                                                                                                          |          |
| below. If you answer YES you will still need to rate the wetland based on its functions.                                                                                                                                                 |          |
| SC 3.1. Does an area within the wetland unit have organic soil horizons, either peats or mucks, that compose 16 in or                                                                                                                    |          |
| more of the first 32 in of the soil profile? Yes – Go to SC 3.3 No – Go to SC 3.2                                                                                                                                                        |          |
| SC 3.2. Does an area within the wetland unit have organic soils, either peats or mucks, that are less than 16 in deep                                                                                                                    |          |
| over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond?  Yes – Go to SC 3.3  No = 1 not a bog                                                                               |          |
| pond? Yes – Go to <b>SC 3.3</b> No = <b>1</b> not a bog SC 3.3. Does an area with peats or mucks have more than 70% cover of mosses at ground level, AND at least a 30%                                                                  |          |
| cover of plant species listed in Table 4? Yes = Is a Category I bog No - Go to SC 3.4                                                                                                                                                    |          |
| <b>NOTE:</b> If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by                                                                                                                     |          |
| measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the                                                                                                                         |          |
| plant species in Table 4 are present, the wetland is a bog.                                                                                                                                                                              | Cat. I   |
| SC 3.4. Is an area with peats or mucks forested (> 30% cover) with Sitka spruce, subalpine fir, western red cedar,                                                                                                                       |          |
| western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the                                                                                                                                  |          |
| species (or combination of species) listed in Table 4 provide more than 30% of the cover under the canopy?                                                                                                                               |          |
| Yes = <b>is a Category I bog</b> No <b>= is not a bog</b>                                                                                                                                                                                |          |

| Category of wetland based on Special Characteristics If you answered No for all types, enter "Not Applicable" on Summary Form                                                                                                                                                                  | N/A      |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| Yes = Category III No = Category IV                                                                                                                                                                                                                                                            | Cat. IV  |
| Yes = Category II No – Go to SC 6.3  C 6.3. Is the unit between 0.1 and 1 ac, or is it in a mosaic of wetlands that is between 0.1 and 1 ac?                                                                                                                                                   | Cat. III |
| C 6.1. Is the wetland 1 ac or larger and scores an 8 or 9 for the habitat functions on the form (rates H,H,H or H,H,M for the three aspects of function)?  Yes = Category I  No – Go to SC 6.2  C 6.2. Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger? | Cat. II  |
| Yes – Go to SC 6.1 No = not an interdunal wetland for rating                                                                                                                                                                                                                                   |          |
| <ul> <li>— Grayland-Westport: Lands west of SR 105</li> <li>— Ocean Shores-Copalis: Lands west of SR 115 and SR 109</li> </ul>                                                                                                                                                                 | Cat I    |
| — Long Beach Peninsula: Lands west of SR 103                                                                                                                                                                                                                                                   | Cati     |
| In practical terms that means the following geographic areas:                                                                                                                                                                                                                                  |          |
| you answer yes you will still need to rate the wetland based on its habitat functions.                                                                                                                                                                                                         |          |
| C 6.0. Interdunal Wetlands Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? If                                                                                                                                                             |          |
| Yes = Category I No = Category II                                                                                                                                                                                                                                                              |          |
| mowed grassland.  — The wetland is larger than $^{1}/_{10}$ ac (4350 ft <sup>2</sup> )                                                                                                                                                                                                         |          |
| — At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-                                                                                                                                                                                     |          |
| than 20% cover of aggressive, opportunistic plant species (see list of species on p. 100).                                                                                                                                                                                                     | Cat. II  |
| C 5.1. Does the wetland meet all of the following three conditions?  — The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less                                                                                                            |          |
| Yes – Go to SC 5.1 No = Not a wetland in a coastal lagoon                                                                                                                                                                                                                                      |          |
| during most of the year in at least a portion of the lagoon (needs to be measured near the bottom)                                                                                                                                                                                             | Cat. I   |
| marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks — The lagoon in which the wetland is located contains ponded water that is saline or brackish (> 0.5 ppt)                                                                                                        |          |
| — The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from                                                                                                                                                                                        |          |
| Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?                                                                                                                                                                                                          |          |
| C 5.0. Wetlands in Coastal Lagoons                                                                                                                                                                                                                                                             |          |
| Yes = Category I No = Not a forested wetland for this section                                                                                                                                                                                                                                  | Cat. I   |
| species that make up the canopy have an average diameter (dbh) exceeding 21 in (53 cm).                                                                                                                                                                                                        |          |
| — <b>Mature forests</b> (west of the Cascade Crest): Stands where the largest trees are 80- 200 years old OR the                                                                                                                                                                               |          |
| canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 in (81 cm) or more.                                                                                                           |          |
| — <b>Old-growth forests</b> (west of Cascade crest): Stands of at least two tree species, forming a multi-layered                                                                                                                                                                              |          |
| the wetland based on its functions.                                                                                                                                                                                                                                                            |          |
| Department of Fish and Wildlife's forests as priority habitats? <i>If you answer YES you will still need to rate</i>                                                                                                                                                                           |          |
| Does the wetland have at least <u>1 contiguous acre</u> of forest that meets one of these criteria for the WA                                                                                                                                                                                  |          |

Wetland name or number Wetland E

# **RATING SUMMARY – Western Washington**

| Name of wetland (or ID #): <u>We</u>            | tland F               | D               | ate of site vis    | sit: <u>1/17/17</u>          |                |
|-------------------------------------------------|-----------------------|-----------------|--------------------|------------------------------|----------------|
| Rated by <u>Katie Boa</u>                       | Trained by            | Ecology? Yes    | <u>X</u> No        | Date of trainin              | g <u>11/16</u> |
| HGM Class used for rating Slo                   | ope                   | Wetland has m   | ultiple HGM        | classes?Y _                  | <u>X</u> N     |
| NOTE: Form is not comp<br>Source of base aerial |                       | -               | ed (figures co     | an be combined               | IJ.            |
| OVERALL WETLAND CATE                            | GORY <u>IV</u> (I     | pased on functi | ons <u>X</u> or sp | ecial character              | istics)        |
| 1. Category of wetland ba                       | sed on FUNCTIO        | ONS             |                    |                              |                |
| Category I –                                    | Total score = 23 –    | 27              | ſ                  |                              |                |
| Category II –                                   | Total score = 20 -    | - 22            |                    | Score for each function base |                |
| Category III -                                  | - Total score = 16    | <b>–</b> 19     |                    | on three ratings             |                |
| X Category IV                                   | / – Total score = 9 - | - 15            |                    | (order of ratir is not       | igs            |
| FUNCTION Improving                              | Hydrologic            | Habitat         |                    | important)                   |                |
| Water Quali                                     | tv                    |                 |                    |                              |                |

| FUNCTION                  | Improving Water Quality |   |          | Hydrologic |          |          |       | Habitat  |          |       |
|---------------------------|-------------------------|---|----------|------------|----------|----------|-------|----------|----------|-------|
|                           |                         |   |          |            | Circle 1 | the ap   | propr | iate ra  | tings    |       |
| Site Potential            | Н                       | М | <u>L</u> | Н          | М        | <u>L</u> | Н     | М        | <u>L</u> |       |
| Landscape Potential       | Н                       | М | <u>L</u> | Н          | М        | <u>L</u> | Н     | M        | L        |       |
| Value                     | <u>H</u>                | М | L        | Н          | M        | L        | Н     | <u>M</u> | L        | TOTAL |
| Score Based on<br>Ratings |                         | 5 |          |            | 4        |          |       | 5        |          | 14    |

Score for each function based on three ratings (order of ratings is not important)

9 = H,H,H
8 = H,H,M
7 = H,H,L
7 = H,M,M
6 = H,M,L
5 = M,M,M
5 = H,L,L
5 = M,M,L
4 = M,L,L
3 = L,L,L

## 2. Category based on SPECIAL CHARACTERISTICS of wetland

| CHARACTERISTIC                     | CATEGORY    |  |
|------------------------------------|-------------|--|
| Estuarine                          | I II        |  |
| Wetland of High Conservation Value | I           |  |
| Bog                                | I           |  |
| Mature Forest                      | I           |  |
| Old Growth Forest                  | I           |  |
| Coastal Lagoon                     | I II        |  |
| Interdunal                         | I II III IV |  |
| None of the above                  | N/A         |  |

# Maps and figures required to answer questions correctly for Western Washington

## **Depressional Wetlands**

| Map of:                                                                        | To answer questions: | Figure # |
|--------------------------------------------------------------------------------|----------------------|----------|
| Cowardin plant classes                                                         | D 1.3, H 1.1, H 1.4  |          |
| Hydroperiods                                                                   | D 1.4, H 1.2         |          |
| Location of outlet (can be added to map of hydroperiods)                       | D 1.1, D 4.1         |          |
| Boundary of area within 150 ft of the wetland (can be added to another figure) | D 2.2, D 5.2         |          |
| Map of the contributing basin                                                  | D 4.3, D 5.3         |          |
| 1 km Polygon: Area that extends 1 km from entire wetland edge - including      | H 2.1, H 2.2, H 2.3  |          |
| polygons for accessible habitat and undisturbed habitat                        |                      |          |
| Screen capture of map of 303(d) listed waters in basin (from Ecology website)  | D 3.1, D 3.2         |          |
| Screen capture of list of TMDLs for WRIA in which unit is found (from web)     | D 3.3                |          |

## Riverine Wetlands

| Map of:                                                                        | To answer questions: | Figure # |
|--------------------------------------------------------------------------------|----------------------|----------|
| Cowardin plant classes                                                         | H 1.1, H 1.4         |          |
| Hydroperiods                                                                   | H 1.2                |          |
| Ponded depressions                                                             | R 1.1                |          |
| Boundary of area within 150 ft of the wetland (can be added to another figure) | R 2.4                |          |
| Plant cover of trees, shrubs, and herbaceous plants                            | R 1.2, R 4.2         |          |
| Width of unit vs. width of stream (can be added to another figure)             | R 4.1                |          |
| Map of the contributing basin                                                  | R 2.2, R 2.3, R 5.2  |          |
| 1 km Polygon: Area that extends 1 km from entire wetland edge - including      | H 2.1, H 2.2, H 2.3  |          |
| polygons for accessible habitat and undisturbed habitat                        |                      |          |
| Screen capture of map of 303(d) listed waters in basin (from Ecology website)  | R 3.1                |          |
| Screen capture of list of TMDLs for WRIA in which unit is found (from web)     | R 3.2, R 3.3         |          |

## Lake Fringe Wetlands

| Map of:                                                                        | To answer questions:       | Figure # |
|--------------------------------------------------------------------------------|----------------------------|----------|
| Cowardin plant classes                                                         | L 1.1, L 4.1, H 1.1, H 1.4 |          |
| Plant cover of trees, shrubs, and herbaceous plants                            | L 1.2                      |          |
| Boundary of area within 150 ft of the wetland (can be added to another figure) | L 2.2                      |          |
| 1 km Polygon: Area that extends 1 km from entire wetland edge - including      | H 2.1, H 2.2, H 2.3        |          |
| polygons for accessible habitat and undisturbed habitat                        |                            |          |
| Screen capture of map of 303(d) listed waters in basin (from Ecology website)  | L 3.1, L 3.2               |          |
| Screen capture of list of TMDLs for WRIA in which unit is found (from web)     | L 3.3                      |          |

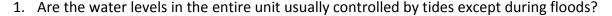
## Slope Wetlands

| Map of:                                                                         | To answer questions: | Figure # |
|---------------------------------------------------------------------------------|----------------------|----------|
| Cowardin plant classes                                                          | H 1.1, H 1.4         | 10       |
| Hydroperiods                                                                    | H 1.2                | 10       |
| Plant cover of <b>dense</b> trees, shrubs, and herbaceous plants                | S 1.3                | 10       |
| Plant cover of <b>dense</b> , <b>rigid</b> trees, shrubs, and herbaceous plants | S 4.1                | 10       |
| (can be added to figure above)                                                  |                      | 10       |
| Boundary of 150 ft buffer (can be added to another figure)                      | S 2.1, S 5.1         | 10       |
| 1 km Polygon: Area that extends 1 km from entire wetland edge - including       | H 2.1, H 2.2, H 2.3  | 15       |
| polygons for accessible habitat and undisturbed habitat                         |                      | 15       |
| Screen capture of map of 303(d) listed waters in basin (from Ecology website)   | S 3.1, S 3.2         | 17       |
| Screen capture of list of TMDLs for WRIA in which unit is found (from web)      | S 3.3                | 17       |

# **HGM Classification of Wetlands in Western Washington**

For questions 1-7, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-7 apply, and go to Question 8.



NO – go to 2

**YES** – the wetland class is **Tidal Fringe** – go to 1.1

1.1 Is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)?

### NO – Saltwater Tidal Fringe (Estuarine)

YES - Freshwater Tidal Fringe

If your wetland can be classified as a Freshwater Tidal Fringe use the forms for **Riverine** wetlands. If it is Saltwater Tidal Fringe it is an **Estuarine** wetland and is not scored. This method **cannot** be used to score functions for estuarine wetlands.

- 2. The entire wetland unit is flat and precipitation is the only source (>90%) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit.
  - NO go to 3

YES - The wetland class is Flats

If your wetland can be classified as a Flats wetland, use the form for **Depressional** wetlands.

- 3. Does the entire wetland unit **meet all** of the following criteria?
  - \_\_\_The vegetated part of the wetland is on the shores of a body of permanent open water (without any plants on the surface at any time of the year) at least 20 ac (8 ha) in size;
    - At least 30% of the open water area is deeper than 6.6 ft (2 m).

NO – go to 4

**YES** – The wetland class is **Lake Fringe** (Lacustrine Fringe)

- 4. Does the entire wetland unit **meet all** of the following criteria?
  - The wetland is on a slope (slope can be very gradual),
  - \_\_\_\_The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks,
  - \_\_\_\_The water leaves the wetland without being impounded.

NO - go to 5

**YES** – The wetland class is **Slope** 

**NOTE**: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 ft deep).

- 5. Does the entire wetland unit **meet all** of the following criteria?
  - \_\_\_The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river,
  - \_\_\_\_The overbank flooding occurs at least once every 2 years.

NO - go to 6

YES - The wetland class is Riverine NOTE:

The Riverine unit can contain depressions that are filled with water when the river is not flooding

6. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year? This means that any outlet, if present, is higher than the interior of the wetland.

NO - go to 7

**YES** – The wetland class is **Depressional** 

7. Is the entire wetland unit located in a very flat area with no obvious depression and no overbank flooding? The unit does not pond surface water more than a few inches. The unit seems to be maintained by high groundwater in the area. The wetland may be ditched, but has no obvious natural outlet.

NO - go to 8

**YES** – The wetland class is **Depressional** 

8. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

**NOTE**: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the HGM class listed in column 2 is less than 10% of the unit; classify the wetland using the class that represents more than 90% of the total area.

| HGM classes within the wetland unit   | HGM class to  |
|---------------------------------------|---------------|
| being rated                           | use in rating |
| Slope + Riverine                      | Riverine      |
| Slope + Depressional                  | Depressional  |
| Slope + Lake Fringe                   | Lake Fringe   |
| Depressional + Riverine along stream  | Depressional  |
| within boundary of depression         |               |
| Depressional + Lake Fringe            | Depressional  |
| Riverine + Lake Fringe                | Riverine      |
| Salt Water Tidal Fringe and any other | Treat as      |
| class of freshwater wetland           | ESTUARINE     |

If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.

| SLOPE WETLANDS                                                                                                                                                                                                                                                                                                               |   |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|
| Water Quality Functions - Indicators that the site functions to improve water quality                                                                                                                                                                                                                                        |   |
| S 1.0. Does the site have the potential to improve water quality?                                                                                                                                                                                                                                                            |   |
| S 1.1. Characteristics of the average slope of the wetland: (a 1% slope has a 1 ft vertical drop in elevation for every 100 ft of horizontal distance)                                                                                                                                                                       |   |
| Slope is 1% or less points = 3                                                                                                                                                                                                                                                                                               | 0 |
| Slope is > 1%-2% points = 2                                                                                                                                                                                                                                                                                                  | • |
| Slope is > 2%-5% points = 1                                                                                                                                                                                                                                                                                                  |   |
| Slope is greater than 5% points = 0                                                                                                                                                                                                                                                                                          |   |
| S 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions): Yes = 3 No = 0                                                                                                                                                                                                   | 0 |
| S 1.3. Characteristics of the plants in the wetland that trap sediments and pollutants:  Choose the points appropriate for the description that best fits the plants in the wetland. Dense means you have trouble seeing the soil surface (>75% cover), and uncut means not grazed or mowed and plants are higher than 6 in. |   |
| Dense, uncut, herbaceous plants > 90% of the wetland area points = 6                                                                                                                                                                                                                                                         | 2 |
| Dense, uncut, herbaceous plants > ½ of area points = 3                                                                                                                                                                                                                                                                       |   |
| Dense, woody, plants > ½ of area points = 2                                                                                                                                                                                                                                                                                  |   |
| Dense, uncut, herbaceous plants > ¼ of area points = 1                                                                                                                                                                                                                                                                       |   |
| Does not meet any of the criteria above for plants points = 0                                                                                                                                                                                                                                                                |   |
| Total for S 1 Add the points in the boxes above                                                                                                                                                                                                                                                                              | 2 |

Rating of Site Potential If score is: 12 = H 6-11 = M X 0-5 = L

Record the rating on the first page

| S 2.0. Does the landscape have the potential to support the water quality function of the site?                                            |   |
|--------------------------------------------------------------------------------------------------------------------------------------------|---|
| S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?  Yes = 1 No = 0         | 0 |
| S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?  Other sources  Yes = 1 No = 0 | 0 |
| Total for S 2 Add the points in the boxes above                                                                                            | 0 |

Rating of Landscape Potential If score is: 1-2 = M X 0 = L

Record the rating on the first page

| S 3.0. Is the water quality improvement provided by the site valuable to society?                                                                                                                      |   |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|
| S 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list?  Yes = 1 No = 0                                                   | 1 |
| S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue? At least one aquatic resource in the basin is on the $303(d)$ list. Yes = 1 No = 0                                      | 1 |
| S 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality? <i>Answer YES</i> if there is a TMDL for the basin in which unit is found. Yes = 2 No = 0 | 2 |
| Total for S 3 Add the points in the boxes above                                                                                                                                                        | 4 |

Rating of Value If score is: X 2-4 = H \_\_\_1 = M \_\_\_0 = L

Record the rating on the first page

| SLOPE WETLANDS                                                                                                                                                                                                                               |                  |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| Hydrologic Functions - Indicators that the site functions to reduce flooding and stream eros                                                                                                                                                 | sion             |
| S 4.0. Does the site have the potential to reduce flooding and stream erosion?                                                                                                                                                               |                  |
| S 4.1. Characteristics of plants that reduce the velocity of surface flows during storms: Choose the points appropriate for the description that best fits conditions in the wetland. Stems of plants should be thick enough (usually > 1/2) |                  |
| in), or dense enough, to remain erect during surface flows.                                                                                                                                                                                  | 0                |
| Dense, uncut, <b>rigid</b> plants cover > 90% of the area of the wetland points = 1                                                                                                                                                          |                  |
| All other conditions points = 0                                                                                                                                                                                                              |                  |
| Rating of Site Potential If score is: 1 = M X 0 = L Record the rating of                                                                                                                                                                     | n the first nage |

| S 5.0. Does the landscape have the potential to support the hydrologic functions of the site?                                                   |                  |
|-------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| S 5.1. Is more than 25% of the area within 150 ft upslope of wetland in land uses or cover that generate excess surface runoff?  Yes = 1 No = 0 | 0                |
| Rating of Landscape Potential If score is: 1 = M X 0 = L Record the rating or                                                                   | n the first page |

| S 6.0. Are the hydrologic functions provided by the site valuable to society?                                                                                                                                                                                                                                                  |                                                                 |   |  |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------|---|--|
| S 6.1. Distance to the nearest areas downstream that have flooding problems:  The sub-basin immediately down-gradient of site has flooding problems that result natural resources (e.g., houses or salmon redds)  Surface flooding problems are in a sub-basin farther down-gradient  No flooding problems anywhere downstream | in damage to human or<br>points = 2<br>points = 1<br>points = 0 | 1 |  |
| S 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?  Yes = 2 No = 0                                                                                                                                                                                       |                                                                 |   |  |
| Total for S 6 Add th                                                                                                                                                                                                                                                                                                           | e points in the boxes above                                     | 1 |  |

Rating of Value If score is: \_\_\_2-4 = H \_\_X \_\_1 = M \_\_\_0 = L

Record the rating on the first page

NOTES and FIELD OBSERVATIONS:

#### These questions apply to wetlands of all HGM classes. **HABITAT FUNCTIONS** - Indicators that site functions to provide important habitat H 1.0. Does the site have the potential to provide habitat? H 1.1. Structure of plant community: Indicators are Cowardin classes and strata within the Forested class. Check the Cowardin plant classes in the wetland. Up to 10 patches may be combined for each class to meet the threshold of ¼ ac or more than 10% of the unit if it is smaller than 2.5 ac. Add the number of structures checked. Aquatic bed 4 structures or more: points = 4 Emergent 3 structures: points = 2 1 Scrub-shrub (areas where shrubs have > 30% cover) 2 structures: points = 1 X Forested (areas where trees have > 30% cover) 1 structure: points = 0 If the unit has a Forested class, check if: X The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the Forested polygon H 1.2. Hydroperiods Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or ¼ ac to count (see text for descriptions of hydroperiods). Permanently flooded or inundated 4 or more types present: points = 3 Seasonally flooded or inundated 3 types present: points = 2 Occasionally flooded or inundated 2 types present: points = 1 1 X Saturated only 1 type present: points = 0 Permanently flowing stream or river in, or adjacent to, the wetland X Seasonally flowing stream in, or adjacent to, the wetland Lake Fringe wetland 2 points Freshwater tidal wetland 2 points H 1.3. Richness of plant species Count the number of plant species in the wetland that cover at least 10 ft<sup>2</sup>. Different patches of the same species can be combined to meet the size threshold and you do not have to name the species. Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle 1 If you counted: > 19 species points = 2 5 - 19 species points = 1< 5 species points = 0 H 1.4. Interspersion of habitats Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. If you have four or more plant classes or three classes and open water, the rating is always high. 1 None = 0 points Low = 1 point Moderate = 2 points All three diagrams in this row are **HIGH** = 3points

# Wetland name or number Wetland F

| •                                                                                                                                                                                |                             |                  |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|------------------|
| H 1.5. Special habitat features:                                                                                                                                                 |                             |                  |
| Check the habitat features that are present in the wetland. <i>The number of checks is</i>                                                                                       |                             |                  |
| Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long)                                                                                                   |                             |                  |
| Standing snags (dbh > 4 in) within the wetland                                                                                                                                   |                             |                  |
| Undercut banks are present for at least 6.6 ft (2 m) and/or overhanging plants of over a stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (10 plants).   | • •                         |                  |
| Stable steep banks of fine material that might be used by beaver or muskrat fo                                                                                                   | r denning (> 30 degree      | 5                |
| slope) OR signs of recent beaver activity are present (cut shrubs or trees that h<br>where wood is exposed)                                                                      | nave not yet weathered      |                  |
| At least ¼ ac of thin-stemmed persistent plants or woody branches are present                                                                                                    | in areas that are           |                  |
| permanently or seasonally inundated (structures for egg-laying by amphibians                                                                                                     | )                           |                  |
| $\underline{X}$ Invasive plants cover less than 25% of the wetland area in every stratum of plan                                                                                 | nts (see H 1.1 for list of  |                  |
| strata)                                                                                                                                                                          |                             |                  |
| Total for H 1 Add the                                                                                                                                                            | points in the boxes above   | 5                |
| Rating of Site Potential If score is:15-18 = H7-14 = MX0-6 = L                                                                                                                   | Record the rating or        | the first page   |
| H 2.0. Does the landscape have the potential to support the habitat functions of the                                                                                             | ne site?                    |                  |
| H 2.1. Accessible habitat (include only habitat that directly abuts wetland unit).                                                                                               |                             |                  |
| Calculate: % undisturbed habitat + [(% moderate and low intensity land                                                                                                           | d uses)/21 = %              |                  |
| If total accessible habitat is:                                                                                                                                                  |                             |                  |
| > <sup>1</sup> / <sub>3</sub> (33.3%) of 1 km Polygon                                                                                                                            | points = 3                  | 2                |
| 20-33% of 1 km Polygon                                                                                                                                                           | points = 2                  | _                |
| 10-19% of 1 km Polygon                                                                                                                                                           | points = 1                  |                  |
| < 10% of 1 km Polygon                                                                                                                                                            | points = 0                  |                  |
| H 2.2. Undisturbed habitat in 1 km Polygon around the wetland.                                                                                                                   | points                      |                  |
| Calculate: % undisturbed habitat + [(% moderate and low intensity land                                                                                                           | 1 uses)/21 = %              |                  |
| Undisturbed habitat > 50% of Polygon                                                                                                                                             | points = 3                  |                  |
| Undisturbed habitat 10-50% and in 1-3 patches                                                                                                                                    | points = 2                  | 0                |
| Undisturbed habitat 10-50% and > 3 patches                                                                                                                                       | points = 1                  |                  |
| · ·                                                                                                                                                                              | points = 0                  |                  |
| Undisturbed habitat < 10% of 1 km Polygon                                                                                                                                        | points – 0                  |                  |
| H 2.3. Land use intensity in 1 km Polygon: If                                                                                                                                    | nainta (2)                  | 0                |
| > 50% of 1 km Polygon is high intensity land use                                                                                                                                 | points = (-2)               | 0                |
| ≤ 50% of 1 km Polygon is high intensity                                                                                                                                          | points = 0                  |                  |
| •                                                                                                                                                                                | points in the boxes above   | 2                |
| Rating of Landscape Potential If score is:4-6 = HX_1-3 = M<1 = L                                                                                                                 | Record the rating on        | tne Jirst page   |
| H 3.0. Is the habitat provided by the site valuable to society?                                                                                                                  |                             |                  |
| H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? <i>Cha</i>                                                                            | acco only the highest score |                  |
| that applies to the wetland being rated.                                                                                                                                         | oose only the highest score |                  |
| Site meets ANY of the following criteria:                                                                                                                                        | points = 2                  |                  |
| ☑ It has 3 or more priority habitats within 100 m (see next page)                                                                                                                | po                          |                  |
| <ul> <li>It provides habitat for Threatened or Endangered species (any plant or animal on</li> <li>It is mapped as a location for an individual WDFW priority species</li> </ul> | the state or federal lists) |                  |
| It is a Wetland of High Conservation Value as determined by the Department of N                                                                                                  | Natural Resources           |                  |
| It has been categorized as an important habitat site in a local or regional compre                                                                                               |                             |                  |
| Shoreline Master Plan, or in a watershed plan                                                                                                                                    | • •                         |                  |
| Site has 1 or 2 priority habitats (listed on next page) within 100 m                                                                                                             | points = 1                  |                  |
| Site does not meet any of the criteria above                                                                                                                                     | points = 0                  |                  |
| Rating of Value If score is:2 = HX _1 = M0 = L                                                                                                                                   | Record the rating or        | n the first page |
|                                                                                                                                                                                  |                             |                  |

### **WDFW Priority Habitats**

<u>Priority habitats listed by WDFW</u> (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. <a href="http://wdfw.wa.gov/publications/00165/wdfw00165.pdf">http://wdfw.wa.gov/publications/00165/wdfw00165.pdf</a> or access the list from here: <a href="http://wdfw.wa.gov/conservation/phs/list/">http://wdfw.wa.gov/conservation/phs/list/</a>)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland unit: NOTE: This question is independent of the land use between the wetland unit and the priority habitat. **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha). Biodiversity Areas and Corridors: Areas of habitat that are relatively important to various species of native fish and wildlife (full descriptions in WDFW PHS report). Herbaceous Balds: Variable size patches of grass and forbs on shallow soils over bedrock. Old-growth/Mature forests: Old-growth west of Cascade crest – Stands of at least 2 tree species, forming a multilayered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) > 32 in (81 cm) dbh or > 200 years of age. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in oldgrowth; 80-200 years old west of the Cascade crest. Oregon White Oak: Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (full descriptions in WDFW PHS report p. 158 – see web link above). X Riparian: The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other. Westside Prairies: Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (full descriptions in WDFW PHS report p. 161 – see web link above). X Instream: The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources. Nearshore: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (full descriptions of habitats and the definition of relatively undisturbed are in WDFW report – see web link on previous page). Caves: A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human. **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation. Talus: Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs. \_Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.

**Note:** All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

### **CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS**

| Wetland Type                                                                                                                                                                                                                         | Category |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| vecialia Type                                                                                                                                                                                                                        | Category |
| Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.                                                                                                                         |          |
| SC 1.0. Estuarine wetlands                                                                                                                                                                                                           |          |
| Does the wetland meet the following criteria for Estuarine wetlands?                                                                                                                                                                 |          |
| — The dominant water regime is tidal,                                                                                                                                                                                                |          |
| — Vegetated, and                                                                                                                                                                                                                     |          |
| — With a salinity greater than 0.5 ppt Yes –Go to <b>SC 1.1</b> No= <b>Yot an estuarine wetland</b>                                                                                                                                  |          |
| SC 1.1. Is the wetland within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area                                                                                                                      |          |
| Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151?                                                                                                                           | Cat. I   |
| Yes = Category I No - Go to SC 1.2                                                                                                                                                                                                   |          |
| SC 1.2. Is the wetland unit at least 1 ac in size and meets at least two of the following three conditions?                                                                                                                          |          |
| — The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less                                                                                                                        | Cat. I   |
| than 10% cover of non-native plant species. (If non-native species are <i>Spartina</i> , see page 25)                                                                                                                                | Cat. I   |
| — At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-                                                                                                                           |          |
| mowed grassland. — The wetland has at least two of the following features: tidal channels, depressions with open water, or                                                                                                           | Cat. II  |
| contiguous freshwater wetlands.  Yes = Category I  No = Category II                                                                                                                                                                  |          |
| contiguous incanwater wetianas.                                                                                                                                                                                                      |          |
| SC 2.0. Wetlands of High Conservation Value (WHCV)                                                                                                                                                                                   |          |
| SC 2.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High                                                                                                                     | Cat. I   |
| Conservation Value? Yes – Go to SC 2.2 No – Go to SC 2.3                                                                                                                                                                             | Cat. I   |
| SC 2.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value?  Yes = Category I  No = Not a WHCV                                                                                                       |          |
| Yes = Category I No = Not a WHCV SC 2.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland?                                                                                                        |          |
| http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf                                                                                                                                                                       |          |
| Yes – Contact WNHP/WDNR and go to SC 2.4 No = Not a WHCV                                                                                                                                                                             |          |
| SC 2.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and listed it on                                                                                                                    |          |
| their website? Yes = Category I No = Not a WHCV                                                                                                                                                                                      |          |
| SC 3.0. Bogs                                                                                                                                                                                                                         |          |
| Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? Use the key                                                                                                                      |          |
| below. If you answer YES you will still need to rate the wetland based on its functions.                                                                                                                                             |          |
| SC 3.1. Does an area within the wetland unit have organic soil horizons, either peats or mucks, that compose 16 in or                                                                                                                |          |
| more of the first 32 in of the soil profile? Yes – Go to SC 3.3 No – Go to SC 3.2                                                                                                                                                    |          |
| SC 3.2. Does an area within the wetland unit have organic soils, either peats or mucks, that are less than 16 in deep over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or |          |
| pond? Yes – Go to SC 3.3 No = 1 not a bog                                                                                                                                                                                            |          |
| SC 3.3. Does an area with peats or mucks have more than 70% cover of mosses at ground level, AND at least a 30%                                                                                                                      |          |
| cover of plant species listed in Table 4? Yes = Is a Category I bog No – Go to SC 3.4                                                                                                                                                |          |
| NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by                                                                                                                        |          |
| measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the                                                                                                                     |          |
| plant species in Table 4 are present, the wetland is a bog.                                                                                                                                                                          | Cat. I   |
| SC 3.4. Is an area with peats or mucks forested (> 30% cover) with Sitka spruce, subalpine fir, western red cedar,                                                                                                                   |          |
| western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the                                                                                                                              |          |
| species (or combination of species) listed in Table 4 provide more than 30% of the cover under the canopy?  Yes = Is a Category I bog No = Is not a bog                                                                              |          |
| res = is a Category i bog NO = is not a bog                                                                                                                                                                                          |          |

| Does the wetland have at least 1 contiguous acre of forest that meets one of these criteria for the WA Department of Fish and Wildlife's forests as priority habitats? If you answer YES you will still need to rate the wetland based on its functions.  — Old-growth forests (west of Cascade crest): Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 in (81 cm) or more.  — Mature forests (west of the Cascade Crest): Stands where the largest trees are 80-200 years old OR the species that make up the canopy have an average diameter (dbh) exceeding 21 in (53 cm).  Yes = Category I No = lot a forested wetland for this section  SC 5.0. Wetlands in Coastal Lagoons  Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?  — The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks  — The lagoon in which the wetland is located contains ponded water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (needs to be measured near the bottom)  Yes - Go to SC 5.1 No = Not a wetland in a coastal lagoon  SC 5.1. Does the wetland meet all of the following three conditions?  — The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of aggressive, opportunistic plant species (see list of species on p. 100).  — At least ½ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un- mowed grassland.  — The wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? If you answer yes you will still need to rate the wetland based on its habitat functions. |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| - Old-growth forests (west of Cascade crest): Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 in (81 cm) or more.  - Mature forests (west of the Cascade Crest): Stands where the largest trees are 80- 200 years old OR the species that make up the canopy have an average diameter (dbh) exceeding 21 in (53 cm).  Yes = Category I                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?  — The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks  — The lagoon in which the wetland is located contains ponded water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (needs to be measured near the bottom)  Yes – Go to SC 5.1 No = Not a wetland in a coastal lagoon  SC 5.1. Does the wetland meet all of the following three conditions?  — The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of aggressive, opportunistic plant species (see list of species on p. 100).  — At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or unmowed grassland.  — The wetland is larger than ¹/¹0 ac (4350 ft²)  Yes = Category I No = Category II  SC 6.0. Interdunal Wetlands  Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? If                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?  — The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks  — The lagoon in which the wetland is located contains ponded water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (needs to be measured near the bottom)  Yes – Go to SC 5.1  No = Not a wetland in a coastal lagoon  SC 5.1. Does the wetland meet all of the following three conditions?  — The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of aggressive, opportunistic plant species (see list of species on p. 100).  — At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or unmowed grassland.  — The wetland is larger than ¹/10 ac (4350 ft²)  Yes = Category I  No = Category II  SC 6.0. Interdunal Wetlands  Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? If                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <ul> <li>The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks</li> <li>The lagoon in which the wetland is located contains ponded water that is saline or brackish (&gt; 0.5 ppt) during most of the year in at least a portion of the lagoon (needs to be measured near the bottom)         Yes – Go to SC 5.1 No = Not a wetland in a coastal lagoon</li> <li>SC 5.1. Does the wetland meet all of the following three conditions?         <ul> <li>The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of aggressive, opportunistic plant species (see list of species on p. 100).</li> <li>At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or unmowed grassland.</li> <li>The wetland is larger than ¹/₁0 ac (4350 ft²)</li> <li>Yes = Category I No = Category II</li> </ul> </li> <li>SC 6.0. Interdunal Wetlands         <ul> <li>Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? If</li> </ul> </li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| during most of the year in at least a portion of the lagoon (needs to be measured near the bottom)  Yes – Go to SC 5.1  No = Not a wetland in a coastal lagoon  SC 5.1. Does the wetland meet all of the following three conditions?  — The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of aggressive, opportunistic plant species (see list of species on p. 100).  — At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or unmowed grassland.  — The wetland is larger than ¹/10 ac (4350 ft²)  Yes = Category I  No = Category II  SC 6.0. Interdunal Wetlands  Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? If                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <ul> <li>The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of aggressive, opportunistic plant species (see list of species on p. 100).</li> <li>At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or unmowed grassland.</li> <li>The wetland is larger than ¹/₁₀ ac (4350 ft²)</li> <li>Yes = Category I No = Category II</li> </ul> SC 6.0. Interdunal Wetlands Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? If                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| — The wetland is larger than $^1/_{10}$ ac (4350 ft <sup>2</sup> )  Yes = Category I  No = Category II  SC 6.0. Interdunal Wetlands  Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? If                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? If                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| In practical terms that means the following geographic areas:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <ul> <li>Long Beach Peninsula: Lands west of SR 103</li> <li>Grayland-Westport: Lands west of SR 105</li> <li>Ocean Shores-Copalis: Lands west of SR 115 and SR 109         Yes – Go to SC 6.1         No = not an interdunal wetland for rating</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| SC 6.1. Is the wetland 1 ac or larger and scores an 8 or 9 for the habitat functions on the form (rates H,H,H or H,H,M for the three aspects of function)?  Yes = Category I  No – Go to SC 6.2  SC 6.2. Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Yes = Category II No – Go to SC 6.3  SC 6.3. Is the unit between 0.1 and 1 ac, or is it in a mosaic of wetlands that is between 0.1 and 1 ac?  Yes = Category III No = Category IV  Cat. I                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Category of wetland based on Special Characteristics  N/A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |

Wetland name or number Wetland F

# **RATING SUMMARY – Western Washington**

| Name of wetland (or ID #): <u>Wetland</u>                                           | G                             |                      | Date of site vi | isit: <u>1/17/17</u>          |   |
|-------------------------------------------------------------------------------------|-------------------------------|----------------------|-----------------|-------------------------------|---|
| Rated by <u>Katie Boa</u>                                                           | <u>X</u> No                   | Date of training 11, | <u> 16</u>      |                               |   |
| HGM Class used for rating Slope                                                     | ultiple HGM                   | classes?Y X          | _N              |                               |   |
| NOTE: Form is not complete version of base aerial photo                             | an be combined).              |                      |                 |                               |   |
| <b>DVERALL WETLAND CATEGORY IV</b> (based on functions X or special characteristics |                               |                      |                 |                               |   |
| 1. Category of wetland based of                                                     | on FUNCTIO                    | ONS                  |                 |                               |   |
| Category I — Total                                                                  | score = 23 - 3                | 27                   |                 | Casus fau asah                | 1 |
| Category II – Total score = 20 – 22                                                 |                               |                      |                 | Score for each function based |   |
| <b>Category III</b> – Total                                                         | on three ratings              |                      |                 |                               |   |
| X Category IV – To                                                                  | (order of ratings<br>  is not |                      |                 |                               |   |
| FUNCTION Improving                                                                  | Hydrologic                    | Habitat              |                 | important)                    |   |

| FUNCTION               | Improving Water Quality |                                | Hydrologic |   |   | Habitat |   |   |          |       |
|------------------------|-------------------------|--------------------------------|------------|---|---|---------|---|---|----------|-------|
|                        |                         | Circle the appropriate ratings |            |   |   |         |   |   |          |       |
| Site Potential         | Н                       | М                              | <u>L</u>   | Н | М | L       | Н | М | <u>L</u> |       |
| Landscape Potential    | Н                       | M                              | L          | Н | М | L       | Н | M | L        |       |
| Value                  | <u>H</u>                | M                              | L          | Н | M | L       | Н | M | L        | TOTAL |
| Score Based on Ratings |                         | 6                              |            |   | 4 |         |   | 5 |          | 15    |

Score for each function based on three ratings (order of ratings is not important)

9 = H,H,H
8 = H,H,M
7 = H,H,L
7 = H,M,M
6 = H,M,L
5 = M,M,M
5 = H,L,L
5 = M,M,L
4 = M,L,L
3 = L,L,L

# 2. Category based on SPECIAL CHARACTERISTICS of wetland

| CHARACTERISTIC                     | CATEGORY    |  |
|------------------------------------|-------------|--|
| Estuarine                          | I II        |  |
| Wetland of High Conservation Value | I           |  |
| Bog                                | I           |  |
| Mature Forest                      | I           |  |
| Old Growth Forest                  | I           |  |
| Coastal Lagoon                     | I II        |  |
| Interdunal                         | I II III IV |  |
| None of the above                  | N/A         |  |

# Maps and figures required to answer questions correctly for Western Washington

### **Depressional Wetlands**

| Map of:                                                                        | To answer questions: | Figure # |
|--------------------------------------------------------------------------------|----------------------|----------|
| Cowardin plant classes                                                         | D 1.3, H 1.1, H 1.4  |          |
| Hydroperiods                                                                   | D 1.4, H 1.2         |          |
| Location of outlet (can be added to map of hydroperiods)                       | D 1.1, D 4.1         |          |
| Boundary of area within 150 ft of the wetland (can be added to another figure) | D 2.2, D 5.2         |          |
| Map of the contributing basin                                                  | D 4.3, D 5.3         |          |
| 1 km Polygon: Area that extends 1 km from entire wetland edge - including      | H 2.1, H 2.2, H 2.3  |          |
| polygons for accessible habitat and undisturbed habitat                        |                      |          |
| Screen capture of map of 303(d) listed waters in basin (from Ecology website)  | D 3.1, D 3.2         |          |
| Screen capture of list of TMDLs for WRIA in which unit is found (from web)     | D 3.3                |          |

### Riverine Wetlands

| Map of:                                                                        | To answer questions: | Figure # |
|--------------------------------------------------------------------------------|----------------------|----------|
| Cowardin plant classes                                                         | H 1.1, H 1.4         |          |
| Hydroperiods                                                                   | H 1.2                |          |
| Ponded depressions                                                             | R 1.1                |          |
| Boundary of area within 150 ft of the wetland (can be added to another figure) | R 2.4                |          |
| Plant cover of trees, shrubs, and herbaceous plants                            | R 1.2, R 4.2         |          |
| Width of unit vs. width of stream (can be added to another figure)             | R 4.1                |          |
| Map of the contributing basin                                                  | R 2.2, R 2.3, R 5.2  |          |
| 1 km Polygon: Area that extends 1 km from entire wetland edge - including      | H 2.1, H 2.2, H 2.3  |          |
| polygons for accessible habitat and undisturbed habitat                        |                      |          |
| Screen capture of map of 303(d) listed waters in basin (from Ecology website)  | R 3.1                |          |
| Screen capture of list of TMDLs for WRIA in which unit is found (from web)     | R 3.2, R 3.3         |          |

### Lake Fringe Wetlands

| Map of:                                                                        | To answer questions:       | Figure # |
|--------------------------------------------------------------------------------|----------------------------|----------|
| Cowardin plant classes                                                         | L 1.1, L 4.1, H 1.1, H 1.4 |          |
| Plant cover of trees, shrubs, and herbaceous plants                            | L 1.2                      |          |
| Boundary of area within 150 ft of the wetland (can be added to another figure) | L 2.2                      |          |
| 1 km Polygon: Area that extends 1 km from entire wetland edge - including      | H 2.1, H 2.2, H 2.3        |          |
| polygons for accessible habitat and undisturbed habitat                        |                            |          |
| Screen capture of map of 303(d) listed waters in basin (from Ecology website)  | L 3.1, L 3.2               |          |
| Screen capture of list of TMDLs for WRIA in which unit is found (from web)     | L 3.3                      |          |

### Slope Wetlands

| Map of:                                                                         | To answer questions: | Figure # |
|---------------------------------------------------------------------------------|----------------------|----------|
| Cowardin plant classes                                                          | H 1.1, H 1.4         | 11       |
| Hydroperiods                                                                    | H 1.2                | 11       |
| Plant cover of <b>dense</b> trees, shrubs, and herbaceous plants                | S 1.3                | 11       |
| Plant cover of <b>dense</b> , <b>rigid</b> trees, shrubs, and herbaceous plants | S 4.1                | 11       |
| (can be added to figure above)                                                  |                      | 11       |
| Boundary of 150 ft buffer (can be added to another figure)                      | S 2.1, S 5.1         | 11       |
| 1 km Polygon: Area that extends 1 km from entire wetland edge - including       | H 2.1, H 2.2, H 2.3  | 15       |
| polygons for accessible habitat and undisturbed habitat                         |                      | 15       |
| Screen capture of map of 303(d) listed waters in basin (from Ecology website)   | S 3.1, S 3.2         | 17       |
| Screen capture of list of TMDLs for WRIA in which unit is found (from web)      | \$ 3.3               | 17       |

# **HGM Classification of Wetlands in Western Washington**

For questions 1-7, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-7 apply, and go to Question 8.

|  | 1. | Are the water | levels in the | entire unit | usually | controlled by | y tides excer | ot during floods |
|--|----|---------------|---------------|-------------|---------|---------------|---------------|------------------|
|--|----|---------------|---------------|-------------|---------|---------------|---------------|------------------|

NO - go to 2

YES – the wetland class is Tidal Fringe – go to 1.1

1.1 Is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)?

#### NO – Saltwater Tidal Fringe (Estuarine)

YES - Freshwater Tidal Fringe

If your wetland can be classified as a Freshwater Tidal Fringe use the forms for **Riverine** wetlands. If it is Saltwater Tidal Fringe it is an **Estuarine** wetland and is not scored. This method **cannot** be used to score functions for estuarine wetlands.

2. The entire wetland unit is flat and precipitation is the only source (>90%) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit.

NO – go to 3

**YES** – The wetland class is **Flats** 

If your wetland can be classified as a Flats wetland, use the form for **Depressional** wetlands.

- 3. Does the entire wetland unit **meet all** of the following criteria?
  - \_\_The vegetated part of the wetland is on the shores of a body of permanent open water (without any plants on the surface at any time of the year) at least 20 ac (8 ha) in size;
    - At least 30% of the open water area is deeper than 6.6 ft (2 m).

NO – go to 4

**YES** – The wetland class is **Lake Fringe** (Lacustrine Fringe)

- 4. Does the entire wetland unit **meet all** of the following criteria?
  - \_\_\_\_The wetland is on a slope (slope can be very gradual),
  - \_\_\_\_The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks,
  - \_\_\_\_The water leaves the wetland without being impounded.

NO - go to 5

**YES** – The wetland class is **Slope** 

**NOTE**: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 ft deep).

- 5. Does the entire wetland unit **meet all** of the following criteria?
  - The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river,
  - \_\_\_\_The overbank flooding occurs at least once every 2 years.

NO - go to 6

YES - The wetland class is Riverine NOTE:

The Riverine unit can contain depressions that are filled with water when the river is not flooding

6. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year? This means that any outlet, if present, is higher than the interior of the wetland.

NO - go to 7

**YES** – The wetland class is **Depressional** 

7. Is the entire wetland unit located in a very flat area with no obvious depression and no overbank flooding? The unit does not pond surface water more than a few inches. The unit seems to be maintained by high groundwater in the area. The wetland may be ditched, but has no obvious natural outlet.

NO - go to 8

**YES** – The wetland class is **Depressional** 

8. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

**NOTE**: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the HGM class listed in column 2 is less than 10% of the unit; classify the wetland using the class that represents more than 90% of the total area.

| HGM classes within the wetland unit   | HGM class to  |
|---------------------------------------|---------------|
| being rated                           | use in rating |
| Slope + Riverine                      | Riverine      |
| Slope + Depressional                  | Depressional  |
| Slope + Lake Fringe                   | Lake Fringe   |
| Depressional + Riverine along stream  | Depressional  |
| within boundary of depression         |               |
| Depressional + Lake Fringe            | Depressional  |
| Riverine + Lake Fringe                | Riverine      |
| Salt Water Tidal Fringe and any other | Treat as      |
| class of freshwater wetland           | ESTUARINE     |

If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.

|                                                                                                                                                                                                                                                                                                                           | uality         |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
| S 1.0. Does the site have the potential to improve water quality?                                                                                                                                                                                                                                                         |                |
| S 1.1. Characteristics of the average slope of the wetland: (a 1% slope has a 1 ft vertical drop in elevation for eve<br>100 ft of horizontal distance)<br>Slope is 1% or less                                                                                                                                            |                |
| Slope is > 1%-2%       points         Slope is > 2%-5%       points                                                                                                                                                                                                                                                       | s = 2<br>s = 1 |
| Slope is greater than 5% points  S 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions): Yes = 3 No                                                                                                                                                                   |                |
| S 1.3. Characteristics of the plants in the wetland that trap sediments and pollutants:  Choose the points appropriate for the description that best fits the plants in the wetland. Dense means you have trouble seeing the soil surface (>75% cover), and uncut means not grazed or mowed and plants are his than 6 in. |                |
| Dense, uncut, herbaceous plants > 90% of the wetland area points  Dense, uncut, herbaceous plants > ½ of area points                                                                                                                                                                                                      |                |
| Dense, woody, plants > ½ of area points                                                                                                                                                                                                                                                                                   |                |
| Dense, uncut, herbaceous plants > ¼ of area points                                                                                                                                                                                                                                                                        | s = 1          |
| Does not meet any of the criteria above for plants points                                                                                                                                                                                                                                                                 | s = 0          |
| Total for S 1 Add the points in the boxes ab                                                                                                                                                                                                                                                                              | oove <b>0</b>  |

| S 2.0. Does the landscape have the potential to support the water quality function of the site?                                            |   |
|--------------------------------------------------------------------------------------------------------------------------------------------|---|
| S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?  Yes = 1 No = 0         | 1 |
| S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?  Other sources  Yes = 1 No = 0 | 0 |
| Total for S 2 Add the points in the boxes above                                                                                            | 1 |

Rating of Landscape Potential If score is: X 1-2 = M \_\_\_0 = L

Record the rating on the first page

| S 3.0. Is the water quality improvement provided by the site valuable to society?                                                                                                                      |   |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|
| S 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list?  Yes = 1 No = 0                                                   | 1 |
| S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue? At least one aquatic resource in the basin is on the 303(d) list.  Yes = 1 No = 0                                       | 1 |
| S 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality? <i>Answer YES</i> if there is a TMDL for the basin in which unit is found. Yes = 2 No = 0 | 2 |
| Total for S 3 Add the points in the boxes above                                                                                                                                                        | 4 |

Rating of Value If score is: X 2-4 = H \_\_\_1 = M \_\_\_0 = L

Record the rating on the first page

| SLOPE WETLANDS                                                                                                                                                                                                                               |                  |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| Hydrologic Functions - Indicators that the site functions to reduce flooding and stream eros                                                                                                                                                 | sion             |
| S 4.0. Does the site have the potential to reduce flooding and stream erosion?                                                                                                                                                               |                  |
| S 4.1. Characteristics of plants that reduce the velocity of surface flows during storms: Choose the points appropriate for the description that best fits conditions in the wetland. Stems of plants should be thick enough (usually > 1/2) |                  |
| in), or dense enough, to remain erect during surface flows.                                                                                                                                                                                  | 0                |
| Dense, uncut, <b>rigid</b> plants cover > 90% of the area of the wetland points = 1                                                                                                                                                          |                  |
| All other conditions points = 0                                                                                                                                                                                                              |                  |
| Rating of Site Potential If score is: 1 = M X 0 = L Record the rating of                                                                                                                                                                     | n the first nage |

| S 5.0. Does the landscape have the potential to support the hydrologic functions of the site?                                                   |                |
|-------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
| S 5.1. Is more than 25% of the area within 150 ft upslope of wetland in land uses or cover that generate excess surface runoff?  Yes = 1 No = 0 | 0              |
| Rating of Landscape Potential If score is: 1 = M X 0 = L Record the rating on                                                                   | the first page |

| S 6.0. Are the hydrologic functions provided by the site valuable to society?                                                                                                                                                                                                                                                                                    |   |  |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|--|
| S 6.1. Distance to the nearest areas downstream that have flooding problems:  The sub-basin immediately down-gradient of site has flooding problems that result in damage to human or natural resources (e.g., houses or salmon redds)  Surface flooding problems are in a sub-basin farther down-gradient  No flooding problems anywhere downstream  points = 0 | 1 |  |
| S 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?  Yes = $2$ No = $0$                                                                                                                                                                                                                     |   |  |
| Total for S 6 Add the points in the boxes above                                                                                                                                                                                                                                                                                                                  | 1 |  |

Rating of Value If score is: 2-4 = H X 1 = M 0 = L

Record the rating on the first page

NOTES and FIELD OBSERVATIONS:

#### These questions apply to wetlands of all HGM classes. **HABITAT FUNCTIONS** - Indicators that site functions to provide important habitat H 1.0. Does the site have the potential to provide habitat? H 1.1. Structure of plant community: Indicators are Cowardin classes and strata within the Forested class. Check the Cowardin plant classes in the wetland. Up to 10 patches may be combined for each class to meet the threshold of ¼ ac or more than 10% of the unit if it is smaller than 2.5 ac. Add the number of structures checked. Aquatic bed 4 structures or more: points = 4 Emergent 3 structures: points = 2 0 Scrub-shrub (areas where shrubs have > 30% cover) 2 structures: points = 1 X Forested (areas where trees have > 30% cover) 1 structure: points = 0 If the unit has a Forested class, check if: \_\_\_\_The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the Forested polygon H 1.2. Hydroperiods Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or ¼ ac to count (see text for descriptions of hydroperiods). Permanently flooded or inundated 4 or more types present: points = 3 Seasonally flooded or inundated 3 types present: points = 2 Occasionally flooded or inundated 2 types present: points = 1 1 X Saturated only 1 type present: points = 0 Permanently flowing stream or river in, or adjacent to, the wetland X Seasonally flowing stream in, or adjacent to, the wetland Lake Fringe wetland 2 points Freshwater tidal wetland 2 points H 1.3. Richness of plant species Count the number of plant species in the wetland that cover at least 10 ft<sup>2</sup>. Different patches of the same species can be combined to meet the size threshold and you do not have to name the species. Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle 1 If you counted: > 19 species points = 2 5 - 19 species points = 1< 5 species points = 0 H 1.4. Interspersion of habitats Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. If you have four or more plant classes or three classes and open water, the rating is always high. 1 None = 0 points Low = 1 point Moderate = 2 points All three diagrams in this row are **HIGH** = 3points

| H 1.5. Special habitat features:                                                                                                                                                                    |                  |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| Check the habitat features that are present in the wetland. The number of checks is the number of points.                                                                                           |                  |
| Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long).                                                                                                                     |                  |
| Standing snags (dbh > 4 in) within the wetland                                                                                                                                                      |                  |
| Undercut banks are present for at least 6.6 ft (2 m) and/or overhanging plants extends at least 3.3 ft (1 m) over a stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (10 m) |                  |
| Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 30 degree                                                                                                | 1                |
| slope) OR signs of recent beaver activity are present (cut shrubs or trees that have not yet weathered where wood is exposed)                                                                       |                  |
| At least ¼ ac of thin-stemmed persistent plants or woody branches are present in areas that are                                                                                                     |                  |
| permanently or seasonally inundated (structures for egg-laying by amphibians)                                                                                                                       |                  |
| X Invasive plants cover less than 25% of the wetland area in every stratum of plants (see H 1.1 for list of                                                                                         |                  |
| strata)                                                                                                                                                                                             |                  |
| Total for H 1 Add the points in the boxes above                                                                                                                                                     | 4                |
| Rating of Site Potential If score is:15-18 = H7-14 = MX0-6 = L                                                                                                                                      | the first page   |
| H 2.0. Does the landscape have the potential to support the habitat functions of the site?                                                                                                          |                  |
| H 2.1. Accessible habitat (include only habitat that directly abuts wetland unit).                                                                                                                  |                  |
| Calculate: % undisturbed habitat + [(% moderate and low intensity land uses)/2] =%                                                                                                                  |                  |
| If total accessible habitat is:                                                                                                                                                                     |                  |
| > $\frac{1}{3}$ (33.3%) of 1 km Polygon points = 3                                                                                                                                                  | 2                |
| 20-33% of 1 km Polygon points = 2                                                                                                                                                                   |                  |
| 10-19% of 1 km Polygon points = 1                                                                                                                                                                   |                  |
| < 10% of 1 km Polygon points = 0                                                                                                                                                                    |                  |
| · · · · · · · · · · · · · · · · · · ·                                                                                                                                                               |                  |
| H 2.2. Undisturbed habitat in 1 km Polygon around the wetland.                                                                                                                                      |                  |
| Calculate: % undisturbed habitat + [(% moderate and low intensity land uses)/2] =%                                                                                                                  |                  |
| Undisturbed habitat > 50% of Polygon points = 3                                                                                                                                                     | 0                |
| Undisturbed habitat 10-50% and in 1-3 patches points = 2                                                                                                                                            |                  |
| Undisturbed habitat 10-50% and > 3 patches points = 1                                                                                                                                               |                  |
| Undisturbed habitat < 10% of 1 km Polygon points = 0                                                                                                                                                |                  |
| H 2.3. Land use intensity in 1 km Polygon: If                                                                                                                                                       | _                |
| > 50% of 1 km Polygon is high intensity land use points = (-2)                                                                                                                                      | 0                |
| ≤ 50% of 1 km Polygon is high intensity points = 0                                                                                                                                                  |                  |
| Total for H 2 Add the points in the boxes above                                                                                                                                                     | 2                |
| Rating of Landscape Potential If score is: 4-6 = H X 1-3 = M < 1 = L Record the rating on                                                                                                           | the first page   |
| H 3.0. Is the habitat provided by the site valuable to society?                                                                                                                                     |                  |
|                                                                                                                                                                                                     |                  |
| H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? <i>Choose only the highest score</i>                                                                     |                  |
| that applies to the wetland being rated.                                                                                                                                                            |                  |
| Site meets ANY of the following criteria: points = 2                                                                                                                                                |                  |
| It has 3 or more priority habitats within 100 m (see next page)                                                                                                                                     |                  |
| It provides habitat for Threatened or Endangered species (any plant or animal on the state or federal lists)                                                                                        |                  |
| <ul><li>It is mapped as a location for an individual WDFW priority species</li><li>It is a Wetland of High Conservation Value as determined by the Department of Natural Resources</li></ul>        |                  |
| It has been categorized as an important habitat site in a local or regional comprehensive plan, in a                                                                                                |                  |
| Shoreline Master Plan, or in a watershed plan                                                                                                                                                       |                  |
| Site has 1 or 2 priority habitats (listed on next page) within 100 m points = 1                                                                                                                     |                  |
| Site does not meet any of the criteria above points = 0                                                                                                                                             |                  |
| Rating of Value If score is: $2 = H$ $X$ $1 = M$ $0 = L$ Record the rating of                                                                                                                       | n the first page |
| necold the rating of                                                                                                                                                                                | jii se page      |

# **WDFW Priority Habitats**

<u>Priority habitats listed by WDFW</u> (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. <a href="http://wdfw.wa.gov/publications/00165/wdfw00165.pdf">http://wdfw.wa.gov/publications/00165/wdfw00165.pdf</a> or access the list from here: <a href="http://wdfw.wa.gov/conservation/phs/list/">http://wdfw.wa.gov/conservation/phs/list/</a>)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland unit: NOTE: This question is

independent of the land use between the wetland unit and the priority habitat. **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha). Biodiversity Areas and Corridors: Areas of habitat that are relatively important to various species of native fish and wildlife (full descriptions in WDFW PHS report). Herbaceous Balds: Variable size patches of grass and forbs on shallow soils over bedrock. Old-growth/Mature forests: Old-growth west of Cascade crest – Stands of at least 2 tree species, forming a multilayered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) > 32 in (81 cm) dbh or > 200 years of age. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in oldgrowth; 80-200 years old west of the Cascade crest. Oregon White Oak: Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (full descriptions in WDFW PHS report p. 158 – see web link above). X Riparian: The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other. Westside Prairies: Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (full descriptions in WDFW PHS report p. 161 – see web link above). X Instream: The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources. Nearshore: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (full descriptions of habitats and the definition of relatively undisturbed are in WDFW report – see web link on previous page). Caves: A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human. **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation. Talus: Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs. \_Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed

elsewhere.

### **CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS**

| Wetland Type                                                                                                                                                                                                                         | Category |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| vecialia Type                                                                                                                                                                                                                        | Category |
| Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.                                                                                                                         |          |
| SC 1.0. Estuarine wetlands                                                                                                                                                                                                           |          |
| Does the wetland meet the following criteria for Estuarine wetlands?                                                                                                                                                                 |          |
| — The dominant water regime is tidal,                                                                                                                                                                                                |          |
| — Vegetated, and                                                                                                                                                                                                                     |          |
| — With a salinity greater than 0.5 ppt Yes –Go to <b>SC 1.1</b> No= <b>Yot an estuarine wetland</b>                                                                                                                                  |          |
| SC 1.1. Is the wetland within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area                                                                                                                      |          |
| Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151?                                                                                                                           | Cat. I   |
| Yes = Category I No - Go to SC 1.2                                                                                                                                                                                                   |          |
| SC 1.2. Is the wetland unit at least 1 ac in size and meets at least two of the following three conditions?                                                                                                                          |          |
| — The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less                                                                                                                        | Cat. I   |
| than 10% cover of non-native plant species. (If non-native species are <i>Spartina</i> , see page 25)                                                                                                                                | Cat. I   |
| — At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-                                                                                                                           |          |
| mowed grassland. — The wetland has at least two of the following features: tidal channels, depressions with open water, or                                                                                                           | Cat. II  |
| contiguous freshwater wetlands.  Yes = Category I  No = Category II                                                                                                                                                                  |          |
| contiguous incanwater wetianas.                                                                                                                                                                                                      |          |
| SC 2.0. Wetlands of High Conservation Value (WHCV)                                                                                                                                                                                   |          |
| SC 2.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High                                                                                                                     | Cat. I   |
| Conservation Value? Yes – Go to SC 2.2 No – Go to SC 2.3                                                                                                                                                                             | Cat. I   |
| SC 2.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value?  Yes = Category I  No = Not a WHCV                                                                                                       |          |
| Yes = Category I No = Not a WHCV SC 2.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland?                                                                                                        |          |
| http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf                                                                                                                                                                       |          |
| Yes – Contact WNHP/WDNR and go to SC 2.4 No = Not a WHCV                                                                                                                                                                             |          |
| SC 2.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and listed it on                                                                                                                    |          |
| their website? Yes = Category I No = Not a WHCV                                                                                                                                                                                      |          |
| SC 3.0. Bogs                                                                                                                                                                                                                         |          |
| Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? Use the key                                                                                                                      |          |
| below. If you answer YES you will still need to rate the wetland based on its functions.                                                                                                                                             |          |
| SC 3.1. Does an area within the wetland unit have organic soil horizons, either peats or mucks, that compose 16 in or                                                                                                                |          |
| more of the first 32 in of the soil profile? Yes – Go to SC 3.3 No – Go to SC 3.2                                                                                                                                                    |          |
| SC 3.2. Does an area within the wetland unit have organic soils, either peats or mucks, that are less than 16 in deep over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or |          |
| pond? Yes – Go to SC 3.3 No = 1 not a bog                                                                                                                                                                                            |          |
| SC 3.3. Does an area with peats or mucks have more than 70% cover of mosses at ground level, AND at least a 30%                                                                                                                      |          |
| cover of plant species listed in Table 4? Yes = Is a Category I bog No – Go to SC 3.4                                                                                                                                                |          |
| NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by                                                                                                                        |          |
| measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the                                                                                                                     |          |
| plant species in Table 4 are present, the wetland is a bog.                                                                                                                                                                          | Cat. I   |
| SC 3.4. Is an area with peats or mucks forested (> 30% cover) with Sitka spruce, subalpine fir, western red cedar,                                                                                                                   |          |
| western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the                                                                                                                              |          |
| species (or combination of species) listed in Table 4 provide more than 30% of the cover under the canopy?  Yes = Is a Category I bog No = Is not a bog                                                                              |          |
| res = is a Category i bog NO = is not a bog                                                                                                                                                                                          |          |

| C 4.0. Forested Wetlands                                                                                                                                                                                     |          |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| Does the wetland have at least 1 contiguous acre of forest that meets one of these criteria for the WA                                                                                                       |          |
| Department of Fish and Wildlife's forests as priority habitats? <i>If you answer YES you will still need to rate</i> the wetland based on its functions.                                                     |          |
| Old-growth forests (west of Cascade crest): Stands of at least two tree species, forming a multi-layered                                                                                                     |          |
| canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) that are at least 200 years of                                                                                                 |          |
| age OR have a diameter at breast height (dbh) of 32 in (81 cm) or more.                                                                                                                                      |          |
| — Mature forests (west of the Cascade Crest): Stands where the largest trees are 80- 200 years old OR the                                                                                                    |          |
| species that make up the canopy have an average diameter (dbh) exceeding 21 in (53 cm).                                                                                                                      |          |
| Yes = Category I No = Not a forested wetland for this section                                                                                                                                                | Cat. I   |
| C 5.0. Wetlands in Coastal Lagoons                                                                                                                                                                           |          |
| Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?                                                                                                                        |          |
| — The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from                                                                                                      |          |
| marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks                                                                                                                                |          |
| — The lagoon in which the wetland is located contains ponded water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (needs to be measured near the bottom) | Cat. I   |
| Yes – Go to SC 5.1 No = Not a wetland in a coastal lagoon                                                                                                                                                    | cut. I   |
| C.5.1. Does the wetland meet all of the following three conditions?                                                                                                                                          |          |
| — The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less                                                                                               |          |
| than 20% cover of aggressive, opportunistic plant species (see list of species on p. 100).                                                                                                                   | Cat. II  |
| — At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-                                                                                                   |          |
| mowed grassland.                                                                                                                                                                                             |          |
| — The wetland is larger than $^1/_{10}$ ac (4350 ft $^2$ )  Yes = Category I No = Category II                                                                                                                |          |
| Tes - Category II                                                                                                                                                                                            |          |
| C 6.0. Interdunal Wetlands                                                                                                                                                                                   |          |
| Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? <i>If</i>                                                                                               |          |
| you answer yes you will still need to rate the wetland based on its habitat functions.                                                                                                                       |          |
| In practical terms that means the following geographic areas:  — Long Beach Peninsula: Lands west of SR 103                                                                                                  |          |
| — Grayland-Westport: Lands west of SR 105                                                                                                                                                                    | Cat I    |
| <ul> <li>Ocean Shores-Copalis: Lands west of SR 115 and SR 109</li> </ul>                                                                                                                                    |          |
| Yes – Go to <b>SC 6.1</b> No = not an interdunal wetland for rating                                                                                                                                          |          |
| 6.1. Is the wetland 1 ac or larger and scores an 8 or 9 for the habitat functions on the form (rates H,H,H or H,H,M                                                                                          | Cat. II  |
| for the three aspects of function)? Yes = Category I No – Go to SC 6.2                                                                                                                                       |          |
| 6.2. Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger?                                                                                                                 |          |
| Yes = Category II No – Go to SC 6.3                                                                                                                                                                          | Cat. III |
| C 6.3. Is the unit between 0.1 and 1 ac, or is it in a mosaic of wetlands that is between 0.1 and 1 ac?                                                                                                      |          |
| Yes = Category III No = Category IV                                                                                                                                                                          | Cat. IV  |
|                                                                                                                                                                                                              |          |
| Category of wetland based on Special Characteristics                                                                                                                                                         | N/A      |

Wetland name or number Wetland G

# **RATING SUMMARY – Western Washington**

| Name of wetland (or ID #): Wetland H                                      | Date of site visit: 2/10/17                                 |
|---------------------------------------------------------------------------|-------------------------------------------------------------|
| Rated by Katie Boa Trained by Ed                                          | cology? Yes <u>X</u> No Date of training <u>11/16</u>       |
| HGM Class used for rating Slope                                           | Wetland has multiple HGM classes?Y XN                       |
| NOTE: Form is not complete without the Source of base aerial photo/mapGoo | e figures requested (figures can be combined).  pogle Earth |
| OVERALL WETLAND CATEGORYIV  1. Category of wetland based on FUNCTI        | (based on functions X or special characteristics            |
| Category I – Total score = 23 –                                           | <b>–</b> 27                                                 |
| Category II – Total score = 20                                            | Score for each function based                               |
| Category III – Total score = 16                                           | on three                                                    |
| X Category IV – Total score = 9 -                                         | - 15 (order of ratings is not                               |
| FUNCTION Improving Hydrologic                                             | Habitat important)                                          |
| Water Quality                                                             |                                                             |

| FUNCTION               | Improving Water Quality |        | Hydrologic |   |        | Habitat |       |          |          |       |
|------------------------|-------------------------|--------|------------|---|--------|---------|-------|----------|----------|-------|
|                        | vva                     | iter Q | ианту      |   | Circle | the ap  | propr | iate ra  | tings    |       |
| Site Potential         | Н                       | М      | <u>L</u>   | Н | М      | L       | Н     | М        | <u>L</u> |       |
| Landscape Potential    | Н                       | М      | <u>L</u>   | Н | М      | Ī       | Н     | M        | L        |       |
| Value                  | <u>H</u>                | М      | L          | Н | M      | L       | Н     | <u>M</u> | L        | TOTAL |
| Score Based on Ratings |                         | 5      |            |   | 4      |         |       | 5        |          | 14    |

| Score for each function based on three ratings (order of ratings is not important) |
|------------------------------------------------------------------------------------|
| important)                                                                         |
| 9 = H,H,H                                                                          |
| 8 = H,H,M                                                                          |
| 7 = H,H,L                                                                          |
| 7 = H,M,M                                                                          |
| 6 = H,M,L                                                                          |
| 6 = M,M,M                                                                          |
| 5 = H,L,L                                                                          |
| 5 = M,M,L                                                                          |
| 4 = M,L,L                                                                          |
| 3 = L,L,L                                                                          |

# 2. Category based on SPECIAL CHARACTERISTICS of wetland

| CHARACTERISTIC                     | CATEGORY    |  |
|------------------------------------|-------------|--|
| Estuarine                          | I II        |  |
| Wetland of High Conservation Value | I           |  |
| Bog                                | I           |  |
| Mature Forest                      | ı           |  |
| Old Growth Forest                  | I           |  |
| Coastal Lagoon                     | I II        |  |
| Interdunal                         | I II III IV |  |
| None of the above                  | N/A         |  |

# Maps and figures required to answer questions correctly for Western Washington

### **Depressional Wetlands**

| Map of:                                                                        | To answer questions: | Figure # |
|--------------------------------------------------------------------------------|----------------------|----------|
| Cowardin plant classes                                                         | D 1.3, H 1.1, H 1.4  |          |
| Hydroperiods                                                                   | D 1.4, H 1.2         |          |
| Location of outlet (can be added to map of hydroperiods)                       | D 1.1, D 4.1         |          |
| Boundary of area within 150 ft of the wetland (can be added to another figure) | D 2.2, D 5.2         |          |
| Map of the contributing basin                                                  | D 4.3, D 5.3         |          |
| 1 km Polygon: Area that extends 1 km from entire wetland edge - including      | H 2.1, H 2.2, H 2.3  |          |
| polygons for accessible habitat and undisturbed habitat                        |                      |          |
| Screen capture of map of 303(d) listed waters in basin (from Ecology website)  | D 3.1, D 3.2         |          |
| Screen capture of list of TMDLs for WRIA in which unit is found (from web)     | D 3.3                |          |

### Riverine Wetlands

| Map of:                                                                        | To answer questions: | Figure # |
|--------------------------------------------------------------------------------|----------------------|----------|
| Cowardin plant classes                                                         | H 1.1, H 1.4         |          |
| Hydroperiods                                                                   | H 1.2                |          |
| Ponded depressions                                                             | R 1.1                |          |
| Boundary of area within 150 ft of the wetland (can be added to another figure) | R 2.4                |          |
| Plant cover of trees, shrubs, and herbaceous plants                            | R 1.2, R 4.2         |          |
| Width of unit vs. width of stream (can be added to another figure)             | R 4.1                |          |
| Map of the contributing basin                                                  | R 2.2, R 2.3, R 5.2  |          |
| 1 km Polygon: Area that extends 1 km from entire wetland edge - including      | H 2.1, H 2.2, H 2.3  |          |
| polygons for accessible habitat and undisturbed habitat                        |                      |          |
| Screen capture of map of 303(d) listed waters in basin (from Ecology website)  | R 3.1                |          |
| Screen capture of list of TMDLs for WRIA in which unit is found (from web)     | R 3.2, R 3.3         |          |

### Lake Fringe Wetlands

| Map of:                                                                        | To answer questions:       | Figure # |
|--------------------------------------------------------------------------------|----------------------------|----------|
| Cowardin plant classes                                                         | L 1.1, L 4.1, H 1.1, H 1.4 |          |
| Plant cover of trees, shrubs, and herbaceous plants                            | L 1.2                      |          |
| Boundary of area within 150 ft of the wetland (can be added to another figure) | L 2.2                      |          |
| 1 km Polygon: Area that extends 1 km from entire wetland edge - including      | H 2.1, H 2.2, H 2.3        |          |
| polygons for accessible habitat and undisturbed habitat                        |                            |          |
| Screen capture of map of 303(d) listed waters in basin (from Ecology website)  | L 3.1, L 3.2               |          |
| Screen capture of list of TMDLs for WRIA in which unit is found (from web)     | L 3.3                      |          |

### Slope Wetlands

| Map of:                                                                         | To answer questions: | Figure # |
|---------------------------------------------------------------------------------|----------------------|----------|
| Cowardin plant classes                                                          | H 1.1, H 1.4         | 11       |
| Hydroperiods                                                                    | H 1.2                | 11       |
| Plant cover of <b>dense</b> trees, shrubs, and herbaceous plants                | S 1.3                | 11       |
| Plant cover of <b>dense</b> , <b>rigid</b> trees, shrubs, and herbaceous plants | S 4.1                | 11       |
| (can be added to figure above)                                                  |                      | 11       |
| Boundary of 150 ft buffer (can be added to another figure)                      | S 2.1, S 5.1         | 11       |
| 1 km Polygon: Area that extends 1 km from entire wetland edge - including       | H 2.1, H 2.2, H 2.3  | 15       |
| polygons for accessible habitat and undisturbed habitat                         |                      | 15       |
| Screen capture of map of 303(d) listed waters in basin (from Ecology website)   | S 3.1, S 3.2         | 17       |
| Screen capture of list of TMDLs for WRIA in which unit is found (from web)      | \$ 3.3               | 17       |

# **HGM Classification of Wetlands in Western Washington**

For guestions 1-7, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-7 apply, and go to Question 8.

|    |                |                  |             |         |                     | _        |         |         |
|----|----------------|------------------|-------------|---------|---------------------|----------|---------|---------|
| 1  | Aro the water  | lavals in tha    | antira unit | ucually | controlled by tide  | c avcant | during  | floode) |
| 1. | AIC LIIC Water | 16 6613 111 1116 | CHUIC GHIL  | usualiv | COLLI OLLEG DV LIGE | 3 CALCUL | uuillig | HOUUS:  |

NO – go to 2

YES – the wetland class is Tidal Fringe – go to 1.1

1.1 Is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)?

### NO – Saltwater Tidal Fringe (Estuarine)

YES - Freshwater Tidal Fringe

If your wetland can be classified as a Freshwater Tidal Fringe use the forms for **Riverine** wetlands. If it is Saltwater Tidal Fringe it is an **Estuarine** wetland and is not scored. This method **cannot** be used to score functions for estuarine wetlands.

2. The entire wetland unit is flat and precipitation is the only source (>90%) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit.

NO – go to 3

**YES** – The wetland class is **Flats** 

If your wetland can be classified as a Flats wetland, use the form for **Depressional** wetlands.

- 3. Does the entire wetland unit **meet all** of the following criteria?
  - \_\_\_The vegetated part of the wetland is on the shores of a body of permanent open water (without any plants on the surface at any time of the year) at least 20 ac (8 ha) in size;
  - At least 30% of the open water area is deeper than 6.6 ft (2 m).

NO – go to 4

YES - The wetland class is Lake Fringe (Lacustrine Fringe)

- 4. Does the entire wetland unit **meet all** of the following criteria?
  - The wetland is on a slope (slope can be very gradual),
  - \_\_\_\_The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks,
  - \_\_\_\_The water leaves the wetland without being impounded.

NO - go to 5

YES – The wetland class is Slope

**NOTE**: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 ft deep).

- 5. Does the entire wetland unit **meet all** of the following criteria?
  - \_\_\_The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river,
  - \_\_\_\_The overbank flooding occurs at least once every 2 years.

NO - go to 6

YES - The wetland class is Riverine NOTE:

The Riverine unit can contain depressions that are filled with water when the river is not flooding

6. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year? This means that any outlet, if present, is higher than the interior of the wetland.

NO - go to 7

**YES** – The wetland class is **Depressional** 

7. Is the entire wetland unit located in a very flat area with no obvious depression and no overbank flooding? The unit does not pond surface water more than a few inches. The unit seems to be maintained by high groundwater in the area. The wetland may be ditched, but has no obvious natural outlet.

NO - go to 8

**YES** – The wetland class is **Depressional** 

8. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

**NOTE**: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the HGM class listed in column 2 is less than 10% of the unit; classify the wetland using the class that represents more than 90% of the total area.

| HGM classes within the wetland unit   | HGM class to  |
|---------------------------------------|---------------|
| being rated                           | use in rating |
| Slope + Riverine                      | Riverine      |
| Slope + Depressional                  | Depressional  |
| Slope + Lake Fringe                   | Lake Fringe   |
| Depressional + Riverine along stream  | Depressional  |
| within boundary of depression         |               |
| Depressional + Lake Fringe            | Depressional  |
| Riverine + Lake Fringe                | Riverine      |
| Salt Water Tidal Fringe and any other | Treat as      |
| class of freshwater wetland           | ESTUARINE     |

If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.

| SLOPE WETLANDS  Water Quality Functions - Indicators that the site fur                                                                                                                                                                                                                                                                     |                                                        |   |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------|---|
| S 1.0. Does the site have the potential to improve water quality?                                                                                                                                                                                                                                                                          |                                                        |   |
| S 1.1. Characteristics of the average slope of the wetland: (a 1% slope has a 1 ft 100 ft of horizontal distance)  Slope is 1% or less Slope is > 1%-2% Slope is > 2%-5%                                                                                                                                                                   | points = 3 points = 2 points = 1                       | 1 |
| Slope is greater than 5%                                                                                                                                                                                                                                                                                                                   | points = 0                                             |   |
| S 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic (u S 1.3. Characteristics of the plants in the wetland that trap sediments and pollut Choose the points appropriate for the description that best fits the plants have trouble seeing the soil surface (>75% cover), and uncut means not gr than 6 in. | ants: in the wetland. Dense means you                  | 0 |
| Dense, uncut, herbaceous plants > 90% of the wetland area Dense, uncut, herbaceous plants > ½ of area Dense, woody, plants > ½ of area Dense, uncut, herbaceous plants > ¼ of area Does not meet any of the criteria above for plants                                                                                                      | points = 6 points = 3 points = 2 points = 1 points = 0 | 1 |
| Total for S 1                                                                                                                                                                                                                                                                                                                              | Add the points in the boxes above                      | 2 |

| S 2.0. Does the landscape have the potential to support the water quality function of the site?                                            |   |
|--------------------------------------------------------------------------------------------------------------------------------------------|---|
| S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?  Yes = 1 No = 0         | 0 |
| S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?  Other sources  Yes = 1 No = 0 | 0 |
| Total for S 2 Add the points in the boxes above                                                                                            | 0 |

Rating of Landscape Potential If score is: 1-2 = M X 0 = L

Record the rating on the first page

| S 3.0. Is the water quality improvement provided by the site valuable to society?                                                                                                                       |   |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|
| S 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list?  Yes = 1 No = 0                                                    | 1 |
| S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue? At least one aquatic resource in the basin is on the 303(d) list.  Yes = 1 No = 0                                        | 1 |
| S 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality? <i>Answer YES</i> if there is a TMDL for the basin in which unit is found.  Yes = 2 No = 0 | 2 |
| Total for S 3 Add the points in the boxes above                                                                                                                                                         | 4 |

Rating of Value If score is: X 2-4 = H \_\_\_1 = M \_\_\_0 = L

Record the rating on the first page

| SLOPE WETLANDS                                                                                                                                                                                                                               |                  |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| Hydrologic Functions - Indicators that the site functions to reduce flooding and stream eros                                                                                                                                                 | sion             |
| S 4.0. Does the site have the potential to reduce flooding and stream erosion?                                                                                                                                                               |                  |
| S 4.1. Characteristics of plants that reduce the velocity of surface flows during storms: Choose the points appropriate for the description that best fits conditions in the wetland. Stems of plants should be thick enough (usually > 1/2) |                  |
| in), or dense enough, to remain erect during surface flows.                                                                                                                                                                                  | 0                |
| Dense, uncut, <b>rigid</b> plants cover > 90% of the area of the wetland points = 1                                                                                                                                                          |                  |
| All other conditions points = 0                                                                                                                                                                                                              |                  |
| Rating of Site Potential If score is: 1 = M X 0 = L Record the rating of Site Potential If score is: 1 = M X 0 = L                                                                                                                           | n the first page |

| S 5.0. Does the landscape have the potential to support the hydrologic functions of the site?                                                   |                |
|-------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
| S 5.1. Is more than 25% of the area within 150 ft upslope of wetland in land uses or cover that generate excess surface runoff?  Yes = 1 No = 0 | 0              |
| Rating of Landscape Potential If score is:1 = MX0 = L                                                                                           | the first page |
|                                                                                                                                                 |                |

| S 6.0. Are the hydrologic functions provided by the site valuable to society?                                                                                                                                                                      |   |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|
| S 6.1. Distance to the nearest areas downstream that have flooding problems:  The sub-basin immediately down-gradient of site has flooding problems that result in damage to human or natural resources (e.g., houses or salmon redds)  points = 2 | 1 |
| Surface flooding problems are in a sub-basin farther down-gradient points = 1  No flooding problems anywhere downstream points = 0                                                                                                                 | 1 |
| S 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?  Yes = 2 No = 0                                                                                                           | 0 |
| Total for S 6 Add the points in the boxes above                                                                                                                                                                                                    | 1 |

Rating of Value If score is: \_\_\_\_2-4 = H \_\_X \_\_1 = M \_\_\_\_0 = L

Record the rating on the first page

NOTES and FIELD OBSERVATIONS:

| These questions apply to wetlands of all HGM classes.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |   |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|
| HABITAT FUNCTIONS - Indicators that site functions to provide important habitat                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |   |
| H 1.0. Does the site have the potential to provide habitat?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |   |
| H 1.1. Structure of plant community: Indicators are Cowardin classes and strata within the Forested class. Check the Cowardin plant classes in the wetland. Up to 10 patches may be combined for each class to meet the threshold of ¼ ac or more than 10% of the unit if it is smaller than 2.5 ac. Add the number of structures checked. Aquatic bed                                                                                                                                                                                                                                                                                                            | 1 |
| H 1.2. Hydroperiods  Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or ¼ ac to count (see text for descriptions of hydroperiods).  Permanently flooded or inundated 4 or more types present: points = 3  Seasonally flooded or inundated 3 types present: points = 2  Occasionally flooded or inundated 2 types present: points = 1  X Saturated only 1 type present: points = 0  Permanently flowing stream or river in, or adjacent to, the wetland  X Seasonally flowing stream in, or adjacent to, the wetland  Lake Fringe wetland Freshwater tidal wetland 2 points | 1 |
| H 1.3. Richness of plant species  Count the number of plant species in the wetland that cover at least 10 ft <sup>2</sup> .  Different patches of the same species can be combined to meet the size threshold and you do not have to name the species.  Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle  If you counted: > 19 species  5 - 19 species  points = 1  < 5 species  points = 0                                                                                                                                                                                                                                | 1 |
| H 1.4. Interspersion of habitats  Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. If you have four or more plant classes or three classes and open water, the rating is always high.  None = 0 points  Low = 1 point  Moderate = 2 points  All three diagrams in this row are HIGH = 3points                                                                                                                                                                                                  | 0 |

### Wetland name or number Wetland H

| <u> </u>                                                                                                                                                                            |                           |                  |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|------------------|
| H 1.5. Special habitat features:                                                                                                                                                    |                           |                  |
| Check the habitat features that are present in the wetland. The number of checks is the                                                                                             | e number of points.       |                  |
| Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long).                                                                                                     |                           |                  |
| Standing snags (dbh > 4 in) within the wetland                                                                                                                                      |                           |                  |
| Undercut banks are present for at least 6.6 ft (2 m) and/or overhanging plants ext over a stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (10 m            |                           |                  |
| Stable steep banks of fine material that might be used by beaver or muskrat for d                                                                                                   |                           | 1                |
| slope) OR signs of recent beaver activity are present (cut shrubs or trees that hav where wood is exposed)                                                                          |                           |                  |
| At least ¼ ac of thin-stemmed persistent plants or woody branches are present in a                                                                                                  | areas that are            |                  |
| permanently or seasonally inundated (structures for egg-laying by amphibians)                                                                                                       |                           |                  |
| X Invasive plants cover less than 25% of the wetland area in every stratum of plants                                                                                                | (see H 1.1 for list of    |                  |
| strata)                                                                                                                                                                             |                           |                  |
| Total for H 1 Add the po                                                                                                                                                            | ints in the boxes above   | 4                |
| Rating of Site Potential                                                                                                                                                            | Record the rating or      | the first page   |
| H 2.0. Does the landscape have the potential to support the habitat functions of the                                                                                                | site?                     |                  |
|                                                                                                                                                                                     |                           |                  |
| H 2.1. Accessible habitat (include <i>only habitat that directly abuts wetland unit</i> ).                                                                                          | \                         |                  |
| Calculate: % undisturbed habitat + [(% moderate and low intensity land u                                                                                                            | ses)/2]=%                 |                  |
| If total accessible habitat is:                                                                                                                                                     |                           |                  |
| > <sup>1</sup> / <sub>3</sub> (33.3%) of 1 km Polygon                                                                                                                               | points = 3                | 2                |
| 20-33% of 1 km Polygon                                                                                                                                                              | points = 2                |                  |
| 10-19% of 1 km Polygon                                                                                                                                                              | points = 1                |                  |
| < 10% of 1 km Polygon                                                                                                                                                               | points = 0                |                  |
| H 2.2. Undisturbed habitat in 1 km Polygon around the wetland.                                                                                                                      |                           |                  |
| Calculate: % undisturbed habitat + [(% moderate and low intensity land u                                                                                                            | ses)/2] =%                |                  |
| Undisturbed habitat > 50% of Polygon                                                                                                                                                | points = 3                | 0                |
| Undisturbed habitat 10-50% and in 1-3 patches                                                                                                                                       | points = 2                |                  |
| Undisturbed habitat 10-50% and > 3 patches                                                                                                                                          | points = 1                |                  |
| Undisturbed habitat < 10% of 1 km Polygon                                                                                                                                           | points = 0                |                  |
| H 2.3. Land use intensity in 1 km Polygon: If                                                                                                                                       |                           |                  |
| > 50% of 1 km Polygon is high intensity land use                                                                                                                                    | points = (- 2)            | 0                |
| ≤ 50% of 1 km Polygon is high intensity                                                                                                                                             | points = 0                |                  |
| Total for H 2 Add the po                                                                                                                                                            | pints in the boxes above  | 2                |
| Rating of Landscape Potential If score is:4-6 = HX1-3 = M<1 = L                                                                                                                     | Record the rating on t    | he first page    |
| <u> </u>                                                                                                                                                                            | 3                         | , , ,            |
| H 3.0. Is the habitat provided by the site valuable to society?                                                                                                                     |                           | _                |
| H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? <i>Choos</i>                                                                             | se only the highest score |                  |
| that applies to the wetland being rated.                                                                                                                                            | ic only the ingrest score |                  |
| Site meets ANY of the following criteria:                                                                                                                                           | points = 2                |                  |
| ☑ It has 3 or more priority habitats within 100 m (see next page)                                                                                                                   | F                         |                  |
| <ul> <li>It provides habitat for Threatened or Endangered species (any plant or animal on th</li> <li>It is mapped as a location for an individual WDFW priority species</li> </ul> | e state or federal lists) |                  |
| It is a Wetland of High Conservation Value as determined by the Department of Nat                                                                                                   | tural Resources           |                  |
| It has been categorized as an important habitat site in a local or regional comprehe                                                                                                |                           |                  |
| Shoreline Master Plan, or in a watershed plan                                                                                                                                       |                           |                  |
| Site has 1 or 2 priority habitats (listed on next page) within 100 m                                                                                                                | points = 1                |                  |
| Site does not meet any of the criteria above                                                                                                                                        | points = 0                |                  |
| Rating of Value If score is: 2 = H X 1 = M 0 = L                                                                                                                                    | Record the rating or      | n the first page |
|                                                                                                                                                                                     | _                         |                  |

# **WDFW Priority Habitats**

<u>Priority habitats listed by WDFW</u> (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. <a href="http://wdfw.wa.gov/publications/00165/wdfw00165.pdf">http://wdfw.wa.gov/publications/00165/wdfw00165.pdf</a> or access the list from here: <a href="http://wdfw.wa.gov/conservation/phs/list/">http://wdfw.wa.gov/conservation/phs/list/</a>)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland unit: NOTE: This question is

independent of the land use between the wetland unit and the priority habitat. **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha). Biodiversity Areas and Corridors: Areas of habitat that are relatively important to various species of native fish and wildlife (full descriptions in WDFW PHS report). Herbaceous Balds: Variable size patches of grass and forbs on shallow soils over bedrock. Old-growth/Mature forests: Old-growth west of Cascade crest – Stands of at least 2 tree species, forming a multilayered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) > 32 in (81 cm) dbh or > 200 years of age. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in oldgrowth; 80-200 years old west of the Cascade crest. Oregon White Oak: Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (full descriptions in WDFW PHS report p. 158 – see web link above). X Riparian: The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other. Westside Prairies: Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (full descriptions in WDFW PHS report p. 161 – see web link above). X Instream: The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources. Nearshore: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (full descriptions of habitats and the definition of relatively undisturbed are in WDFW report – see web link on previous page). Caves: A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human. **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation. Talus: Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs. \_Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.

**Note:** All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

### **CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS**

| Wetland Type                                                                                                                                                                                                                             | Catagory |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| wedanu Type                                                                                                                                                                                                                              | Category |
| Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.                                                                                                                             |          |
| SC 1.0. Estuarine wetlands                                                                                                                                                                                                               |          |
| Does the wetland meet the following criteria for Estuarine wetlands?                                                                                                                                                                     |          |
| — The dominant water regime is tidal,                                                                                                                                                                                                    |          |
| — Vegetated, and                                                                                                                                                                                                                         |          |
| — With a salinity greater than 0.5 ppt Yes –Go to <b>SC 1.1</b> No= <b>Not an estuarine wetland</b>                                                                                                                                      |          |
| SC 1.1. Is the wetland within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area                                                                                                                          |          |
| Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151?                                                                                                                               | Cat. I   |
| Yes = Category I No - Go to SC 1.2                                                                                                                                                                                                       | Cat. 1   |
| SC 1.2. Is the wetland unit at least 1 ac in size and meets at least two of the following three conditions?                                                                                                                              |          |
| — The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less                                                                                                                            | Cat. I   |
| than 10% cover of non-native plant species. (If non-native species are <i>Spartina</i> , see page 25)                                                                                                                                    | Cat. I   |
| — At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-                                                                                                                               |          |
| mowed grassland.                                                                                                                                                                                                                         | Cat. II  |
| <ul> <li>The wetland has at least two of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands.</li> <li>Yes = Category I</li> <li>No = Category II</li> </ul>                          |          |
| contiguous resniwater wetianus.                                                                                                                                                                                                          |          |
| SC 2.0. Wetlands of High Conservation Value (WHCV)                                                                                                                                                                                       |          |
| SC 2.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High                                                                                                                         |          |
| Conservation Value? Yes – Go to SC 2.2 No – Go to SC 2.3                                                                                                                                                                                 | Cat. I   |
| SC 2.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value?                                                                                                                                              |          |
| Yes = Category I No = Not a WHCV                                                                                                                                                                                                         |          |
| SC 2.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? <a href="http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf">http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf</a> |          |
| Yes – Contact WNHP/WDNR and go to SC 2.4 No = Not a WHCV                                                                                                                                                                                 |          |
| SC 2.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and listed it on                                                                                                                        |          |
| their website? Yes = Category I No = Not a WHCV                                                                                                                                                                                          |          |
| SC 3.0. Bogs                                                                                                                                                                                                                             |          |
| Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? Use the key                                                                                                                          |          |
| below. If you answer YES you will still need to rate the wetland based on its functions.                                                                                                                                                 |          |
| SC 3.1. Does an area within the wetland unit have organic soil horizons, either peats or mucks, that compose 16 in or                                                                                                                    |          |
| more of the first 32 in of the soil profile? Yes – Go to SC 3.3 No – Go to SC 3.2                                                                                                                                                        |          |
| SC 3.2. Does an area within the wetland unit have organic soils, either peats or mucks, that are less than 16 in deep                                                                                                                    |          |
| over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond?  Yes – Go to SC 3.3  No = 1 not a bog                                                                               |          |
| SC 3.3. Does an area with peats or mucks have more than 70% cover of mosses at ground level, AND at least a 30%                                                                                                                          |          |
| cover of plant species listed in Table 4? Yes = Is a Category I bog No – Go to SC 3.4                                                                                                                                                    |          |
| <b>NOTE:</b> If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by                                                                                                                     |          |
| measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the                                                                                                                         |          |
| plant species in Table 4 are present, the wetland is a bog.                                                                                                                                                                              | Cat. I   |
| SC 3.4. Is an area with peats or mucks forested (> 30% cover) with Sitka spruce, subalpine fir, western red cedar,                                                                                                                       |          |
| western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the                                                                                                                                  |          |
| species (or combination of species) listed in Table 4 provide more than 30% of the cover under the canopy?                                                                                                                               |          |
| Yes = Is a Category I bog No = Is not a bog                                                                                                                                                                                              |          |

| Category of wetland based on Special Characteristics                                                                                                                                                                                                                                                                                                                                    | Cutiit   |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| Yes = Category III No = Category IV                                                                                                                                                                                                                                                                                                                                                     | Cat. IV  |
| Yes = <b>Category II</b> No – Go to <b>SC 6.3</b> is the unit between 0.1 and 1 ac, or is it in a mosaic of wetlands that is between 0.1 and 1 ac?                                                                                                                                                                                                                                      | Cat. III |
| C 6.1. Is the wetland 1 ac or larger and scores an 8 or 9 for the habitat functions on the form (rates H,H,H or H,H,M for the three aspects of function)?  Yes = Category I  No – Go to SC 6.2  C 6.2. Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger?                                                                                          | Cat. II  |
| — Ocean Shores-Copalis: Lands west of SR 103  — Ocean Shores-Copalis: Lands west of SR 115 and SR 109  Yes – Go to SC 6.1  No = rot an interdunal wetland for rating                                                                                                                                                                                                                    | cati     |
| In practical terms that means the following geographic areas:  — Long Beach Peninsula: Lands west of SR 103  — Grayland-Westport: Lands west of SR 105                                                                                                                                                                                                                                  | Cat I    |
| Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? If you answer yes you will still need to rate the wetland based on its habitat functions.                                                                                                                                                                                          |          |
| — The wetland is larger than $^{1}/_{10}$ ac (4350 ft $^{2}$ )  Yes = Category I  No = Category II                                                                                                                                                                                                                                                                                      |          |
| than 20% cover of aggressive, opportunistic plant species (see list of species on p. 100).  — At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or unmowed grassland.                                                                                                                                                                   | Cat. II  |
| Yes – Go to <b>SC 5.1</b> No = Not a wetland in a coastal lagoon SC 5.1. Does the wetland meet all of the following three conditions?  — The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less                                                                                                                                   |          |
| — The lagoon in which the wetland is located contains ponded water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (needs to be measured near the bottom)                                                                                                                                                                            | Cat. I   |
| <ul> <li>The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from<br/>marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks</li> </ul>                                                                                                                                                                             |          |
| Oc 5.0. Wetlands in Coastal Lagoons  Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?                                                                                                                                                                                                                                                              |          |
| Yes = Category I No = Not a forested wetland for this section                                                                                                                                                                                                                                                                                                                           | Cat. I   |
| canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 in (81 cm) or more.  — Mature forests (west of the Cascade Crest): Stands where the largest trees are 80- 200 years old OR the species that make up the canopy have an average diameter (dbh) exceeding 21 in (53 cm). |          |
| <ul> <li>the wetland based on its functions.</li> <li>Old-growth forests (west of Cascade crest): Stands of at least two tree species, forming a multi-layered</li> </ul>                                                                                                                                                                                                               |          |
| Does the wetland have at least <u>1 contiguous acre</u> of forest that meets one of these criteria for the WA Department of Fish and Wildlife's forests as priority habitats? <i>If you answer YES you will still need to rate</i>                                                                                                                                                      |          |

Wetland name or number Wetland H

# **RATING SUMMARY – Western Washington**

| Date of site visit:2/22/17                 |
|--------------------------------------------|
| _No Date of training <u>11/16</u>          |
| nultiple HGM classes?Y <u>X</u> N          |
| ted (figures can be combined).             |
| tions <u>X</u> or special characteristics) |
|                                            |
| Score for each                             |
| function based                             |
| on three ratings                           |
| (order of ratings is not important)        |
|                                            |

| FUNCTION                  | Improving Water Quality        |   | H        | ydrolo | gic      | Habitat  |   |   |   |       |
|---------------------------|--------------------------------|---|----------|--------|----------|----------|---|---|---|-------|
|                           | Circle the appropriate ratings |   |          |        |          |          |   |   |   |       |
| Site Potential            | Н                              | М | <u>L</u> | Н      | М        | L        | Н | М | L |       |
| Landscape Potential       | Н                              | М | <u>L</u> | Н      | М        | <u>L</u> | Н | M | L |       |
| Value                     | <u>H</u>                       | М | L        | Н      | <u>M</u> | L        | Н | M | L | TOTAL |
| Score Based on<br>Ratings |                                | 5 |          |        | 4        |          |   | 5 |   | 14    |

Score for each function based on three ratings (order of ratings is not important)

9 = H,H,H
8 = H,H,M
7 = H,H,L
7 = H,M,M
6 = H,M,L
6 = M,M,M
5 = H,L,L
5 = M,M,L
4 = M,L,L
3 = L,L,L

# 2. Category based on SPECIAL CHARACTERISTICS of wetland

| CHARACTERISTIC                     | CATEGORY    |  |
|------------------------------------|-------------|--|
| Estuarine                          | I II        |  |
| Wetland of High Conservation Value | I           |  |
| Bog                                | I           |  |
| Mature Forest                      | I           |  |
| Old Growth Forest                  | I           |  |
| Coastal Lagoon                     | I II        |  |
| Interdunal                         | I II III IV |  |
| None of the above                  | N/A         |  |

# Maps and figures required to answer questions correctly for Western Washington

### **Depressional Wetlands**

| Map of:                                                                        | To answer questions: | Figure # |
|--------------------------------------------------------------------------------|----------------------|----------|
| Cowardin plant classes                                                         | D 1.3, H 1.1, H 1.4  |          |
| Hydroperiods                                                                   | D 1.4, H 1.2         |          |
| Location of outlet (can be added to map of hydroperiods)                       | D 1.1, D 4.1         |          |
| Boundary of area within 150 ft of the wetland (can be added to another figure) | D 2.2, D 5.2         |          |
| Map of the contributing basin                                                  | D 4.3, D 5.3         |          |
| 1 km Polygon: Area that extends 1 km from entire wetland edge - including      | H 2.1, H 2.2, H 2.3  |          |
| polygons for accessible habitat and undisturbed habitat                        |                      |          |
| Screen capture of map of 303(d) listed waters in basin (from Ecology website)  | D 3.1, D 3.2         |          |
| Screen capture of list of TMDLs for WRIA in which unit is found (from web)     | D 3.3                |          |

### Riverine Wetlands

| Map of:                                                                        | To answer questions: | Figure # |
|--------------------------------------------------------------------------------|----------------------|----------|
| Cowardin plant classes                                                         | H 1.1, H 1.4         |          |
| Hydroperiods                                                                   | H 1.2                |          |
| Ponded depressions                                                             | R 1.1                |          |
| Boundary of area within 150 ft of the wetland (can be added to another figure) | R 2.4                |          |
| Plant cover of trees, shrubs, and herbaceous plants                            | R 1.2, R 4.2         |          |
| Width of unit vs. width of stream (can be added to another figure)             | R 4.1                |          |
| Map of the contributing basin                                                  | R 2.2, R 2.3, R 5.2  |          |
| 1 km Polygon: Area that extends 1 km from entire wetland edge - including      | H 2.1, H 2.2, H 2.3  |          |
| polygons for accessible habitat and undisturbed habitat                        |                      |          |
| Screen capture of map of 303(d) listed waters in basin (from Ecology website)  | R 3.1                |          |
| Screen capture of list of TMDLs for WRIA in which unit is found (from web)     | R 3.2, R 3.3         |          |

### Lake Fringe Wetlands

| Map of:                                                                        | To answer questions:       | Figure # |
|--------------------------------------------------------------------------------|----------------------------|----------|
| Cowardin plant classes                                                         | L 1.1, L 4.1, H 1.1, H 1.4 |          |
| Plant cover of trees, shrubs, and herbaceous plants                            | L 1.2                      |          |
| Boundary of area within 150 ft of the wetland (can be added to another figure) | L 2.2                      |          |
| 1 km Polygon: Area that extends 1 km from entire wetland edge - including      | H 2.1, H 2.2, H 2.3        |          |
| polygons for accessible habitat and undisturbed habitat                        |                            |          |
| Screen capture of map of 303(d) listed waters in basin (from Ecology website)  | L 3.1, L 3.2               |          |
| Screen capture of list of TMDLs for WRIA in which unit is found (from web)     | L 3.3                      |          |

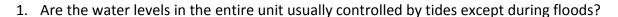
### Slope Wetlands

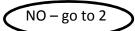
| Map of:                                                                         | To answer questions: | Figure # |
|---------------------------------------------------------------------------------|----------------------|----------|
| Cowardin plant classes                                                          | H 1.1, H 1.4         | 12       |
| Hydroperiods                                                                    | H 1.2                | 12       |
| Plant cover of <b>dense</b> trees, shrubs, and herbaceous plants                | S 1.3                | 12       |
| Plant cover of <b>dense</b> , <b>rigid</b> trees, shrubs, and herbaceous plants | S 4.1                | 12       |
| (can be added to figure above)                                                  |                      | 12       |
| Boundary of 150 ft buffer (can be added to another figure)                      | S 2.1, S 5.1         | 12       |
| 1 km Polygon: Area that extends 1 km from entire wetland edge - including       | H 2.1, H 2.2, H 2.3  | 16       |
| polygons for accessible habitat and undisturbed habitat                         |                      | 10       |
| Screen capture of map of 303(d) listed waters in basin (from Ecology website)   | S 3.1, S 3.2         | 17       |
| Screen capture of list of TMDLs for WRIA in which unit is found (from web)      | S 3.3                | 17       |

#### **HGM Classification of Wetlands in Western Washington**

For guestions 1-7, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-7 apply, and go to Question 8.





YES – the wetland class is Tidal Fringe – go to 1.1

1.1 Is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)?

#### NO – Saltwater Tidal Fringe (Estuarine)

YES - Freshwater Tidal Fringe

If your wetland can be classified as a Freshwater Tidal Fringe use the forms for **Riverine** wetlands. If it is Saltwater Tidal Fringe it is an **Estuarine** wetland and is not scored. This method **cannot** be used to score functions for estuarine wetlands.

2. The entire wetland unit is flat and precipitation is the only source (>90%) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit.

NO – go to 3

YES - The wetland class is Flats

If your wetland can be classified as a Flats wetland, use the form for **Depressional** wetlands.

- 3. Does the entire wetland unit **meet all** of the following criteria?
  - \_\_The vegetated part of the wetland is on the shores of a body of permanent open water (without any plants on the surface at any time of the year) at least 20 ac (8 ha) in size;
    - At least 30% of the open water area is deeper than 6.6 ft (2 m).

NO – go to 4

YES - The wetland class is Lake Fringe (Lacustrine Fringe)

- 4. Does the entire wetland unit **meet all** of the following criteria?
  - The wetland is on a slope (slope can be very gradual),
  - \_\_\_\_The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks,
  - \_\_\_The water leaves the wetland without being impounded.

NO - go to 5

YES – The wetland class is Slope

**NOTE**: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 ft deep).

- 5. Does the entire wetland unit **meet all** of the following criteria?
  - \_\_\_The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river,
  - \_\_\_The overbank flooding occurs at least once every 2 years.

NO - go to 6

YES - The wetland class is Riverine NOTE:

The Riverine unit can contain depressions that are filled with water when the river is not flooding

6. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year? This means that any outlet, if present, is higher than the interior of the wetland.

NO - go to 7

**YES** – The wetland class is **Depressional** 

7. Is the entire wetland unit located in a very flat area with no obvious depression and no overbank flooding? The unit does not pond surface water more than a few inches. The unit seems to be maintained by high groundwater in the area. The wetland may be ditched, but has no obvious natural outlet.

NO - go to 8

**YES** – The wetland class is **Depressional** 

8. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

**NOTE**: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the HGM class listed in column 2 is less than 10% of the unit; classify the wetland using the class that represents more than 90% of the total area.

| HGM classes within the wetland unit   | HGM class to  |  |  |  |
|---------------------------------------|---------------|--|--|--|
| being rated                           | use in rating |  |  |  |
| Slope + Riverine                      | Riverine      |  |  |  |
| Slope + Depressional                  | Depressional  |  |  |  |
| Slope + Lake Fringe                   | Lake Fringe   |  |  |  |
| Depressional + Riverine along stream  | Depressional  |  |  |  |
| within boundary of depression         |               |  |  |  |
| Depressional + Lake Fringe            | Depressional  |  |  |  |
| Riverine + Lake Fringe                | Riverine      |  |  |  |
| Salt Water Tidal Fringe and any other | Treat as      |  |  |  |
| class of freshwater wetland           | ESTUARINE     |  |  |  |

If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.

| SLOPE WETLANDS                                                                                                                                                                                                                                                                                                               |   |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|
| Water Quality Functions - Indicators that the site functions to improve water quality                                                                                                                                                                                                                                        |   |
| S 1.0. Does the site have the potential to improve water quality?                                                                                                                                                                                                                                                            |   |
| S 1.1. Characteristics of the average slope of the wetland: (a 1% slope has a 1 ft vertical drop in elevation for every 100 ft of horizontal distance)  Slope is 1% or less  points = 3                                                                                                                                      | 1 |
| Slope is > 1%-2%       points = 2         Slope is > 2%-5%       points = 1         Slope is greater than 5%       points = 0                                                                                                                                                                                                | 1 |
| S 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions): Yes = 3 No = 0                                                                                                                                                                                                   | 0 |
| S 1.3. Characteristics of the plants in the wetland that trap sediments and pollutants:  Choose the points appropriate for the description that best fits the plants in the wetland. Dense means you have trouble seeing the soil surface (>75% cover), and uncut means not grazed or mowed and plants are higher than 6 in. |   |
| Dense, uncut, herbaceous plants > 90% of the wetland area  Dense, uncut, herbaceous plants > ½ of area  Dense, woody, plants > ½ of area  Dense, uncut, herbaceous plants > ¼ of area  Does not meet any of the criteria above for plants  points = 0  points = 6  points = 3  points = 2  points = 1  points = 0            | 0 |
| Total for S 1 Add the points in the boxes above                                                                                                                                                                                                                                                                              | 1 |

Rating of Site Potential If score is: \_\_\_12 = H \_\_\_\_6-11 = M \_\_\_X\_0-5 = L

Record the rating on the first page

| S 2.0. Does the landscape have the potential to support the water quality function of the site?                                            |   |
|--------------------------------------------------------------------------------------------------------------------------------------------|---|
| S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?  Yes = 1 No = 0         | 0 |
| S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?  Other sources  Yes = 1 No = 0 | 0 |
| Total for S 2 Add the points in the boxes above                                                                                            | 0 |

Rating of Landscape Potential If score is: \_\_\_\_1-2 = M \_\_X \_\_0 = L

Record the rating on the first page

| S 3.0. Is the water quality improvement provided by the site valuable to society?                                                                                                                      |   |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|
| S 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list?  Yes = 1 No = 0                                                   | 1 |
| S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue? At least one aquatic resource in the basin is on the $303(d)$ list. Yes = 1 No = 0                                      | 1 |
| S 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality? <i>Answer YES</i> if there is a TMDL for the basin in which unit is found. Yes = 2 No = 0 | 0 |
| Total for S 3 Add the points in the boxes above                                                                                                                                                        | 2 |

Rating of Value If score is: X 2-4 = H \_\_\_1 = M \_\_\_0 = L

Record the rating on the first page

| SLOPE WETLANDS                                                                                                                                                                                                                               |                  |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| Hydrologic Functions - Indicators that the site functions to reduce flooding and stream ero                                                                                                                                                  | sion             |
| S 4.0. Does the site have the potential to reduce flooding and stream erosion?                                                                                                                                                               |                  |
| S 4.1. Characteristics of plants that reduce the velocity of surface flows during storms: Choose the points appropriate for the description that best fits conditions in the wetland. Stems of plants should be thick enough (usually > 1/2) |                  |
| in), or dense enough, to remain erect during surface flows.                                                                                                                                                                                  | 0                |
| Dense, uncut, <b>rigid</b> plants cover > 90% of the area of the wetland points = 1                                                                                                                                                          |                  |
| All other conditions points = 0                                                                                                                                                                                                              |                  |
| Rating of Site Potential If score is: 1 = M X 0 = I Record the rating of                                                                                                                                                                     | n the first nage |

| S 5.0. Does the landscape have the potential to support the hydrologic functions of the site?                                                   |                  |
|-------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| S 5.1. Is more than 25% of the area within 150 ft upslope of wetland in land uses or cover that generate excess surface runoff?  Yes = 1 No = 0 | 0                |
| Rating of Landscape Potential If score is: 1 = M X 0 = L Record the rating of                                                                   | n the first page |

| S 6.0. Are the hydrologic functions provided by the site valuable to society                                                                                                                                                                                                                                            | ?                                                                         |   |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------|---|
| S 6.1. Distance to the nearest areas downstream that have flooding problems:  The sub-basin immediately down-gradient of site has flooding problems that natural resources (e.g., houses or salmon redds)  Surface flooding problems are in a sub-basin farther down-gradient  No flooding problems anywhere downstream | nt result in damage to human or<br>points = 2<br>points = 1<br>points = 0 | 1 |
| S 6.2. Has the site been identified as important for flood storage or flood conveya                                                                                                                                                                                                                                     | ance in a regional flood control plan?<br>Yes = 2 No = 0                  | 0 |
| Total for S 6                                                                                                                                                                                                                                                                                                           | Add the points in the boxes above                                         | 1 |

Rating of Value If score is: 2-4 = H X 1 = M 0 = L

Record the rating on the first page

NOTES and FIELD OBSERVATIONS:

#### These questions apply to wetlands of all HGM classes. **HABITAT FUNCTIONS** - Indicators that site functions to provide important habitat H 1.0. Does the site have the potential to provide habitat? H 1.1. Structure of plant community: Indicators are Cowardin classes and strata within the Forested class. Check the Cowardin plant classes in the wetland. Up to 10 patches may be combined for each class to meet the threshold of ¼ ac or more than 10% of the unit if it is smaller than 2.5 ac. Add the number of structures checked. Aquatic bed 4 structures or more: points = 4 Emergent 3 structures: points = 2 1 Scrub-shrub (areas where shrubs have > 30% cover) 2 structures: points = 1 X Forested (areas where trees have > 30% cover) 1 structure: points = 0 If the unit has a Forested class, check if: \_\_\_\_The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the Forested polygon H 1.2. Hydroperiods Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or ¼ ac to count (see text for descriptions of hydroperiods). Permanently flooded or inundated 4 or more types present: points = 3 Seasonally flooded or inundated 3 types present: points = 2 X Occasionally flooded or inundated 2 types present: points = 1 2 X Saturated only 1 type present: points = 0 Permanently flowing stream or river in, or adjacent to, the wetland X Seasonally flowing stream in, or adjacent to, the wetland Lake Fringe wetland 2 points Freshwater tidal wetland 2 points H 1.3. Richness of plant species Count the number of plant species in the wetland that cover at least 10 ft<sup>2</sup>. Different patches of the same species can be combined to meet the size threshold and you do not have to name the species. Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle 1 If you counted: > 19 species points = 2 5 - 19 species points = 1< 5 species points = 0 H 1.4. Interspersion of habitats Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. If you have four or more plant classes or three classes and open water, the rating is always high. 1 None = 0 points Low = 1 point Moderate = 2 points All three diagrams in this row are **HIGH** = 3points

| H 1.5. Special habitat features:                                                                                                                                    |                                         |                  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------|------------------|
| Check the habitat features that are present in the wetland. The number of                                                                                           | f checks is the number of points.       |                  |
| Large, downed, woody debris within the wetland (> 4 in diameter and                                                                                                 | d 6 ft long).                           |                  |
| Standing snags (dbh > 4 in) within the wetland                                                                                                                      |                                         |                  |
| Undercut banks are present for at least 6.6 ft (2 m) and/or overhangi                                                                                               | ng plants extends at least 3.3 ft (1 m) |                  |
| over a stream (or ditch) in, or contiguous with the wetland, for at lea                                                                                             | st 33 ft (10 m)                         |                  |
| Stable steep banks of fine material that might be used by beaver or r                                                                                               | nuskrat for denning (> 30 degree        | 1                |
| slope) OR signs of recent beaver activity are present (cut shrubs or t                                                                                              | rees that have not yet weathered        |                  |
| where wood is exposed)                                                                                                                                              |                                         |                  |
| At least ¼ ac of thin-stemmed persistent plants or woody branches ar                                                                                                | -                                       |                  |
| permanently or seasonally inundated (structures for egg-laying by a                                                                                                 |                                         |                  |
| X Invasive plants cover less than 25% of the wetland area in every strate                                                                                           | um of plants (see H 1.1 for list of     |                  |
| strata)                                                                                                                                                             |                                         |                  |
| Total for H 1                                                                                                                                                       | Add the points in the boxes above       | 6                |
| Rating of Site Potential If score is:15-18 = H7-14 = MX0-6 = L                                                                                                      | Record the rating on                    | the first page   |
| H 2.0. Does the landscape have the potential to support the habitat func                                                                                            | tions of the site?                      |                  |
| H 2.1. Accessible habitat (include only habitat that directly abuts wetland unit).                                                                                  |                                         |                  |
| Calculate: % undisturbed habitat + [(% moderate and low int                                                                                                         | ensity land uses)/21 = %                |                  |
| If total accessible habitat is:                                                                                                                                     |                                         |                  |
| > <sup>1</sup> / <sub>3</sub> (33.3%) of 1 km Polygon                                                                                                               | points = 3                              | 2                |
| 20-33% of 1 km Polygon                                                                                                                                              | points = 2                              | _                |
| 10-19% of 1 km Polygon                                                                                                                                              | points = 1                              |                  |
| < 10% of 1 km Polygon                                                                                                                                               | points = 0                              |                  |
| H 2.2. Undisturbed habitat in 1 km Polygon around the wetland.                                                                                                      | pomies                                  |                  |
| Calculate: % undisturbed habitat + [(% moderate and low int                                                                                                         | ensity land uses 1/21 = %               |                  |
| Undisturbed habitat > 50% of Polygon                                                                                                                                | points = 3                              |                  |
| Undisturbed habitat 10-50% and in 1-3 patches                                                                                                                       | points = 2                              | 0                |
| Undisturbed habitat 10-50% and > 3 patches                                                                                                                          | points = 1                              |                  |
| Undisturbed habitat < 10% of 1 km Polygon                                                                                                                           | points = 0                              |                  |
| H 2.3. Land use intensity in 1 km Polygon: If                                                                                                                       | points – 0                              |                  |
| ,                                                                                                                                                                   | noints - ( 2)                           | 0                |
| > 50% of 1 km Polygon is high intensity land use                                                                                                                    | points = (-2)                           | U                |
| ≤ 50% of 1 km Polygon is high intensity                                                                                                                             | points = 0                              |                  |
| Total for H 2                                                                                                                                                       | Add the points in the boxes above       | 2                |
| Rating of Landscape Potential If score is: 4-6 = H X 1-3 = M < 1 = L                                                                                                | Record the rating on t                  | tne Jirst page   |
| H 3.0. Is the habitat provided by the site valuable to society?                                                                                                     |                                         |                  |
|                                                                                                                                                                     | 11. 2.2                                 |                  |
| H 3.1. Does the site provide habitat for species valued in laws, regulations, or po                                                                                 | ilicies? Choose only the highest score  |                  |
| that applies to the wetland being rated.                                                                                                                            | noints - 2                              |                  |
| Site meets ANY of the following criteria:                                                                                                                           | points = 2                              |                  |
| It has 3 or more priority habitats within 100 m (see next page)                                                                                                     | animal on the state or foderal lists)   |                  |
| <ul><li>It provides habitat for Threatened or Endangered species (any plant or</li><li>It is mapped as a location for an individual WDFW priority species</li></ul> | animal on the state of federal lists)   |                  |
| It is a Wetland of High Conservation Value as determined by the Depar                                                                                               | tment of Natural Resources              |                  |
| It has been categorized as an important habitat site in a local or region                                                                                           |                                         |                  |
| Shoreline Master Plan, or in a watershed plan                                                                                                                       |                                         |                  |
| Site has 1 or 2 priority habitats (listed on next page) within 100 m                                                                                                | points = 1                              |                  |
| Site does not meet any of the criteria above                                                                                                                        | points = 0                              |                  |
| Rating of Value   If score is:2 = HX1 = M0 = L                                                                                                                      | Record the rating or                    | n the first page |
| <u> </u>                                                                                                                                                            | . <b>.</b>                              | , , , , , ,      |

#### **WDFW Priority Habitats**

<u>Priority habitats listed by WDFW</u> (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. <a href="http://wdfw.wa.gov/publications/00165/wdfw00165.pdf">http://wdfw.wa.gov/publications/00165/wdfw00165.pdf</a> or access the list from here: <a href="http://wdfw.wa.gov/conservation/phs/list/">http://wdfw.wa.gov/conservation/phs/list/</a>)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland unit: NOTE: This question is

independent of the land use between the wetland unit and the priority habitat. **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha). Biodiversity Areas and Corridors: Areas of habitat that are relatively important to various species of native fish and wildlife (full descriptions in WDFW PHS report). Herbaceous Balds: Variable size patches of grass and forbs on shallow soils over bedrock. Old-growth/Mature forests: Old-growth west of Cascade crest – Stands of at least 2 tree species, forming a multilayered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) > 32 in (81 cm) dbh or > 200 years of age. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in oldgrowth; 80-200 years old west of the Cascade crest. Oregon White Oak: Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (full descriptions in WDFW PHS report p. 158 – see web link above). X Riparian: The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other. Westside Prairies: Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (full descriptions in WDFW PHS report p. 161 – see web link above). X Instream: The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources. Nearshore: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (full descriptions of habitats and the definition of relatively undisturbed are in WDFW report – see web link on previous page). Caves: A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human. **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation. Talus: Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs. X Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed

elsewhere.

#### **CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS**

| Wetland Type                                                                                                                                                                                                                             | Category |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| wedalia Type                                                                                                                                                                                                                             | Category |
| Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.                                                                                                                             |          |
| SC 1.0. Estuarine wetlands                                                                                                                                                                                                               |          |
| Does the wetland meet the following criteria for Estuarine wetlands?                                                                                                                                                                     |          |
| — The dominant water regime is tidal,                                                                                                                                                                                                    |          |
| — Vegetated, and                                                                                                                                                                                                                         |          |
| — With a salinity greater than 0.5 ppt Yes –Go to <b>SC 1.1</b> No= <b>Not an estuarine wetland</b>                                                                                                                                      |          |
| SC 1.1. Is the wetland within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area                                                                                                                          |          |
| Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151?                                                                                                                               | Cat. I   |
| Yes = Category I No - Go to SC 1.2                                                                                                                                                                                                       | Cuti     |
| SC 1.2. Is the wetland unit at least 1 ac in size and meets at least two of the following three conditions?                                                                                                                              |          |
| — The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less                                                                                                                            | Cat. I   |
| than 10% cover of non-native plant species. (If non-native species are <i>Spartina</i> , see page 25)                                                                                                                                    | Cat. I   |
| — At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-                                                                                                                               |          |
| mowed grassland.                                                                                                                                                                                                                         | Cat. II  |
| — The wetland has at least two of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands. Yes = Category I No = Category II                                                              |          |
| contiguous frestiwater wetianus.                                                                                                                                                                                                         |          |
| SC 2.0. Wetlands of High Conservation Value (WHCV)                                                                                                                                                                                       |          |
| SC 2.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High                                                                                                                         |          |
| Conservation Value? Yes – Go to SC 2.2 No – Go to SC 2.3                                                                                                                                                                                 | Cat. I   |
| SC 2.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value?                                                                                                                                              |          |
| Yes = Category I No = Not a WHCV                                                                                                                                                                                                         |          |
| SC 2.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? <a href="http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf">http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf</a> |          |
| Yes – Contact WNHP/WDNR and go to SC 2.4 No = Not a WHCV                                                                                                                                                                                 |          |
| SC 2.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and listed it on                                                                                                                        |          |
| their website? Yes = Category I No = Not a WHCV                                                                                                                                                                                          |          |
| SC 3.0. Bogs                                                                                                                                                                                                                             |          |
| Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? Use the key                                                                                                                          |          |
| below. If you answer YES you will still need to rate the wetland based on its functions.                                                                                                                                                 |          |
| SC 3.1. Does an area within the wetland unit have organic soil horizons, either peats or mucks, that compose 16 in or                                                                                                                    |          |
| more of the first 32 in of the soil profile? Yes – Go to SC 3.3 No – Go to SC 3.2                                                                                                                                                        |          |
| SC 3.2. Does an area within the wetland unit have organic soils, either peats or mucks, that are less than 16 in deep                                                                                                                    |          |
| over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond?  Yes – Go to SC 3.3  No = 1 not a bog                                                                               |          |
| pond? Yes – Go to <b>SC 3.3</b> No = <b>1</b> not a bog SC 3.3. Does an area with peats or mucks have more than 70% cover of mosses at ground level, AND at least a 30%                                                                  |          |
| cover of plant species listed in Table 4? Yes = Is a Category I bog No - Go to SC 3.4                                                                                                                                                    |          |
| <b>NOTE:</b> If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by                                                                                                                     |          |
| measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the                                                                                                                         |          |
| plant species in Table 4 are present, the wetland is a bog.                                                                                                                                                                              | Cat. I   |
| SC 3.4. Is an area with peats or mucks forested (> 30% cover) with Sitka spruce, subalpine fir, western red cedar,                                                                                                                       |          |
| western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the                                                                                                                                  |          |
| species (or combination of species) listed in Table 4 provide more than 30% of the cover under the canopy?                                                                                                                               |          |
| Yes = <b>is a Category I bog</b> No <b>= is not a bog</b>                                                                                                                                                                                |          |

| SC 4.0. Forested Wetlands                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| Does the wetland have at least 1 contiguous acre of forest that meets one of these criteria for the WA Department of Fish and Wildlife's forests as priority habitats? <i>If you answer YES you will still need to rate the wetland based on its functions.</i>                                                                                                                                                                                                                                                                                                                             |                  |
| <ul> <li>Old-growth forests (west of Cascade crest): Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 in (81 cm) or more.</li> <li>Mature forests (west of the Cascade Crest): Stands where the largest trees are 80- 200 years old OR the species that make up the canopy have an average diameter (dbh) exceeding 21 in (53 cm).</li> </ul>                                                                  |                  |
| Yes = Category I No = Not a forested wetland for this section                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Cat. I           |
| SC 5.0. Wetlands in Coastal Lagoons  Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?  — The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks  — The lagoon in which the wetland is located contains ponded water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (needs to be measured near the bottom)  Yes – Go to SC 5.1  No = Not a wetland in a coastal lagoon | Cat. I           |
| <ul> <li>SC 5.1. Does the wetland meet all of the following three conditions?         <ul> <li>The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of aggressive, opportunistic plant species (see list of species on p. 100).</li> <li>At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or unmowed grassland.</li> <li>The wetland is larger than ¹/10 ac (4350 ft²)</li> </ul> </li> </ul>                                                                       | Cat. II          |
| Yes = Category I No = Category II                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                  |
| SC 6.0. Interdunal Wetlands Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? If you answer yes you will still need to rate the wetland based on its habitat functions. In practical terms that means the following geographic areas:  — Long Beach Peninsula: Lands west of SR 103                                                                                                                                                                                                                                                      |                  |
| <ul> <li>— Grayland-Westport: Lands west of SR 105</li> <li>— Ocean Shores-Copalis: Lands west of SR 115 and SR 109</li> <li>Yes – Go to SC 6.1</li> </ul> No = not an interdunal wetland for rating                                                                                                                                                                                                                                                                                                                                                                                        | Cat I            |
| SC 6.1. Is the wetland 1 ac or larger and scores an 8 or 9 for the habitat functions on the form (rates H,H,H or H,H,M for the three aspects of function)?  Yes = Category I  No – Go to SC 6.2  SC 6.2. Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger?                                                                                                                                                                                                                                                                                            | Cat. II          |
| Yes = Category II No – Go to SC 6.3  SC 6.3. Is the unit between 0.1 and 1 ac, or is it in a mosaic of wetlands that is between 0.1 and 1 ac?  Yes = Category III No – Go to SC 6.3  Yes = Category III No – Go to SC 6.3                                                                                                                                                                                                                                                                                                                                                                   | Cat. III Cat. IV |
| Category of wetland based on Special Characteristics                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | N/A              |

Wetland name or number Wetland I

## **RATING SUMMARY – Western Washington**

| Name of wetland (or ID #): _\               | <u>Netland J</u>        |                      | Date (       | of site visit: <u>2</u> | <u> </u>     |
|---------------------------------------------|-------------------------|----------------------|--------------|-------------------------|--------------|
| Rated by <u>Katie Boa</u>                   | Trained by E            | cology? Yes <u>X</u> | No D         | ate of training         | <u>11/16</u> |
| HGM Class used for rating                   | Slope                   | Wetland has r        | nultiple HGN | 1 classes?Y             | XN           |
| NOTE: Form is not con<br>Source of base aer | ial photo/map <u>Go</u> | ogle Earth           |              |                         | ·            |
| 1. Category of wetland                      |                         |                      |              |                         |              |
| Category I                                  | - Total score = 23 -    | - 27                 |              | Score for ea            | ch           |
| Category I                                  | I – Total score = 20    | <b>-22</b>           |              | function bas            | sed          |

| FUNCTION               |          | nprov<br>ter Q                 | ing<br>uality | Hydrologic |   |   | Habita | at |   |       |
|------------------------|----------|--------------------------------|---------------|------------|---|---|--------|----|---|-------|
|                        |          | Circle the appropriate ratings |               |            |   |   |        |    |   |       |
| Site Potential         | Н        | М                              | L             | Н          | М | L | Н      | М  | L |       |
| Landscape Potential    | Н        | М                              | L             | Н          | М | L | Н      | M  | L |       |
| Value                  | <u>H</u> | М                              | L             | Н          | M | L | Н      | M  | L | TOTAL |
| Score Based on Ratings |          | 5                              |               |            | 4 |   |        | 5  |   | 14    |

\_\_\_Category III – Total score = 16 – 19

X Category IV – Total score = 9 – 15

# Score for each function based on three ratings (order of ratings is not important) 9 = H,H,H 8 = H,H,M 7 = H,H,L 7 = H,M,M 6 = H,M,L 5 = M,M,L 5 = M,M,L 4 = M,L,L 3 = L,L,L

#### 2. Category based on SPECIAL CHARACTERISTICS of wetland

| CHARACTERISTIC                     | CATEGORY    |  |
|------------------------------------|-------------|--|
| Estuarine                          | I II        |  |
| Wetland of High Conservation Value | I           |  |
| Bog                                | I           |  |
| Mature Forest                      | ı           |  |
| Old Growth Forest                  | I           |  |
| Coastal Lagoon                     | I II        |  |
| Interdunal                         | I II III IV |  |
| None of the above                  | N/A         |  |

# Maps and figures required to answer questions correctly for Western Washington

#### **Depressional Wetlands**

| Map of:                                                                        | To answer questions: | Figure # |
|--------------------------------------------------------------------------------|----------------------|----------|
| Cowardin plant classes                                                         | D 1.3, H 1.1, H 1.4  |          |
| Hydroperiods                                                                   | D 1.4, H 1.2         |          |
| Location of outlet (can be added to map of hydroperiods)                       | D 1.1, D 4.1         |          |
| Boundary of area within 150 ft of the wetland (can be added to another figure) | D 2.2, D 5.2         |          |
| Map of the contributing basin                                                  | D 4.3, D 5.3         |          |
| 1 km Polygon: Area that extends 1 km from entire wetland edge - including      | H 2.1, H 2.2, H 2.3  |          |
| polygons for accessible habitat and undisturbed habitat                        |                      |          |
| Screen capture of map of 303(d) listed waters in basin (from Ecology website)  | D 3.1, D 3.2         |          |
| Screen capture of list of TMDLs for WRIA in which unit is found (from web)     | D 3.3                |          |

#### Riverine Wetlands

| Map of:                                                                        | To answer questions: | Figure # |
|--------------------------------------------------------------------------------|----------------------|----------|
| Cowardin plant classes                                                         | H 1.1, H 1.4         |          |
| Hydroperiods                                                                   | H 1.2                |          |
| Ponded depressions                                                             | R 1.1                |          |
| Boundary of area within 150 ft of the wetland (can be added to another figure) | R 2.4                |          |
| Plant cover of trees, shrubs, and herbaceous plants                            | R 1.2, R 4.2         |          |
| Width of unit vs. width of stream (can be added to another figure)             | R 4.1                |          |
| Map of the contributing basin                                                  | R 2.2, R 2.3, R 5.2  |          |
| 1 km Polygon: Area that extends 1 km from entire wetland edge - including      | H 2.1, H 2.2, H 2.3  |          |
| polygons for accessible habitat and undisturbed habitat                        |                      |          |
| Screen capture of map of 303(d) listed waters in basin (from Ecology website)  | R 3.1                |          |
| Screen capture of list of TMDLs for WRIA in which unit is found (from web)     | R 3.2, R 3.3         |          |

#### Lake Fringe Wetlands

| Map of:                                                                        | To answer questions:       | Figure # |
|--------------------------------------------------------------------------------|----------------------------|----------|
| Cowardin plant classes                                                         | L 1.1, L 4.1, H 1.1, H 1.4 |          |
| Plant cover of trees, shrubs, and herbaceous plants                            | L 1.2                      |          |
| Boundary of area within 150 ft of the wetland (can be added to another figure) | L 2.2                      |          |
| 1 km Polygon: Area that extends 1 km from entire wetland edge - including      | H 2.1, H 2.2, H 2.3        |          |
| polygons for accessible habitat and undisturbed habitat                        |                            |          |
| Screen capture of map of 303(d) listed waters in basin (from Ecology website)  | L 3.1, L 3.2               |          |
| Screen capture of list of TMDLs for WRIA in which unit is found (from web)     | L 3.3                      |          |

#### Slope Wetlands

| Map of:                                                                         | To answer questions: | Figure # |  |
|---------------------------------------------------------------------------------|----------------------|----------|--|
| Cowardin plant classes                                                          | H 1.1, H 1.4         | 12       |  |
| Hydroperiods                                                                    | H 1.2                | 12       |  |
| Plant cover of <b>dense</b> trees, shrubs, and herbaceous plants                | S 1.3                | 12       |  |
| Plant cover of <b>dense</b> , <b>rigid</b> trees, shrubs, and herbaceous plants | S 4.1                | 12       |  |
| (can be added to figure above)                                                  |                      | 12       |  |
| Boundary of 150 ft buffer (can be added to another figure)                      | S 2.1, S 5.1         | 12       |  |
| 1 km Polygon: Area that extends 1 km from entire wetland edge - including       | H 2.1, H 2.2, H 2.3  | 10       |  |
| polygons for accessible habitat and undisturbed habitat                         |                      | 16       |  |
| Screen capture of map of 303(d) listed waters in basin (from Ecology website)   | S 3.1, S 3.2         | 17       |  |
| Screen capture of list of TMDLs for WRIA in which unit is found (from web)      | \$ 3.3               | 17       |  |

#### **HGM Classification of Wetlands in Western Washington**

For questions 1-7, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-7 apply, and go to Question 8.

|    |                |                  |             |         |                     | _        |         |         |
|----|----------------|------------------|-------------|---------|---------------------|----------|---------|---------|
| 1  | Aro the water  | lavals in tha    | antira unit | ucually | controlled by tide  | c avcant | during  | floode) |
| 1. | AIC LIIC Water | 16 6613 111 1116 | CITCHE WITH | usualiv | COLLI OLLEG DV LIGE | 3 CALCUL | uuillig | HOUUS:  |

NO – go to 2

YES – the wetland class is Tidal Fringe – go to 1.1

1.1 Is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)?

#### NO – Saltwater Tidal Fringe (Estuarine)

YES - Freshwater Tidal Fringe

If your wetland can be classified as a Freshwater Tidal Fringe use the forms for **Riverine** wetlands. If it is Saltwater Tidal Fringe it is an **Estuarine** wetland and is not scored. This method **cannot** be used to score functions for estuarine wetlands.

2. The entire wetland unit is flat and precipitation is the only source (>90%) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit.

NO - go to 3

YES - The wetland class is Flats

If your wetland can be classified as a Flats wetland, use the form for **Depressional** wetlands.

- 3. Does the entire wetland unit **meet all** of the following criteria?
  - \_\_The vegetated part of the wetland is on the shores of a body of permanent open water (without any plants on the surface at any time of the year) at least 20 ac (8 ha) in size;
    - At least 30% of the open water area is deeper than 6.6 ft (2 m).

NO – go to 4

**YES** – The wetland class is **Lake Fringe** (Lacustrine Fringe)

- 4. Does the entire wetland unit **meet all** of the following criteria?
  - \_\_\_\_The wetland is on a slope (slope can be very gradual),
  - \_\_\_\_The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks,
  - \_\_\_The water leaves the wetland without being impounded.

NO - go to 5

**YES** – The wetland class is **Slope** 

**NOTE**: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 ft deep).

- 5. Does the entire wetland unit **meet all** of the following criteria?
  - \_\_\_The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river,
  - \_\_\_\_The overbank flooding occurs at least once every 2 years.

NO - go to 6

YES - The wetland class is Riverine NOTE:

The Riverine unit can contain depressions that are filled with water when the river is not flooding

6. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year? This means that any outlet, if present, is higher than the interior of the wetland.

NO - go to 7

**YES** – The wetland class is **Depressional** 

7. Is the entire wetland unit located in a very flat area with no obvious depression and no overbank flooding? The unit does not pond surface water more than a few inches. The unit seems to be maintained by high groundwater in the area. The wetland may be ditched, but has no obvious natural outlet.

NO - go to 8

**YES** – The wetland class is **Depressional** 

8. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

**NOTE**: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the HGM class listed in column 2 is less than 10% of the unit; classify the wetland using the class that represents more than 90% of the total area.

| HGM classes within the wetland unit   | HGM class to  |
|---------------------------------------|---------------|
| being rated                           | use in rating |
| Slope + Riverine                      | Riverine      |
| Slope + Depressional                  | Depressional  |
| Slope + Lake Fringe                   | Lake Fringe   |
| Depressional + Riverine along stream  | Depressional  |
| within boundary of depression         |               |
| Depressional + Lake Fringe            | Depressional  |
| Riverine + Lake Fringe                | Riverine      |
| Salt Water Tidal Fringe and any other | Treat as      |
| class of freshwater wetland           | ESTUARINE     |

If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.

| SLOPE WETLANDS                                                                                                                                                                                                                      |   |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|
| Water Quality Functions - Indicators that the site functions to improve water quality                                                                                                                                               |   |
| S 1.0. Does the site have the potential to improve water quality?                                                                                                                                                                   |   |
| S 1.1. Characteristics of the average slope of the wetland: (a 1% slope has a 1 ft vertical drop in elevation for every 100 ft of horizontal distance)                                                                              |   |
| Slope is 1% or less points = 3                                                                                                                                                                                                      | 0 |
| Slope is > 1%-2% points = 2                                                                                                                                                                                                         | U |
| Slope is > 2%-5% points = 1                                                                                                                                                                                                         |   |
| Slope is greater than 5% points = 0                                                                                                                                                                                                 |   |
| S 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions): Yes = 3 No = 0                                                                                                          | 0 |
| S 1.3. Characteristics of the plants in the wetland that trap sediments and pollutants:                                                                                                                                             |   |
| Choose the points appropriate for the description that best fits the plants in the wetland. Dense means you have trouble seeing the soil surface (>75% cover), and uncut means not grazed or mowed and plants are higher than 6 in. |   |
| Dense, uncut, herbaceous plants > 90% of the wetland area points = 6                                                                                                                                                                | 0 |
| Dense, uncut, herbaceous plants > ½ of area points = 3                                                                                                                                                                              |   |
| Dense, woody, plants > ½ of area points = 2                                                                                                                                                                                         |   |
| Dense, uncut, herbaceous plants > ¼ of area points = 1                                                                                                                                                                              |   |
| Does not meet any of the criteria above for plants points = 0                                                                                                                                                                       |   |
| Total for S 1 Add the points in the boxes above                                                                                                                                                                                     | 0 |

Rating of Site Potential If score is: \_\_\_12 = H \_\_\_\_6-11 = M \_\_\_X\_0-5 = L

Record the rating on the first page

| S 2.0. Does the landscape have the potential to support the water quality function of the site?                                            |   |
|--------------------------------------------------------------------------------------------------------------------------------------------|---|
| S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?  Yes = 1 No = 0         | 0 |
| S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?  Other sources  Yes = 1 No = 0 |   |
| Total for S 2 Add the points in the boxes above                                                                                            | 0 |

Rating of Landscape Potential If score is: 1-2 = M X 0 = L

Record the rating on the first page

| S 3.0. Is the water quality improvement provided by the site valuable to society?                                                                                                                      |   |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|
| S 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list?  Yes = 1 No = 0                                                   | 1 |
| S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue? At least one aquatic resource in the basin is on the $303(d)$ list.  Yes = 1 No = 0                                     | 1 |
| S 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality? <i>Answer YES</i> if there is a TMDL for the basin in which unit is found. Yes = 2 No = 0 | 2 |
| Total for S 3 Add the points in the boxes above                                                                                                                                                        | 4 |

Rating of Value If score is: X 2-4 = H \_\_\_1 = M \_\_\_0 = L

Record the rating on the first page

| SLOPE WETLANDS                                                                                                                                                                                                                               |                  |  |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|--|
| Hydrologic Functions - Indicators that the site functions to reduce flooding and stream erosion                                                                                                                                              |                  |  |
| S 4.0. Does the site have the potential to reduce flooding and stream erosion?                                                                                                                                                               |                  |  |
| S 4.1. Characteristics of plants that reduce the velocity of surface flows during storms: Choose the points appropriate for the description that best fits conditions in the wetland. Stems of plants should be thick enough (usually > 1/2) |                  |  |
| in), or dense enough, to remain erect during surface flows.                                                                                                                                                                                  | 0                |  |
| Dense, uncut, <b>rigid</b> plants cover > 90% of the area of the wetland points = 1                                                                                                                                                          |                  |  |
| All other conditions points = 0                                                                                                                                                                                                              |                  |  |
| Rating of Site Potential If score is: 1 = M X 0 = I Record the rating of                                                                                                                                                                     | n the first nage |  |

| S 5.0. Does the landscape have the potential to support the hydrologic functions of the sit          | e?                   |                |
|------------------------------------------------------------------------------------------------------|----------------------|----------------|
| S 5.1. Is more than 25% of the area within 150 ft upslope of wetland in land uses or cover that gene |                      | 0              |
| surface runoff?                                                                                      | Yes = 1 No = 0       |                |
| Pating of Landscape Potential If score is: 1 - M Y 0 - I                                             | Pecard the rating or | the first nage |

Rating of Landscape Potential If score is: 1 = M X 0 = L

Record the rating on the first page

| S 6.0. Are the hydrologic functions provided by the site valuable to society?                                                                                                                                                                                                                                                                                    |   |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|
| S 6.1. Distance to the nearest areas downstream that have flooding problems:  The sub-basin immediately down-gradient of site has flooding problems that result in damage to human or natural resources (e.g., houses or salmon redds)  Surface flooding problems are in a sub-basin farther down-gradient  No flooding problems anywhere downstream  points = 0 |   |
| S 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?  Yes = 2 No = 0                                                                                                                                                                                                                         | 0 |
| Total for S 6 Add the points in the boxes above                                                                                                                                                                                                                                                                                                                  | 1 |

Rating of Value If score is: 2-4 = H X 1 = M 0 = L

Record the rating on the first page

NOTES and FIELD OBSERVATIONS:

#### These questions apply to wetlands of all HGM classes. **HABITAT FUNCTIONS** - Indicators that site functions to provide important habitat H 1.0. Does the site have the potential to provide habitat? H 1.1. Structure of plant community: Indicators are Cowardin classes and strata within the Forested class. Check the Cowardin plant classes in the wetland. Up to 10 patches may be combined for each class to meet the threshold of ¼ ac or more than 10% of the unit if it is smaller than 2.5 ac. Add the number of structures checked. Aquatic bed 4 structures or more: points = 4 Emergent 3 structures: points = 2 1 Scrub-shrub (areas where shrubs have > 30% cover) 2 structures: points = 1 X Forested (areas where trees have > 30% cover) 1 structure: points = 0 If the unit has a Forested class, check if: X The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the Forested polygon H 1.2. Hydroperiods Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or ¼ ac to count (see text for descriptions of hydroperiods). Permanently flooded or inundated 4 or more types present: points = 3 Seasonally flooded or inundated 3 types present: points = 2 Occasionally flooded or inundated 2 types present: points = 1 1 X Saturated only 1 type present: points = 0 Permanently flowing stream or river in, or adjacent to, the wetland X Seasonally flowing stream in, or adjacent to, the wetland Lake Fringe wetland 2 points Freshwater tidal wetland 2 points H 1.3. Richness of plant species Count the number of plant species in the wetland that cover at least 10 ft<sup>2</sup>. Different patches of the same species can be combined to meet the size threshold and you do not have to name the species. Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle 1 If you counted: > 19 species points = 2 5 - 19 species points = 1< 5 species points = 0 H 1.4. Interspersion of habitats Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. If you have four or more plant classes or three classes and open water, the rating is always high. 1 None = 0 points Low = 1 point Moderate = 2 points All three diagrams in this row are **HIGH** = 3points

|                                                                                                                                                                                   |                                    | 1                |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|------------------|
| H 1.5. Special habitat features:                                                                                                                                                  |                                    |                  |
| Check the habitat features that are present in the wetland. The number of checks is the                                                                                           | number of points.                  |                  |
| Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long).                                                                                                   |                                    |                  |
| Standing snags (dbh > 4 in) within the wetland                                                                                                                                    |                                    |                  |
| Undercut banks are present for at least 6.6 ft (2 m) and/or overhanging plants extended over a stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (10 m)    |                                    |                  |
| Stable steep banks of fine material that might be used by beaver or muskrat for de                                                                                                | enning (> 30 degree                | 1                |
| slope) OR signs of recent beaver activity are present (cut shrubs or trees that hav where wood is exposed)                                                                        | e not yet weathered                |                  |
| At least ¼ ac of thin-stemmed persistent plants or woody branches are present in a                                                                                                | reas that are                      |                  |
| permanently or seasonally inundated (structures for egg-laying by amphibians)                                                                                                     |                                    |                  |
| $\underline{X}$ Invasive plants cover less than 25% of the wetland area in every stratum of plants                                                                                | (see H 1.1 for list of             |                  |
| strata)                                                                                                                                                                           |                                    |                  |
| Total for H 1 Add the poi                                                                                                                                                         | ints in the boxes above            | 5                |
| Rating of Site Potential If score is:15-18 = H7-14 = MX0-6 = L                                                                                                                    | Record the rating or               | the first page   |
| H 2.0. Does the landscape have the potential to support the habitat functions of the                                                                                              | site?                              |                  |
| H 2.1. Accessible habitat (include only habitat that directly abuts wetland unit).                                                                                                |                                    |                  |
| Calculate: % undisturbed habitat + [(% moderate and low intensity land us                                                                                                         | ses)/21 = %                        |                  |
| If total accessible habitat is:                                                                                                                                                   | GES]/ 2] <b>-</b> /0               |                  |
| $> \frac{1}{3}$ (33.3%) of 1 km Polygon                                                                                                                                           | noints - 2                         | 2                |
| 20-33% of 1 km Polygon                                                                                                                                                            | points = 3<br>points = 2           | 2                |
| 10-19% of 1 km Polygon                                                                                                                                                            | points = 1                         |                  |
|                                                                                                                                                                                   | ·                                  |                  |
| < 10% of 1 km Polygon                                                                                                                                                             | points = 0                         |                  |
| H 2.2. Undisturbed habitat in 1 km Polygon around the wetland.                                                                                                                    | \                                  |                  |
| Calculate: % undisturbed habitat + [(% moderate and low intensity land us                                                                                                         |                                    |                  |
| Undisturbed habitat > 50% of Polygon                                                                                                                                              | points = 3                         | 0                |
| Undisturbed habitat 10-50% and in 1-3 patches                                                                                                                                     | points = 2                         |                  |
| Undisturbed habitat 10-50% and > 3 patches                                                                                                                                        | points = 1                         |                  |
| Undisturbed habitat < 10% of 1 km Polygon                                                                                                                                         | points = 0                         |                  |
| H 2.3. Land use intensity in 1 km Polygon: If                                                                                                                                     |                                    |                  |
| > 50% of 1 km Polygon is high intensity land use                                                                                                                                  | points = (- 2)                     | 0                |
| ≤ 50% of 1 km Polygon is high intensity                                                                                                                                           | points = 0                         |                  |
| !                                                                                                                                                                                 | ints in the boxes above            | 2                |
| Rating of Landscape Potential If score is: 4-6 = H X 1-3 = M < 1 = L                                                                                                              | Record the rating on               | the first page   |
| H 3.0. Is the habitat provided by the site valuable to society?                                                                                                                   |                                    |                  |
| in 3.0. is the habitat provided by the site valuable to society!                                                                                                                  |                                    |                  |
| H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? <i>Choose</i>                                                                          | e only the highest score           |                  |
| that applies to the wetland being rated.                                                                                                                                          |                                    |                  |
| Site meets ANY of the following criteria:                                                                                                                                         | points = 2                         |                  |
| It has 3 or more priority habitats within 100 m (see next page)                                                                                                                   |                                    |                  |
| <ul><li>It provides habitat for Threatened or Endangered species (any plant or animal on the</li><li>It is mapped as a location for an individual WDFW priority species</li></ul> | ·                                  |                  |
| It is a Wetland of High Conservation Value as determined by the Department of Nat                                                                                                 |                                    |                  |
| It has been categorized as an important habitat site in a local or regional compreher                                                                                             | nsive plan, in a                   |                  |
| Shoreline Master Plan, or in a watershed plan Site has 1 or 2 priority habitats (listed on next page) within 100 m                                                                | points = 1                         |                  |
|                                                                                                                                                                                   | ·                                  |                  |
| Site does not meet any of the criteria above  Rating of Value If score is:2 = HX_1 = M0 = L                                                                                       | points = 0<br>Record the rating or | n the first nace |
| Nating OI Value II SCOIC IS 2 - II I - IVI U - L                                                                                                                                  | necord the rating of               | i die jiist puge |

#### **WDFW Priority Habitats**

<u>Priority habitats listed by WDFW</u> (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. <a href="http://wdfw.wa.gov/publications/00165/wdfw00165.pdf">http://wdfw.wa.gov/publications/00165/wdfw00165.pdf</a> or access the list from here: <a href="http://wdfw.wa.gov/conservation/phs/list/">http://wdfw.wa.gov/conservation/phs/list/</a>)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland unit: NOTE: This question is

independent of the land use between the wetland unit and the priority habitat. **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha). Biodiversity Areas and Corridors: Areas of habitat that are relatively important to various species of native fish and wildlife (full descriptions in WDFW PHS report). Herbaceous Balds: Variable size patches of grass and forbs on shallow soils over bedrock. Old-growth/Mature forests: Old-growth west of Cascade crest – Stands of at least 2 tree species, forming a multilayered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) > 32 in (81 cm) dbh or > 200 years of age. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in oldgrowth; 80-200 years old west of the Cascade crest. Oregon White Oak: Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (full descriptions in WDFW PHS report p. 158 – see web link above). X Riparian: The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other. Westside Prairies: Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (full descriptions in WDFW PHS report p. 161 – see web link above). X Instream: The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources. Nearshore: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (full descriptions of habitats and the definition of relatively undisturbed are in WDFW report – see web link on previous page). Caves: A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human. **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation. Talus: Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs. \_Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.

**Note:** All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

#### **CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS**

| Wetland Type                                                                                                                                                                                                                         | Category |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| vecialia Type                                                                                                                                                                                                                        | Category |
| Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.                                                                                                                         |          |
| SC 1.0. Estuarine wetlands                                                                                                                                                                                                           |          |
| Does the wetland meet the following criteria for Estuarine wetlands?                                                                                                                                                                 |          |
| — The dominant water regime is tidal,                                                                                                                                                                                                |          |
| — Vegetated, and                                                                                                                                                                                                                     |          |
| — With a salinity greater than 0.5 ppt Yes –Go to <b>SC 1.1</b> No= <b>Yot an estuarine wetland</b>                                                                                                                                  |          |
| SC 1.1. Is the wetland within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area                                                                                                                      |          |
| Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151?                                                                                                                           | Cat. I   |
| Yes = Category I No - Go to SC 1.2                                                                                                                                                                                                   |          |
| SC 1.2. Is the wetland unit at least 1 ac in size and meets at least two of the following three conditions?                                                                                                                          |          |
| — The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less                                                                                                                        | Cat. I   |
| than 10% cover of non-native plant species. (If non-native species are <i>Spartina</i> , see page 25)                                                                                                                                | Cat. I   |
| — At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-                                                                                                                           |          |
| mowed grassland. — The wetland has at least two of the following features: tidal channels, depressions with open water, or                                                                                                           | Cat. II  |
| contiguous freshwater wetlands.  Yes = Category I  No = Category II                                                                                                                                                                  |          |
| contiguous incanwater wetianas.                                                                                                                                                                                                      |          |
| SC 2.0. Wetlands of High Conservation Value (WHCV)                                                                                                                                                                                   |          |
| SC 2.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High                                                                                                                     | Cat. I   |
| Conservation Value? Yes – Go to SC 2.2 No – Go to SC 2.3                                                                                                                                                                             | Cat. I   |
| SC 2.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value?  Yes = Category I  No = Not a WHCV                                                                                                       |          |
| Yes = Category I No = Not a WHCV SC 2.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland?                                                                                                        |          |
| http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf                                                                                                                                                                       |          |
| Yes – Contact WNHP/WDNR and go to SC 2.4 No = Not a WHCV                                                                                                                                                                             |          |
| SC 2.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and listed it on                                                                                                                    |          |
| their website? Yes = Category I No = Not a WHCV                                                                                                                                                                                      |          |
| SC 3.0. Bogs                                                                                                                                                                                                                         |          |
| Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? Use the key                                                                                                                      |          |
| below. If you answer YES you will still need to rate the wetland based on its functions.                                                                                                                                             |          |
| SC 3.1. Does an area within the wetland unit have organic soil horizons, either peats or mucks, that compose 16 in or                                                                                                                |          |
| more of the first 32 in of the soil profile? Yes – Go to SC 3.3 No – Go to SC 3.2                                                                                                                                                    |          |
| SC 3.2. Does an area within the wetland unit have organic soils, either peats or mucks, that are less than 16 in deep over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or |          |
| pond? Yes – Go to SC 3.3 No = 1 not a bog                                                                                                                                                                                            |          |
| SC 3.3. Does an area with peats or mucks have more than 70% cover of mosses at ground level, AND at least a 30%                                                                                                                      |          |
| cover of plant species listed in Table 4? Yes = Is a Category I bog No – Go to SC 3.4                                                                                                                                                |          |
| NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by                                                                                                                        |          |
| measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the                                                                                                                     |          |
| plant species in Table 4 are present, the wetland is a bog.                                                                                                                                                                          | Cat. I   |
| SC 3.4. Is an area with peats or mucks forested (> 30% cover) with Sitka spruce, subalpine fir, western red cedar,                                                                                                                   |          |
| western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the                                                                                                                              |          |
| species (or combination of species) listed in Table 4 provide more than 30% of the cover under the canopy?  Yes = Is a Category I bog No = Is not a bog                                                                              |          |
| res = is a Category i bog NO = is not a bog                                                                                                                                                                                          |          |

| SC 4.0. Forested Wetlands                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |          |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| Does the wetland have at least 1 contiguous acre of forest that meets one of these criteria for the WA Department of Fish and Wildlife's forests as priority habitats? If you answer YES you will still need to rate the wetland based on its functions.                                                                                                                                                                                                                                                                   |          |
| <ul> <li>Old-growth forests (west of Cascade crest): Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 in (81 cm) or more.</li> <li>Mature forests (west of the Cascade Crest): Stands where the largest trees are 80- 200 years old OR the species that make up the canopy have an average diameter (dbh) exceeding 21 in (53 cm).</li> </ul> |          |
| Yes = Category I No = Not a forested wetland for this section                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Cat. I   |
| SC 5.0. Wetlands in Coastal Lagoons                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |          |
| Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?  — The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from                                                                                                                                                                                                                                                                                                                             |          |
| marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks                                                                                                                                                                                                                                                                                                                                                                                                                                              |          |
| — The lagoon in which the wetland is located contains ponded water that is saline or brackish (> 0.5 ppt)                                                                                                                                                                                                                                                                                                                                                                                                                  |          |
| during most of the year in at least a portion of the lagoon (needs to be measured near the bottom)  Yes – Go to SC 5.1 No = Not a wetland in a coastal lagoon                                                                                                                                                                                                                                                                                                                                                              | Cat. I   |
| SC 5.1. Does the wetland meet all of the following three conditions?                                                                                                                                                                                                                                                                                                                                                                                                                                                       |          |
| — The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less                                                                                                                                                                                                                                                                                                                                                                                                             |          |
| than 20% cover of aggressive, opportunistic plant species (see list of species on p. 100).                                                                                                                                                                                                                                                                                                                                                                                                                                 | Cat. II  |
| <ul> <li>— At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                             |          |
| — The wetland is larger than $^{1}/_{10}$ ac (4350 ft <sup>2</sup> )                                                                                                                                                                                                                                                                                                                                                                                                                                                       |          |
| Yes = Category I No = Category II                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |          |
| SC 6.0. Interdunal Wetlands                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |          |
| Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? If                                                                                                                                                                                                                                                                                                                                                                                                                    |          |
| you answer yes you will still need to rate the wetland based on its habitat functions.  In practical terms that means the following geographic areas:                                                                                                                                                                                                                                                                                                                                                                      |          |
| — Long Beach Peninsula: Lands west of SR 103                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |          |
| <ul><li>— Grayland-Westport: Lands west of SR 105</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Cat I    |
| <ul><li>Ocean Shores-Copalis: Lands west of SR 115 and SR 109</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                    |          |
| Yes – Go to SC 6.1 No = not an interdunal wetland for rating                                                                                                                                                                                                                                                                                                                                                                                                                                                               |          |
| SC 6.1. Is the wetland 1 ac or larger and scores an 8 or 9 for the habitat functions on the form (rates H,H,H or H,H,M                                                                                                                                                                                                                                                                                                                                                                                                     | Cat. II  |
| for the three aspects of function)? Yes = Category I No – Go to SC 6.2                                                                                                                                                                                                                                                                                                                                                                                                                                                     |          |
| SC 6.2. Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger?  Yes = Category II No – Go to SC 6.3                                                                                                                                                                                                                                                                                                                                                                                       | Cat. III |
| SC 6.3. Is the unit between 0.1 and 1 ac, or is it in a mosaic of wetlands that is between 0.1 and 1 ac?                                                                                                                                                                                                                                                                                                                                                                                                                   | cat. III |
| Yes = Category III No = Category IV                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |          |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Cat. IV  |
| Category of wetland based on Special Characteristics                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | N/A      |

Wetland name or number Wetland J

# **RATING SUMMARY – Western Washington**

| Name of wetland (or ID #): _                                 | Wetland K               | Date of site         | visit: <u>3</u> | /24/17                              |   |
|--------------------------------------------------------------|-------------------------|----------------------|-----------------|-------------------------------------|---|
| Rated by <u>Katie Boa</u>                                    | Trained by Ecolo        | ogy? Yes <u>X</u> No | Date of         | training 11/16                      |   |
| HGM Class used for rating                                    | Depressional            | Wetland has multi    | ple HGM         | l classes?Y _XI                     | V |
| NOTE: Form is not co Source of base aer  OVERALL WETLAND CAT | ial photo/map <u>Go</u> | ogle Earth           |                 |                                     | ) |
| 1. Category of wetland                                       | based on FUNC           | TIONS                |                 |                                     |   |
| Category                                                     | I – Total score = 23    | 3 – 27               |                 | Score for each                      |   |
| Category                                                     | II – Total score = 2    | 20 – 22              |                 | function based                      |   |
| Category                                                     | III – Total score =     | 16 – 19              |                 | on three ratings                    |   |
| XCategory                                                    | / IV – Total score =    | 9 – 15               |                 | (order of ratings is not important) |   |

| FUNCTION               | Improving Water Quality |   | Н | ydrolo | gic      |          | Habita | at      |          |       |
|------------------------|-------------------------|---|---|--------|----------|----------|--------|---------|----------|-------|
|                        |                         |   |   |        | Circle 1 | the ap   | propr  | iate ra | tings    |       |
| Site Potential         | Н                       | M | L | Н      | M        | L        | Н      | М       | <u>L</u> |       |
| Landscape Potential    | Н                       | М | Ī | Н      | М        | <u>L</u> | Н      | M       | L        |       |
| Value                  | <u>H</u>                | М | L | Н      | <u>M</u> | L        | Н      | М       | <u>L</u> | TOTAL |
| Score Based on Ratings |                         | 6 |   |        | 5        |          |        | 4       |          | 15    |

Score for each function based on three ratings (order of ratings is not important)

9 = H,H,H
8 = H,H,M
7 = H,H,L
7 = H,M,M
6 = H,M,L
6 = M,M,M
5 = H,L,L
5 = M,M,L
4 = M,L,L
3 = L,L,L

### 2. Category based on SPECIAL CHARACTERISTICS of wetland

| CHARACTERISTIC                     | CATEGORY |        |
|------------------------------------|----------|--------|
| Estuarine                          | I        | II     |
| Wetland of High Conservation Value | I        |        |
| Bog                                | I        |        |
| Mature Forest                      | I        |        |
| Old Growth Forest                  | I        |        |
| Coastal Lagoon                     | I        | II     |
| Interdunal                         | I II     | III IV |
| None of the above                  | N/A      |        |

# Maps and figures required to answer questions correctly for Western Washington

#### **Depressional Wetlands**

| Map of:                                                                        | To answer questions: | Figure # |
|--------------------------------------------------------------------------------|----------------------|----------|
| Cowardin plant classes                                                         | D 1.3, H 1.1, H 1.4  | 13       |
| Hydroperiods                                                                   | D 1.4, H 1.2         | 13       |
| Location of outlet (can be added to map of hydroperiods)                       | D 1.1, D 4.1         | 13       |
| Boundary of area within 150 ft of the wetland (can be added to another figure) | D 2.2, D 5.2         | 13       |
| Map of the contributing basin                                                  | D 4.3, D 5.3         | 13       |
| 1 km Polygon: Area that extends 1 km from entire wetland edge - including      | H 2.1, H 2.2, H 2.3  | 16       |
| polygons for accessible habitat and undisturbed habitat                        |                      | 10       |
| Screen capture of map of 303(d) listed waters in basin (from Ecology website)  | D 3.1, D 3.2         | 17       |
| Screen capture of list of TMDLs for WRIA in which unit is found (from web)     | D 3.3                | 17       |

#### Riverine Wetlands

| Map of:                                                                        | To answer questions: | Figure # |
|--------------------------------------------------------------------------------|----------------------|----------|
| Cowardin plant classes                                                         | H 1.1, H 1.4         |          |
| Hydroperiods                                                                   | H 1.2                |          |
| Ponded depressions                                                             | R 1.1                |          |
| Boundary of area within 150 ft of the wetland (can be added to another figure) | R 2.4                |          |
| Plant cover of trees, shrubs, and herbaceous plants                            | R 1.2, R 4.2         |          |
| Width of unit vs. width of stream (can be added to another figure)             | R 4.1                |          |
| Map of the contributing basin                                                  | R 2.2, R 2.3, R 5.2  |          |
| 1 km Polygon: Area that extends 1 km from entire wetland edge - including      | H 2.1, H 2.2, H 2.3  |          |
| polygons for accessible habitat and undisturbed habitat                        |                      |          |
| Screen capture of map of 303(d) listed waters in basin (from Ecology website)  | R 3.1                |          |
| Screen capture of list of TMDLs for WRIA in which unit is found (from web)     | R 3.2, R 3.3         |          |

#### Lake Fringe Wetlands

| Map of:                                                                        | To answer questions:       | Figure # |
|--------------------------------------------------------------------------------|----------------------------|----------|
| Cowardin plant classes                                                         | L 1.1, L 4.1, H 1.1, H 1.4 |          |
| Plant cover of trees, shrubs, and herbaceous plants                            | L 1.2                      |          |
| Boundary of area within 150 ft of the wetland (can be added to another figure) | L 2.2                      |          |
| 1 km Polygon: Area that extends 1 km from entire wetland edge - including      | H 2.1, H 2.2, H 2.3        |          |
| polygons for accessible habitat and undisturbed habitat                        |                            |          |
| Screen capture of map of 303(d) listed waters in basin (from Ecology website)  | L 3.1, L 3.2               |          |
| Screen capture of list of TMDLs for WRIA in which unit is found (from web)     | L 3.3                      |          |

#### Slope Wetlands

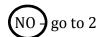
| Map of:                                                                       | To answer questions: | Figure # |
|-------------------------------------------------------------------------------|----------------------|----------|
| Cowardin plant classes                                                        | H 1.1, H 1.4         |          |
| Hydroperiods                                                                  | H 1.2                |          |
| Plant cover of <b>dense</b> trees, shrubs, and herbaceous plants              | S 1.3                |          |
| Plant cover of dense, rigid trees, shrubs, and herbaceous plants              | S 4.1                |          |
| (can be added to figure above)                                                |                      |          |
| Boundary of 150 ft buffer (can be added to another figure)                    | S 2.1, S 5.1         |          |
| 1 km Polygon: Area that extends 1 km from entire wetland edge - including     | H 2.1, H 2.2, H 2.3  |          |
| polygons for accessible habitat and undisturbed habitat                       |                      |          |
| Screen capture of map of 303(d) listed waters in basin (from Ecology website) | S 3.1, S 3.2         |          |
| Screen capture of list of TMDLs for WRIA in which unit is found (from web)    | S 3.3                |          |

## **HGM Classification of Wetlands in Western Washington**

For questions 1-7, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-7 apply, and go to Question 8.

| 1. | 1. Are the water levels in the entire unit usually contro | olled by tides except during floods? |
|----|-----------------------------------------------------------|--------------------------------------|



**YES** – the wetland class is **Tidal Fringe** – go to 1.1

1.1 Is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)?

#### **NO - Saltwater Tidal Fringe (Estuarine)**

#### **YES - Freshwater Tidal Fringe**

If your wetland can be classified as a Freshwater Tidal Fringe use the forms for **Riverine** wetlands. If it is Saltwater Tidal Fringe it is an **Estuarine** wetland and is not scored. This method **cannot** be used to score functions for estuarine wetlands.

2. The entire wetland unit is flat and precipitation is the only source (>90%) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit.

NO go to 3

**YES** – The wetland class is **Flats** 

If your wetland can be classified as a Flats wetland, use the form for **Depressional** wetlands.

- 3. Does the entire wetland unit **meet all** of the following criteria?
  - \_\_The vegetated part of the wetland is on the shores of a body of permanent open water (without any plants on the surface at any time of the year) at least 20 ac (8 ha) in size;
  - \_\_At least 30% of the open water area is deeper than 6.6 ft (2 m).



**YES** – The wetland class is **Lake Fringe** (Lacustrine Fringe)

- 4. Does the entire wetland unit **meet all** of the following criteria?
  - \_\_\_The wetland is on a slope (slope can be very gradual),
  - \_\_\_The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks,
    - \_The water leaves the wetland without being impounded.



**YES** - The wetland class is **Slope** 

**NOTE**: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 ft deep).

- 5. Does the entire wetland unit **meet all** of the following criteria?
  - \_\_\_The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river,
  - \_\_\_The overbank flooding occurs at least once every 2 years.

#### Wetland name or number Wetland K

NO— go to 6

YES – The wetland class is **Riverine**NOTE: The Riverine unit can contain depressions that are filled with water when the river is not flooding

6. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year? *This means that any outlet, if present, is higher than the interior of the wetland.* 

NO - go to 7

YES- The wetland class is **Depressional** 

7. Is the entire wetland unit located in a very flat area with no obvious depression and no overbank flooding? The unit does not pond surface water more than a few inches. The unit seems to be maintained by high groundwater in the area. The wetland may be ditched, but has no obvious natural outlet.

NO – go to 8

**YES** – The wetland class is **Depressional** 

8. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

**NOTE**: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the HGM class listed in column 2 is less than 10% of the unit; classify the wetland using the class that represents more than 90% of the total area.

| HGM classes within the wetland unit   | HGM class to  |
|---------------------------------------|---------------|
| being rated                           | use in rating |
| Slope + Riverine                      | Riverine      |
| Slope + Depressional                  | Depressional  |
| Slope + Lake Fringe                   | Lake Fringe   |
| Depressional + Riverine along stream  | Depressional  |
| within boundary of depression         |               |
| Depressional + Lake Fringe            | Depressional  |
| Riverine + Lake Fringe                | Riverine      |
| Salt Water Tidal Fringe and any other | Treat as      |
| class of freshwater wetland           | ESTUARINE     |

If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.

| DEPRESSIONAL AND FLATS WETLANDS                                                                                                                                                                                                                                                                                                                                                                                                                                          |            |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
| Water Quality Functions - Indicators that the site functions to improve water quality                                                                                                                                                                                                                                                                                                                                                                                    |            |
| D 1.0. Does the site have the potential to improve water quality?                                                                                                                                                                                                                                                                                                                                                                                                        |            |
| D 1.1. Characteristics of surface water outflows from the wetland:                                                                                                                                                                                                                                                                                                                                                                                                       |            |
| Wetland is a depression or flat depression (QUESTION 7 on key) with no surface water leaving it (no outlet).  points = 3  Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet.  points = 2  Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 1  Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch.  points = 1 | 2          |
| D 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions). Yes = 4 No = 0                                                                                                                                                                                                                                                                                                                                               | 0          |
| D 1.3. Characteristics and distribution of persistent plants (Emergent, Scrub-shrub, and/or Forested Cowardin classes): Wetland has persistent, ungrazed, plants > 95% of area Wetland has persistent, ungrazed, plants > $\frac{1}{10}$ of area Wetland has persistent, ungrazed plants > $\frac{1}{10}$ of area Wetland has persistent, ungrazed plants < $\frac{1}{10}$ of area points = 0                                                                            | 5          |
| D 1.4. Characteristics of seasonal ponding or inundation:  This is the area that is ponded for at least 2 months. See description in manual.  Area seasonally ponded is > ½ total area of wetland  Area seasonally ponded is > ½ total area of wetland  Area seasonally ponded is < ½ total area of wetland  points = 2  Area seasonally ponded is < ½ total area of wetland  points = 0                                                                                 | 2          |
| Total for D 1 Add the points in the boxes above                                                                                                                                                                                                                                                                                                                                                                                                                          | 9          |
| Rating of Site Potential If score is: 12-16 = H X 6-11 = M 0-5 = L Record the rating on the first p                                                                                                                                                                                                                                                                                                                                                                      | age        |
| D 2.0. Does the landscape have the potential to support the water quality function of the site?                                                                                                                                                                                                                                                                                                                                                                          |            |
| D 2.1. Does the wetland unit receive stormwater discharges?  Yes = 1 No = 0                                                                                                                                                                                                                                                                                                                                                                                              | 0          |
| D 2.2. ls > 10% of the area within 150 ft of the wetland in land uses that generate pollutants? Yes = 1 No = 0                                                                                                                                                                                                                                                                                                                                                           | 0          |
| D 2.3. Are there septic systems within 250 ft of the wetland?  Yes = 1 No = 0                                                                                                                                                                                                                                                                                                                                                                                            | 0          |
| D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1-D 2.3?  Source  Yes = 1 No = 0                                                                                                                                                                                                                                                                                                                               | 0          |
| Total for D 2 Add the points in the boxes above                                                                                                                                                                                                                                                                                                                                                                                                                          | 0          |
| Rating of Landscape Potential If score is: 3 or 4 = H 1 or 2 = M X 0 = L Record the rating on the f                                                                                                                                                                                                                                                                                                                                                                      | first page |
| D 3.0. Is the water quality improvement provided by the site valuable to society?                                                                                                                                                                                                                                                                                                                                                                                        |            |
| D 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list?  Yes = 1 No = 0                                                                                                                                                                                                                                                                                                                     | 1          |
| D 3.2. Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list? Yes = 1 No = 0                                                                                                                                                                                                                                                                                                                                                            | 1          |
| D 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (answer YES                                                                                                                                                                                                                                                                                                                                                  | 0          |
| if there is a TMDL for the basin in which the unit is found)? Yes = $2 \text{ No} = 0$                                                                                                                                                                                                                                                                                                                                                                                   |            |

| DEPRESSIONAL AND FLATS WETLANDS  Hydrologic Functions - Indicators that the site functions to reduce flooding and stream degradations.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | on         |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
| D 4.0. Does the site have the potential to reduce flooding and erosion?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 011        |
| D 4.1. Characteristics of surface water outflows from the wetland:  Wetland is a depression or flat depression with no surface water leaving it (no outlet)  Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet points = 2  Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch  Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing  points = 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 2          |
| D 4.2. Depth of storage during wet periods: Estimate the height of ponding above the bottom of the outlet. For wetlands with no outlet, measure from the surface of permanent water or if dry, the deepest part.  Marks of ponding are 3 ft or more above the surface or bottom of outlet points = 7  Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet points = 5  Marks are at least 0.5 ft to < 2 ft from surface or bottom of outlet points = 3  The wetland is a "headwater" wetland points = 3  Wetland is flat but has small depressions on the surface that trap water points = 1  Marks of ponding less than 0.5 ft (6 in) points = 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 3          |
| D 4.3. Contribution of the wetland to storage in the watershed: Estimate the ratio of the area of upstream basin contributing surface water to the wetland to the area of the wetland unit itself.  The area of the basin is less than 10 times the area of the unit  The area of the basin is 10 to 100 times the area of the unit  The area of the basin is more than 100 times the area of the unit  Entire wetland is in the Flats class  points = 5  points = 5  points = 5  points = 5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 3          |
| Total for D 4 Add the points in the boxes above  Rating of Site Potential If score is: 12-16 = H X 6-11 = M 0-5 = L Record the rating on the                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 10         |
| Rating of Site Potential If score is: $_12-16 = H$ $_12-16 = H$ $_12-16 = H$ $_13-16 = H$ $_13-$ | girst page |
| D 5.1. Does the wetland receive stormwater discharges?  Yes = 1 No = 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 0          |
| D 5.2. Is >10% of the area within 150 ft of the wetland in land uses that generate excess runoff? Yes = 1 No = 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 0          |
| D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses (residential at >1 residence/ac, urban, commercial, agriculture, etc.)?  Yes = 1 No = 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 0          |
| Total for D 5 Add the points in the boxes above                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 0          |
| Rating of Landscape Potential If score is:3 = H1 or 2 = MX0 = L                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | first page |
| D 6.0. Are the hydrologic functions provided by the site valuable to society?  D 6.1. The unit is in a landscape that has flooding problems. Choose the description that best matches conditions around the wetland unit being rated. Do not add points. Choose the highest score if more than one condition is met.  The wetland captures surface water that would otherwise flow down-gradient into areas where flooding has democrated burger or natural resources (e.g., houses or salmon radds).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |            |
| damaged human or natural resources (e.g., houses or salmon redds):  • Flooding occurs in a sub-basin that is immediately down-gradient of unit. points = 2  • Surface flooding problems are in a sub-basin farther down-gradient. points = 1  Flooding from groundwater is an issue in the sub-basin. points = 1  The existing or potential outflow from the wetland is so constrained by human or natural conditions that the water stored by the wetland cannot reach areas that flood. Explain why points = 0  There are no problems with flooding downstream of the wetland. points = 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 1          |
| <ul> <li>Flooding occurs in a sub-basin that is immediately down-gradient of unit.</li> <li>Surface flooding problems are in a sub-basin farther down-gradient.</li> <li>points = 1</li> <li>Flooding from groundwater is an issue in the sub-basin.</li> <li>points = 1</li> <li>The existing or potential outflow from the wetland is so constrained by human or natural conditions that the water stored by the wetland cannot reach areas that flood. Explain why points = 0</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 0          |

Rating of Value If score is: 2-4 = H X 1 = M 0 = L

Record the rating on the first page

#### These questions apply to wetlands of all HGM classes. **HABITAT FUNCTIONS** - Indicators that site functions to provide important habitat H 1.0. Does the site have the potential to provide habitat? H 1.1. Structure of plant community: Indicators are Cowardin classes and strata within the Forested class. Check the Cowardin plant classes in the wetland. Up to 10 patches may be combined for each class to meet the threshold of ¼ ac or more than 10% of the unit if it is smaller than 2.5 ac. Add the number of structures checked. Aquatic bed 4 structures or more: points = 4 Emergent 3 structures: points = 2 1 Scrub-shrub (areas where shrubs have > 30% cover) 2 structures: points = 1 X Forested (areas where trees have > 30% cover) 1 structure: points = 0 If the unit has a Forested class, check if: X The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the Forested polygon H 1.2. Hydroperiods Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or ¼ ac to count (see text for descriptions of hydroperiods). Permanently flooded or inundated 4 or more types present: points = 3 X Seasonally flooded or inundated 3 types present: points = 2 Occasionally flooded or inundated 2 types present: points = 1 1 X Saturated only 1 type present: points = 0 Permanently flowing stream or river in, or adjacent to, the wetland Seasonally flowing stream in, or adjacent to, the wetland Lake Fringe wetland 2 points Freshwater tidal wetland 2 points H 1.3. Richness of plant species Count the number of plant species in the wetland that cover at least 10 ft<sup>2</sup>. Different patches of the same species can be combined to meet the size threshold and you do not have to name the species. Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle 1 If you counted: > 19 species points = 2 5 - 19 species points = 1< 5 species points = 0 H 1.4. Interspersion of habitats Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. If you have four or more plant classes or three classes and open water, the rating is always high. None = 0 points Low = 1 point Moderate = 2 points All three diagrams in this row are **HIGH** = 3points

#### Wetland name or number Wetland K

| H 1.5. Special habitat features:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                           |                |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|----------------|
| Check the habitat features that are present in the wetland. The number of checks is the number of po                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | oints.                    |                |
| X Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                           |                |
| Standing snags (dbh > 4 in) within the wetland                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                           |                |
| Undercut banks are present for at least 6.6 ft (2 m) and/or overhanging plants extends at least 3 over a stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (10 m)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | .3 ft (1 m)               |                |
| Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 30 of the control of the contro | degree                    | 2              |
| slope) OR signs of recent beaver activity are present (cut shrubs or trees that have not yet wea where wood is exposed)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | _                         |                |
| At least ¼ ac of thin-stemmed persistent plants or woody branches are present in areas that are                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                           |                |
| permanently or seasonally inundated (structures for egg-laying by amphibians)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                           |                |
| X Invasive plants cover less than 25% of the wetland area in every stratum of plants (see H 1.1 for                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | · list of                 |                |
| strata)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                           |                |
| Total for H 1 Add the points in the box                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | es above                  | 5              |
| Rating of Site Potential If score is: 15-18 = H 7-14 = M X 0-6 = L Record                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | the rating on             | the first page |
| H 2.0. Does the landscape have the potential to support the habitat functions of the site?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                           |                |
| H 2.1. Accessible habitat (include only habitat that directly abuts wetland unit).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                           |                |
| Calculate: % undisturbed habitat + [(% moderate and low intensity land uses)/2] = _                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | %                         |                |
| If total accessible habitat is:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                           |                |
| 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | points = 3                | 3              |
| 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | points = 3<br>points = 2  | 3              |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | points = 1                |                |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | points = 1                |                |
| H 2.2. Undisturbed habitat in 1 km Polygon around the wetland.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | politis = 0               |                |
| Calculate: % undisturbed habitat + [(% moderate and low intensity land uses)/2] = _                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | %                         |                |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | points = 3                |                |
| 1 -                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | points = 3<br>points = 2  | 0              |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | points = 2                |                |
| ·                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | points = 1                |                |
| H 2.3. Land use intensity in 1 km Polygon: If                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | politis – o               |                |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | nts = ( 2)                | 0              |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | nts = (- 2)<br>points = 0 | U              |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                           | 2              |
| Total for H 2  Rating of Landscape Potential If score is: 4-6 = H X 1-3 = M <1 = L  Record to                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | the rating on t           | he first nage  |
| Rating of Landscape Potential in Score is. 4-0 - H 1-3 - W 1-1 - L Necolul                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | ine ruting on t           | ne jirst page  |
| H 3.0. Is the habitat provided by the site valuable to society?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                           |                |
| H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? <i>Choose only the high</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | hest score                |                |
| that applies to the wetland being rated.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | naints - 2                |                |
| -                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | points = 2                |                |
| <ul> <li>It has 3 or more priority habitats within 100 m (see next page)</li> <li>It provides habitat for Threatened or Endangered species (any plant or animal on the state or fee</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | doral lists)              |                |
| <ul> <li>It is mapped as a location for an individual WDFW priority species</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                           |                |
| <ul> <li>It is a Wetland of High Conservation Value as determined by the Department of Natural Resourc</li> <li>It has been categorized as an important habitat site in a local or regional comprehensive plan, in</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                           |                |
| Shoreline Master Plan, or in a watershed plan                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | α                         |                |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | points = 1                |                |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | points = 0                |                |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                           |                |
| Rating of Value If score is:2 = H1 = MX_0 = L Record                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | the rating on             | the first page |
| Wotland Dating Creaton for Westorn WA. 2014 Undate                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                           |                |

Wetland Rating System for Western WA: 2014 Update Rating Form – Effective January 1, 2015

## **WDFW Priority Habitats**

<u>Priority habitats listed by WDFW</u> (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. <a href="http://wdfw.wa.gov/publications/00165/wdfw00165.pdf">http://wdfw.wa.gov/publications/00165/wdfw00165.pdf</a> or access the list from here: <a href="http://wdfw.wa.gov/conservation/phs/list/">http://wdfw.wa.gov/conservation/phs/list/</a>)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland unit: **NOTE:** This question is independent of the land use between the wetland unit and the priority habitat. **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha). **Biodiversity Areas and Corridors**: Areas of habitat that are relatively important to various species of native fish and wildlife (full descriptions in WDFW PHS report). **Herbaceous Balds:** Variable size patches of grass and forbs on shallow soils over bedrock. Old-growth/Mature forests: Old-growth west of Cascade crest - Stands of at least 2 tree species, forming a multilayered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) > 32 in (81 cm) dbh or > 200 years of age. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west of the Cascade crest. **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (full descriptions in WDFW PHS report p. 158 – see web link above). Riparian: The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other. **Westside Prairies:** Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (full descriptions in WDFW PHS report p. 161 – see web link above). **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources. Nearshore: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (full descriptions of habitats and the definition of relatively undisturbed are in WDFW report see web link on previous page). **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human. **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation. Talus: Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs. Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft

**Note:** All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

(6 m) long.

#### **CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS**

| Westland Time                                                                                                                                                                                                                                                                                                                                   | Catagogg |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| Wetland Type                                                                                                                                                                                                                                                                                                                                    | Category |
| Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.                                                                                                                                                                                                                                    |          |
| SC 1.0. Estuarine wetlands                                                                                                                                                                                                                                                                                                                      |          |
| Does the wetland meet the following criteria for Estuarine wetlands?                                                                                                                                                                                                                                                                            |          |
| — The dominant water regime is tidal,                                                                                                                                                                                                                                                                                                           |          |
| — Vegetated, and                                                                                                                                                                                                                                                                                                                                |          |
| — With a salinity greater than 0.5 ppt Yes –Go to <b>SC 1.1</b> No= <b>Not an estuarine wetland</b>                                                                                                                                                                                                                                             |          |
| SC 1.1. Is the wetland within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151?  Yes = Category I No - Go to SC 1.2                                                                                  | Cat. I   |
| SC 1.2. Is the wetland unit at least 1 ac in size and meets at least two of the following three conditions?                                                                                                                                                                                                                                     |          |
| <ul> <li>The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. (If non-native species are Spartina, see page 25)</li> <li>At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-</li> </ul> | Cat. I   |
| mowed grassland. — The wetland has at least two of the following features: tidal channels, depressions with open water, or                                                                                                                                                                                                                      | Cat. II  |
| contiguous freshwater wetlands.  Yes = Category I  No = Category II                                                                                                                                                                                                                                                                             |          |
| SC 2.0. Wetlands of High Conservation Value (WHCV)                                                                                                                                                                                                                                                                                              |          |
| SC 2.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High                                                                                                                                                                                                                                |          |
| Conservation Value? Yes – Go to SC 2.2 No – o to SC 2.3                                                                                                                                                                                                                                                                                         | Cat. I   |
| SC 2.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value?                                                                                                                                                                                                                                                     |          |
| Yes = Category I No = Not a WHCV                                                                                                                                                                                                                                                                                                                |          |
| SC 2.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland?                                                                                                                                                                                                                                                    |          |
| http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf  Yes – Contact WNHP/WDNR and go to SC 2.4  No = Not a WHCV                                                                                                                                                                                                                       |          |
| SC 2.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and listed it on                                                                                                                                                                                                                               |          |
| their website? Yes = Category I No = Not a WHCV                                                                                                                                                                                                                                                                                                 |          |
| SC 3.0. Bogs                                                                                                                                                                                                                                                                                                                                    |          |
| Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? Use the key                                                                                                                                                                                                                                 |          |
| below. If you answer YES you will still need to rate the wetland based on its functions.                                                                                                                                                                                                                                                        |          |
| SC 3.1. Does an area within the wetland unit have organic soil horizons, either peats or mucks, that compose 16 in or                                                                                                                                                                                                                           |          |
| more of the first 32 in of the soil profile? Yes – Go to SC 3.3 No – 30 to SC 3.2                                                                                                                                                                                                                                                               |          |
| SC 3.2. Does an area within the wetland unit have organic soils, either peats or mucks, that are less than 16 in deep over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or                                                                                                            |          |
| pond? Yes – Go to <b>SC 3.3</b> No = <b>s not a bog</b>                                                                                                                                                                                                                                                                                         |          |
| SC 3.3. Does an area with peats or mucks have more than 70% cover of mosses at ground level, AND at least a 30%                                                                                                                                                                                                                                 |          |
| cover of plant species listed in Table 4? Yes = Is a Category I bog No – Go to SC 3.4                                                                                                                                                                                                                                                           |          |
| <b>NOTE:</b> If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by                                                                                                                                                                                                                            |          |
| measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the                                                                                                                                                                                                                                | Cat. I   |
| plant species in Table 4 are present, the wetland is a bog.                                                                                                                                                                                                                                                                                     | Cat. 1   |
| SC 3.4. Is an area with peats or mucks forested (> 30% cover) with Sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the                                                                                                                      |          |
| species (or combination of species) listed in Table 4 provide more than 30% of the cover under the canopy?                                                                                                                                                                                                                                      |          |
| Yes = Is a Category I bog No = Is not a bog                                                                                                                                                                                                                                                                                                     |          |
|                                                                                                                                                                                                                                                                                                                                                 |          |

| SC 4.0. Forested Wetlands                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                     |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|
| Does the wetland have at least <u>1 contiguous acre</u> of forest that meets one of these criteria for the WA Department of Fish and Wildlife's forests as priority habitats? <i>If you answer YES you will still need to rate the wetland based on its functions.</i>                                                                                                                                                                                                                                                     |                     |
| <ul> <li>Old-growth forests (west of Cascade crest): Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 in (81 cm) or more.</li> <li>Mature forests (west of the Cascade Crest): Stands where the largest trees are 80- 200 years old OR the species that make up the canopy have an average diameter (dbh) exceeding 21 in (53 cm).</li> </ul> |                     |
| Yes = Category I No = Not a forested wetland for this section                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Cat. I              |
| SC 5.0. Wetlands in Coastal Lagoons                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                     |
| Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?  — The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks                                                                                                                                                                                                                                               |                     |
| — The lagoon in which the wetland is located contains ponded water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (needs to be measured near the bottom)  Yes – Go to SC 5.1  No = Not a wetland in a coastal lagoon                                                                                                                                                                                                                                                   | Cat. I              |
| <ul> <li>SC 5.1. Does the wetland meet all of the following three conditions?</li> <li>— The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of aggressive, opportunistic plant species (see list of species on p. 100).</li> <li>— At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or unmowed grassland.</li> </ul>                                                                             | Cat. II             |
| — The wetland is larger than $^{1}/_{10}$ ac (4350 ft <sup>2</sup> )  Yes = <b>Category I</b> No = <b>Category II</b>                                                                                                                                                                                                                                                                                                                                                                                                      |                     |
| SC 6.0. Interdunal Wetlands  Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? If  you answer yes you will still need to rate the wetland based on its habitat functions.  In practical terms that means the following geographic areas:                                                                                                                                                                                                                                |                     |
| <ul> <li>Long Beach Peninsula: Lands west of SR 103</li> <li>Grayland-Westport: Lands west of SR 105</li> <li>Ocean Shores-Copalis: Lands west of SR 115 and SR 109         Yes – Go to SC 6.1         No = not an interdunal wetland for rating</li> </ul>                                                                                                                                                                                                                                                                | Cat I               |
| SC 6.1. Is the wetland 1 ac or larger and scores an 8 or 9 for the habitat functions on the form (rates H,H,H or H,H,M for the three aspects of function)?  Yes = Category I  No – Go to SC 6.2  SC 6.2. Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger?                                                                                                                                                                                                                           | Cat. II             |
| Yes = Category II No – Go to SC 6.3  SC 6.3. Is the unit between 0.1 and 1 ac, or is it in a mosaic of wetlands that is between 0.1 and 1 ac?  Yes = Category III No = Category IV                                                                                                                                                                                                                                                                                                                                         | Cat. III<br>Cat. IV |
| Category of wetland based on Special Characteristics                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                     |
| Category of wetland based on Special Characteristics If you answered No for all types, enter "Not Applicable" on Summary Form                                                                                                                                                                                                                                                                                                                                                                                              | N/A                 |

Wetland name or number Wetland K

# **RATING SUMMARY – Western Washington**

| Name of wetland (or ID #):                                 | Wetland L                     | Date of site         | visit: <u>3</u> | /24/17                 |              |    |
|------------------------------------------------------------|-------------------------------|----------------------|-----------------|------------------------|--------------|----|
| Rated by <u>Katie Boa</u>                                  | Trained by Ecol               | ogy? Yes <u>X</u> No | Date of         | f training 11/         | ′16 <u> </u> |    |
| <b>HGM Class used for rating</b>                           | Depressional                  | _ Wetland has mul    | tiple HGN       | /I classes?            | Y X          | _N |
| NOTE: Form is not of Source of base and OVERALL WETLAND CA | erial photo/map <u>Go</u>     | oogle Earth          |                 |                        | _            | s) |
| 1. Category of wetland                                     |                               |                      |                 |                        |              |    |
| Categor                                                    | <b>y I</b> – Total score = 23 | 3 – 27               |                 | Score for              | each         | 1  |
| Categor                                                    | y II – Total score = 2        | 20 – 22              |                 | function b             |              |    |
| Categor                                                    | y III – Total score =         | 16 – 19              |                 | on three ratings       |              |    |
| X Catego                                                   | ry IV – Total score =         | = 9 – 15             |                 | ratings<br>(order of r | atings       |    |

| FUNCTION               | Improving Water Quality |   |   | Н | Hydrologic Habitat |          |       |         |          |       |
|------------------------|-------------------------|---|---|---|--------------------|----------|-------|---------|----------|-------|
|                        |                         |   |   |   | Circle 1           | the ap   | propr | iate ra | tings    |       |
| Site Potential         | Н                       | M | L | Н | M                  | L        | Н     | М       | <u>L</u> |       |
| Landscape Potential    | Н                       | М | Ī | Н | М                  | <u>L</u> | Н     | M       | L        |       |
| Value                  | <u>H</u>                | М | L | Н | <u>M</u>           | L        | Н     | М       | <u>L</u> | TOTAL |
| Score Based on Ratings |                         | 6 |   |   | 5                  |          |       | 4       |          | 15    |

Score for each function based on three ratings (order of ratings is not important)

9 = H,H,H
8 = H,H,M
7 = H,H,L
7 = H,M,M
6 = H,M,L
6 = M,M,M
5 = H,L,L
5 = M,M,L
4 = M,L,L
3 = L,L,L

#### 2. Category based on SPECIAL CHARACTERISTICS of wetland

| CHARACTERISTIC                     | CATEGORY    |
|------------------------------------|-------------|
| Estuarine                          | I II        |
| Wetland of High Conservation Value | I           |
| Bog                                | I           |
| Mature Forest                      | I           |
| Old Growth Forest                  | I           |
| Coastal Lagoon                     | I II        |
| Interdunal                         | I II III IV |
| None of the above                  | N/A         |

# Maps and figures required to answer questions correctly for Western Washington

#### **Depressional Wetlands**

| Map of:                                                                                                                           | To answer questions: | Figure # |
|-----------------------------------------------------------------------------------------------------------------------------------|----------------------|----------|
| Cowardin plant classes                                                                                                            | D 1.3, H 1.1, H 1.4  | 13       |
| Hydroperiods                                                                                                                      | D 1.4, H 1.2         | 13       |
| Location of outlet (can be added to map of hydroperiods)                                                                          | D 1.1, D 4.1         | 13       |
| Boundary of area within 150 ft of the wetland (can be added to another figure)                                                    | D 2.2, D 5.2         | 13       |
| Map of the contributing basin                                                                                                     | D 4.3, D 5.3         | 16       |
| 1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat | H 2.1, H 2.2, H 2.3  | 16       |
| Screen capture of map of 303(d) listed waters in basin (from Ecology website)                                                     | D 3.1, D 3.2         | 17       |
| Screen capture of list of TMDLs for WRIA in which unit is found (from web)                                                        | D 3.3                | 17       |

#### Riverine Wetlands

| Map of:                                                                        | To answer questions: | Figure # |
|--------------------------------------------------------------------------------|----------------------|----------|
| Cowardin plant classes                                                         | H 1.1, H 1.4         |          |
| Hydroperiods                                                                   | H 1.2                |          |
| Ponded depressions                                                             | R 1.1                |          |
| Boundary of area within 150 ft of the wetland (can be added to another figure) | R 2.4                |          |
| Plant cover of trees, shrubs, and herbaceous plants                            | R 1.2, R 4.2         |          |
| Width of unit vs. width of stream (can be added to another figure)             | R 4.1                |          |
| Map of the contributing basin                                                  | R 2.2, R 2.3, R 5.2  |          |
| 1 km Polygon: Area that extends 1 km from entire wetland edge - including      | H 2.1, H 2.2, H 2.3  |          |
| polygons for accessible habitat and undisturbed habitat                        |                      |          |
| Screen capture of map of 303(d) listed waters in basin (from Ecology website)  | R 3.1                |          |
| Screen capture of list of TMDLs for WRIA in which unit is found (from web)     | R 3.2, R 3.3         |          |

#### Lake Fringe Wetlands

| Map of:                                                                        | To answer questions:       | Figure # |
|--------------------------------------------------------------------------------|----------------------------|----------|
| Cowardin plant classes                                                         | L 1.1, L 4.1, H 1.1, H 1.4 |          |
| Plant cover of trees, shrubs, and herbaceous plants                            | L 1.2                      |          |
| Boundary of area within 150 ft of the wetland (can be added to another figure) | L 2.2                      |          |
| 1 km Polygon: Area that extends 1 km from entire wetland edge - including      | H 2.1, H 2.2, H 2.3        |          |
| polygons for accessible habitat and undisturbed habitat                        |                            |          |
| Screen capture of map of 303(d) listed waters in basin (from Ecology website)  | L 3.1, L 3.2               |          |
| Screen capture of list of TMDLs for WRIA in which unit is found (from web)     | L 3.3                      |          |

#### Slope Wetlands

| Map of:                                                                         | To answer questions: | Figure # |
|---------------------------------------------------------------------------------|----------------------|----------|
| Cowardin plant classes                                                          | H 1.1, H 1.4         |          |
| Hydroperiods                                                                    | H 1.2                |          |
| Plant cover of <b>dense</b> trees, shrubs, and herbaceous plants                | S 1.3                |          |
| Plant cover of <b>dense</b> , <b>rigid</b> trees, shrubs, and herbaceous plants | S 4.1                |          |
| (can be added to figure above)                                                  |                      |          |
| Boundary of 150 ft buffer (can be added to another figure)                      | S 2.1, S 5.1         |          |
| 1 km Polygon: Area that extends 1 km from entire wetland edge - including       | H 2.1, H 2.2, H 2.3  |          |
| polygons for accessible habitat and undisturbed habitat                         |                      |          |
| Screen capture of map of 303(d) listed waters in basin (from Ecology website)   | S 3.1, S 3.2         |          |
| Screen capture of list of TMDLs for WRIA in which unit is found (from web)      | S 3.3                |          |

# **HGM Classification of Wetlands in Western Washington**

For questions 1-7, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-7 apply, and go to Question 8.

| L |                                                                                              |
|---|----------------------------------------------------------------------------------------------|
|   |                                                                                              |
|   |                                                                                              |
|   |                                                                                              |
| 1 | 1. Are the water levels in the entire unit usually controlled by tides except during floods? |
| J | 1. Are the water levels in the entire unit usually controlled by titles except during hoods: |



**YES** – the wetland class is **Tidal Fringe** – go to 1.1

1.1 Is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)?

### **NO - Saltwater Tidal Fringe (Estuarine)**

#### **YES - Freshwater Tidal Fringe**

If your wetland can be classified as a Freshwater Tidal Fringe use the forms for **Riverine** wetlands. If it is Saltwater Tidal Fringe it is an **Estuarine** wetland and is not scored. This method **cannot** be used to score functions for estuarine wetlands.

2. The entire wetland unit is flat and precipitation is the only source (>90%) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit.

NO **)** go to 3

**YES** – The wetland class is **Flats** 

If vour wetland can be classified as a Flats wetland, use the form for **Depressional** wetlands.

- 3. Does the entire wetland unit **meet all** of the following criteria?
  - \_\_The vegetated part of the wetland is on the shores of a body of permanent open water (without any plants on the surface at any time of the year) at least 20 ac (8 ha) in size;
  - At least 30% of the open water area is deeper than 6.6 ft (2 m).



**YES** - The wetland class is **Lake Fringe** (Lacustrine Fringe)

- 4. Does the entire wetland unit **meet all** of the following criteria?
  - The wetland is on a slope (slope can be very gradual),
  - \_\_\_The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks.
    - The water leaves the wetland **without being impounded**.

NO - go to 5

**YES** - The wetland class is **Slope** 

**NOTE**: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 ft deep).

- 5. Does the entire wetland unit **meet all** of the following criteria?
  - \_\_\_The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river.
  - The overbank flooding occurs at least once every 2 years.

#### Wetland name or number Wetland L

NO— go to 6

YES – The wetland class is **Riverine**NOTE: The Riverine unit can contain depressions that are filled with water when the river is not flooding

6. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year? *This means that any outlet, if present, is higher than the interior of the wetland.* 

NO - go to 7

YES- The wetland class is **Depressional** 

7. Is the entire wetland unit located in a very flat area with no obvious depression and no overbank flooding? The unit does not pond surface water more than a few inches. The unit seems to be maintained by high groundwater in the area. The wetland may be ditched, but has no obvious natural outlet.

NO – go to 8

**YES** – The wetland class is **Depressional** 

8. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

**NOTE**: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the HGM class listed in column 2 is less than 10% of the unit; classify the wetland using the class that represents more than 90% of the total area.

| HGM classes within the wetland unit   | HGM class to  |
|---------------------------------------|---------------|
| being rated                           | use in rating |
| Slope + Riverine                      | Riverine      |
| Slope + Depressional                  | Depressional  |
| Slope + Lake Fringe                   | Lake Fringe   |
| Depressional + Riverine along stream  | Depressional  |
| within boundary of depression         |               |
| Depressional + Lake Fringe            | Depressional  |
| Riverine + Lake Fringe                | Riverine      |
| Salt Water Tidal Fringe and any other | Treat as      |
| class of freshwater wetland           | ESTUARINE     |

If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.

| DEPRESSIONAL AND FLATS WETLANDS  Water Quality Functions - Indicators that the site functions to improve water quality                                                                                                                                                                                                                                                                                                                                                            |            |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
| D 1.0. Does the site have the potential to improve water quality?                                                                                                                                                                                                                                                                                                                                                                                                                 |            |
| D 1.1. Characteristics of surface water outflows from the wetland:                                                                                                                                                                                                                                                                                                                                                                                                                |            |
| Wetland is a depression or flat depression (QUESTION 7 on key) with no surface water leaving it (no outlet).  points = 3  Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet.  points = 2  Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 1                                                                                                                      | 2          |
| Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch. points = 1  D 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions). Yes = 4 No = 0                                                                                                                                                                                                                                             | 0          |
| D 1.3. Characteristics and distribution of persistent plants (Emergent, Scrub-shrub, and/or Forested Cowardin classes):  Wetland has persistent, ungrazed, plants > 95% of area  Wetland has persistent, ungrazed, plants > ½ of area  Wetland has persistent, ungrazed plants > ½ of area  Wetland has persistent, ungrazed plants > ½ of area  Wetland has persistent, ungrazed plants > ½ of area  points = 1  Wetland has persistent, ungrazed plants < ½ of area  points = 0 | 5          |
| D 1.4. Characteristics of seasonal ponding or inundation:  This is the area that is ponded for at least 2 months. See description in manual.  Area seasonally ponded is > ½ total area of wetland  Area seasonally ponded is > ½ total area of wetland  Area seasonally ponded is < ½ total area of wetland  points = 2  points = 0                                                                                                                                               | 2          |
| Total for D 1 Add the points in the boxes above                                                                                                                                                                                                                                                                                                                                                                                                                                   | 9          |
| Rating of Site Potential If score is: 12-16 = H X 6-11 = M 0-5 = L Record the rating on the first                                                                                                                                                                                                                                                                                                                                                                                 | page       |
| D 2.0. Does the landscape have the potential to support the water quality function of the site?                                                                                                                                                                                                                                                                                                                                                                                   |            |
| D 2.1. Does the wetland unit receive stormwater discharges? Yes = 1 No = 0                                                                                                                                                                                                                                                                                                                                                                                                        | 0          |
| D 2.2. ls > 10% of the area within 150 ft of the wetland in land uses that generate pollutants? Yes = 1 No = 0                                                                                                                                                                                                                                                                                                                                                                    | 0          |
| D 2.3. Are there septic systems within 250 ft of the wetland? Yes = 1 No = 0                                                                                                                                                                                                                                                                                                                                                                                                      | 0          |
| D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1-D 2.3?  Source  Yes = 1 No = 0                                                                                                                                                                                                                                                                                                                                        | 0          |
| Total for D 2 Add the points in the boxes above                                                                                                                                                                                                                                                                                                                                                                                                                                   | 0          |
| Rating of Landscape Potential If score is:3 or 4 = H1 or 2 = MX0 = L Record the rating on the                                                                                                                                                                                                                                                                                                                                                                                     | first page |
| D 3.0. Is the water quality improvement provided by the site valuable to society?                                                                                                                                                                                                                                                                                                                                                                                                 |            |
| D 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the $303(d)$ list? Yes = 1 No = 0                                                                                                                                                                                                                                                                                                                             | 1          |
| D 3.2. Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list? Yes = 1 No = 0                                                                                                                                                                                                                                                                                                                                                                     | 1          |
| D 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (answer YES if there is a TMDL for the basin in which the unit is found)?  Yes = 2 No = 0                                                                                                                                                                                                                                                                             | 0          |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |            |
| Total for D 3 Add the points in the boxes above                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2          |

| DEPRESSIONAL AND FLATS WETLANDS  Hydrologic Functions - Indicators that the site functions to reduce flooding and stream degradation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |              |  |  |  |  |  |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|--|--|--|--|--|
| D 4.0. Does the site have the potential to reduce flooding and erosion?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |              |  |  |  |  |  |
| D 4.1. Characteristics of surface water outflows from the wetland:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |              |  |  |  |  |  |
| Wetland is a depression or flat depression with no surface water leaving it (no outlet) points = 4 Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet points = 2 Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch points = 1 Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 0                                                                                                                                                                                                                                                                                                                                    | 2            |  |  |  |  |  |
| D 4.2. Depth of storage during wet periods: Estimate the height of ponding above the bottom of the outlet. For wetlands with no outlet, measure from the surface of permanent water or if dry, the deepest part.  Marks of ponding are 3 ft or more above the surface or bottom of outlet points = 7  Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet points = 5  Marks are at least 0.5 ft to < 2 ft from surface or bottom of outlet points = 3  The wetland is a "headwater" wetland points = 3  Wetland is flat but has small depressions on the surface that trap water points = 1  Marks of ponding less than 0.5 ft (6 in) points = 0                                                                                                          | 3            |  |  |  |  |  |
| D 4.3. Contribution of the wetland to storage in the watershed: Estimate the ratio of the area of upstream basin contributing surface water to the wetland to the area of the wetland unit itself.  The area of the basin is less than 10 times the area of the unit points = 5  The area of the basin is 10 to 100 times the area of the unit points = 3  The area of the basin is more than 100 times the area of the unit points = 0  Entire wetland is in the Flats class points = 5                                                                                                                                                                                                                                                                                       | 3            |  |  |  |  |  |
| Total for D 4 Add the points in the boxes above                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 10           |  |  |  |  |  |
| Rating of Site Potential If score is: 12-16 = H X 6-11 = M 0-5 = L Record the rating on the                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | e first page |  |  |  |  |  |
| D 5.0. Does the landscape have the potential to support hydrologic functions of the site?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |              |  |  |  |  |  |
| D 5.1. Does the wetland receive stormwater discharges? Yes = 1 No = 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 0            |  |  |  |  |  |
| D 5.2. Is >10% of the area within 150 ft of the wetland in land uses that generate excess runoff? Yes = 1 No = 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 0            |  |  |  |  |  |
| D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses (residential at >1 residence/ac, urban, commercial, agriculture, etc.)?  Yes = 1 No = 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 0            |  |  |  |  |  |
| Total for D 5 Add the points in the boxes above                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 0            |  |  |  |  |  |
| Rating of Landscape Potential If score is: 3 = H 1 or 2 = M X 0 = L Record the rating on the                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | e first page |  |  |  |  |  |
| D 6.0. Are the hydrologic functions provided by the site valuable to society?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |              |  |  |  |  |  |
| D 6.1. The unit is in a landscape that has flooding problems. Choose the description that best matches conditions around the wetland unit being rated. Do not add points. Choose the highest score if more than one condition is met.  The wetland captures surface water that would otherwise flow down-gradient into areas where flooding has damaged human or natural resources (e.g., houses or salmon redds):  • Flooding occurs in a sub-basin that is immediately down-gradient of unit. points = 2  • Surface flooding problems are in a sub-basin farther down-gradient. points = 1  Flooding from groundwater is an issue in the sub-basin. points = 1  The existing or potential outflow from the wetland is so constrained by human or natural conditions that the | 1            |  |  |  |  |  |
| water stored by the wetland cannot reach areas that flood. <i>Explain why</i> points = 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |              |  |  |  |  |  |
| There are no problems with flooding downstream of the wetland. points = 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |              |  |  |  |  |  |
| D 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?  Yes = 2 No = 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 0            |  |  |  |  |  |
| Total for D 6 Add the points in the boxes above                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 1            |  |  |  |  |  |

Rating of Value If score is: \_\_\_\_2-4 = H \_\_\_X \_\_1 = M \_\_\_\_0 = L

Record the rating on the first page

#### These questions apply to wetlands of all HGM classes. **HABITAT FUNCTIONS** - Indicators that site functions to provide important habitat H 1.0. Does the site have the potential to provide habitat? H 1.1. Structure of plant community: Indicators are Cowardin classes and strata within the Forested class. Check the Cowardin plant classes in the wetland. Up to 10 patches may be combined for each class to meet the threshold of ¼ ac or more than 10% of the unit if it is smaller than 2.5 ac. Add the number of structures checked. Aquatic bed 4 structures or more: points = 4 Emergent 3 structures: points = 2 1 Scrub-shrub (areas where shrubs have > 30% cover) 2 structures: points = 1 X Forested (areas where trees have > 30% cover) 1 structure: points = 0 If the unit has a Forested class, check if: X The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the Forested polygon H 1.2. Hydroperiods Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or ¼ ac to count (see text for descriptions of hydroperiods). Permanently flooded or inundated 4 or more types present: points = 3 X Seasonally flooded or inundated 3 types present: points = 2 Occasionally flooded or inundated 2 types present: points = 1 1 X Saturated only 1 type present: points = 0 Permanently flowing stream or river in, or adjacent to, the wetland Seasonally flowing stream in, or adjacent to, the wetland Lake Fringe wetland 2 points Freshwater tidal wetland 2 points H 1.3. Richness of plant species Count the number of plant species in the wetland that cover at least 10 ft<sup>2</sup>. Different patches of the same species can be combined to meet the size threshold and you do not have to name the species. Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle 1 If you counted: > 19 species points = 2 5 - 19 species points = 1< 5 species points = 0 H 1.4. Interspersion of habitats Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. If you have four or more plant classes or three classes and open water, the rating is always high. 1 None = 0 points Low = 1 point Moderate = 2 points All three diagrams in this row are **HIGH** = 3points

# Wetland name or number $\underline{\text{Wetland } L}$

|                                                                                                                                                                                        | <del></del>      |                |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|----------------|
| H 1.5. Special habitat features:                                                                                                                                                       |                  |                |
| Check the habitat features that are present in the wetland. The number of checks is the number of present in the wetland.                                                              | points.          |                |
| $\underline{\hspace{0.1cm}X\hspace{0.1cm}}$ Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long).                                                            |                  |                |
| Standing snags (dbh > 4 in) within the wetland                                                                                                                                         |                  |                |
| Undercut banks are present for at least 6.6 ft (2 m) and/or overhanging plants extends at least over a stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (10 m) | 3.3 ft (1 m)     |                |
| Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 30                                                                                          | O degree         | 2              |
| slope) OR signs of recent beaver activity are present (cut shrubs or trees that have not yet we where wood is exposed)                                                                 | eathered         |                |
| At least $^{\prime}\!\!4$ ac of thin-stemmed persistent plants or woody branches are present in areas that ar                                                                          | e                |                |
| permanently or seasonally inundated (structures for egg-laying by amphibians)                                                                                                          |                  |                |
| X Invasive plants cover less than 25% of the wetland area in every stratum of plants (see H 1.1 for                                                                                    | or list of       |                |
| strata)                                                                                                                                                                                | _                |                |
| Total for H 1 Add the points in the bo                                                                                                                                                 |                  | 6              |
| Rating of Site Potential If score is:15-18 = H7-14 = MX_0-6 = L Recor                                                                                                                  | rd the rating or | the first page |
| H 2.0. Does the landscape have the potential to support the habitat functions of the site?                                                                                             |                  |                |
| H 2.1. Accessible habitat (include only habitat that directly abuts wetland unit).                                                                                                     |                  |                |
| Calculate: % undisturbed habitat + [(% moderate and low intensity land uses)/2] =                                                                                                      | %                |                |
| If total accessible habitat is:                                                                                                                                                        |                  |                |
| $> \frac{1}{3}$ (33.3%) of 1 km Polygon                                                                                                                                                | points = 3       | 3              |
| 20-33% of 1 km Polygon                                                                                                                                                                 | points = 2       |                |
| 10-19% of 1 km Polygon                                                                                                                                                                 | points = 1       |                |
| < 10% of 1 km Polygon                                                                                                                                                                  | points = 0       |                |
| H 2.2. Undisturbed habitat in 1 km Polygon around the wetland.                                                                                                                         |                  |                |
| Calculate: % undisturbed habitat + [(% moderate and low intensity land uses)/2] =                                                                                                      | %                |                |
| Undisturbed habitat > 50% of Polygon                                                                                                                                                   | points = 3       | 0              |
| Undisturbed habitat 10-50% and in 1-3 patches                                                                                                                                          | points = 2       | U              |
| Undisturbed habitat 10-50% and > 3 patches                                                                                                                                             | points = 1       |                |
| Undisturbed habitat < 10% of 1 km Polygon                                                                                                                                              | points = 0       |                |
| H 2.3. Land use intensity in 1 km Polygon: If                                                                                                                                          |                  |                |
| > 50% of 1 km Polygon is high intensity land use                                                                                                                                       | oints = (- 2)    | 0              |
| ≤ 50% of 1 km Polygon is high intensity                                                                                                                                                | points = 0       |                |
| Total for H 2 Add the points in the b                                                                                                                                                  | oxes above       | 3              |
| Rating of Landscape Potential If score is: 4-6 = H X 1-3 = M < 1 = L Record                                                                                                            | d the rating on  | the first page |
| H 3.0. Is the habitat provided by the site valuable to society?                                                                                                                        |                  |                |
| H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? <i>Choose only the hi</i>                                                                   | ahast scara      |                |
| that applies to the wetland being rated.                                                                                                                                               | griest score     |                |
| Site meets ANY of the following criteria:                                                                                                                                              | points = 2       |                |
| Ξ— It has 3 or more priority habitats within 100 m (see next page)                                                                                                                     | points 2         |                |
| It provides habitat for Threatened or Endangered species (any plant or animal on the state or f                                                                                        | ederal lists)    |                |
| It is mapped as a location for an individual WDFW priority species                                                                                                                     | ouc. a. moto,    |                |
| <ul> <li>It is a Wetland of High Conservation Value as determined by the Department of Natural Resource</li> </ul>                                                                     | rces             |                |
| — It has been categorized as an important habitat site in a local or regional comprehensive plan,                                                                                      | in a             |                |
| Shoreline Master Plan, or in a watershed plan                                                                                                                                          | a aturt          |                |
| Site has 1 or 2 priority habitats (listed on next page) within 100 m                                                                                                                   | points = 1       |                |
| Site does not meet any of the criteria above                                                                                                                                           | points = 0       |                |
| Rating of Value If score is:2 = H1 = MX_0 = L Record                                                                                                                                   | d the rating on  | the first page |
|                                                                                                                                                                                        |                  | , 1 9          |

Wetland Rating System for Western WA: 2014 Update Rating Form – Effective January 1, 2015

# **WDFW Priority Habitats**

<u>Priority habitats listed by WDFW</u> (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. <a href="http://wdfw.wa.gov/publications/00165/wdfw00165.pdf">http://wdfw.wa.gov/publications/00165/wdfw00165.pdf</a> or access the list from here: <a href="http://wdfw.wa.gov/conservation/phs/list/">http://wdfw.wa.gov/conservation/phs/list/</a>)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland unit: **NOTE:** This question is independent of the land use between the wetland unit and the priority habitat.

| _Aspen Stands: Pure or mixed stands of aspen greater than 1 ac (0.4 ha).                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Biodiversity Areas and Corridors</b> : Areas of habitat that are relatively important to various species of native fish and wildlife ( <i>full descriptions in WDFW PHS report</i> ).                                                                                                                                                                                                                                                                                                                                                       |
| _Herbaceous Balds: Variable size patches of grass and forbs on shallow soils over bedrock.                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Old-growth/Mature forests:</b> Old-growth west of Cascade crest – Stands of at least 2 tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) > 32 in (81 cm) dbh or > 200 years of age. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west of the Cascade crest. |
| <b>Oregon White Oak:</b> Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important ( <i>full descriptions in WDFW PHS report p. 158 – see web link above</i> ).                                                                                                                                                                                                                                                                                                                          |
| <b>_Riparian</b> : The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.                                                                                                                                                                                                                                                                                                                                                              |
| <b>Westside Prairies:</b> Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a we prairie (full descriptions in WDFW PHS report p. 161 – see web link above).                                                                                                                                                                                                                                                                                                                                        |
| <b>Instream:</b> The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.                                                                                                                                                                                                                                                                                                                                        |
| <b>Nearshore</b> : Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (full descriptions of habitats and the definition of relatively undisturbed are in WDFW report – see web link on previous page).                                                                                                                                                                                                                                                               |
| <b>Caves:</b> A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.                                                                                                                                                                                                                                                                                                                                     |
| _Cliffs: Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Talus:</b> Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.                                                                                                                                                                                                                                                                                                             |
| <b>Snags and Logs:</b> Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.                                                                                                                                                     |

**Note:** All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

# **CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS**

| Westland Time                                                                                                                                                                                                                                                                                                                                   | Catagogg |  |  |  |  |  |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|--|--|--|--|--|
| Wetland Type                                                                                                                                                                                                                                                                                                                                    | Category |  |  |  |  |  |
| Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.                                                                                                                                                                                                                                    |          |  |  |  |  |  |
| SC 1.0. Estuarine wetlands                                                                                                                                                                                                                                                                                                                      |          |  |  |  |  |  |
| Does the wetland meet the following criteria for Estuarine wetlands?                                                                                                                                                                                                                                                                            |          |  |  |  |  |  |
| — The dominant water regime is tidal,                                                                                                                                                                                                                                                                                                           |          |  |  |  |  |  |
| — Vegetated, and                                                                                                                                                                                                                                                                                                                                |          |  |  |  |  |  |
| — With a salinity greater than 0.5 ppt Yes –Go to <b>SC 1.1</b> No= <b>Not an estuarine wetland</b>                                                                                                                                                                                                                                             |          |  |  |  |  |  |
| SC 1.1. Is the wetland within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151?  Yes = Category I No - Go to SC 1.2                                                                                  | Cat. I   |  |  |  |  |  |
| SC 1.2. Is the wetland unit at least 1 ac in size and meets at least two of the following three conditions?                                                                                                                                                                                                                                     |          |  |  |  |  |  |
| <ul> <li>The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. (If non-native species are Spartina, see page 25)</li> <li>At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-</li> </ul> | Cat. I   |  |  |  |  |  |
| mowed grassland. — The wetland has at least two of the following features: tidal channels, depressions with open water, or                                                                                                                                                                                                                      | Cat. II  |  |  |  |  |  |
| contiguous freshwater wetlands.  Yes = Category I  No = Category II                                                                                                                                                                                                                                                                             |          |  |  |  |  |  |
| SC 2.0. Wetlands of High Conservation Value (WHCV)                                                                                                                                                                                                                                                                                              |          |  |  |  |  |  |
| SC 2.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High                                                                                                                                                                                                                                |          |  |  |  |  |  |
| Conservation Value? Yes – Go to SC 2.2 No – o to SC 2.3                                                                                                                                                                                                                                                                                         | Cat. I   |  |  |  |  |  |
| SC 2.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value?                                                                                                                                                                                                                                                     |          |  |  |  |  |  |
| Yes = Category I No = Not a WHCV                                                                                                                                                                                                                                                                                                                |          |  |  |  |  |  |
| SC 2.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland?                                                                                                                                                                                                                                                    |          |  |  |  |  |  |
| http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf  Yes – Contact WNHP/WDNR and go to SC 2.4  No = Not a WHCV                                                                                                                                                                                                                       |          |  |  |  |  |  |
| SC 2.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and listed it on                                                                                                                                                                                                                               |          |  |  |  |  |  |
| their website? Yes = Category I No = Not a WHCV                                                                                                                                                                                                                                                                                                 |          |  |  |  |  |  |
| SC 3.0. Bogs                                                                                                                                                                                                                                                                                                                                    |          |  |  |  |  |  |
| Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? Use the key                                                                                                                                                                                                                                 |          |  |  |  |  |  |
| below. If you answer YES you will still need to rate the wetland based on its functions.                                                                                                                                                                                                                                                        |          |  |  |  |  |  |
| SC 3.1. Does an area within the wetland unit have organic soil horizons, either peats or mucks, that compose 16 in or                                                                                                                                                                                                                           |          |  |  |  |  |  |
| more of the first 32 in of the soil profile? Yes – Go to SC 3.3 No – 30 to SC 3.2                                                                                                                                                                                                                                                               |          |  |  |  |  |  |
| SC 3.2. Does an area within the wetland unit have organic soils, either peats or mucks, that are less than 16 in deep over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or                                                                                                            |          |  |  |  |  |  |
| pond? Yes – Go to <b>SC 3.3</b> No = <b>s not a bog</b>                                                                                                                                                                                                                                                                                         |          |  |  |  |  |  |
| SC 3.3. Does an area with peats or mucks have more than 70% cover of mosses at ground level, AND at least a 30%                                                                                                                                                                                                                                 |          |  |  |  |  |  |
| cover of plant species listed in Table 4? Yes = Is a Category I bog No – Go to SC 3.4                                                                                                                                                                                                                                                           |          |  |  |  |  |  |
| <b>NOTE:</b> If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by                                                                                                                                                                                                                            |          |  |  |  |  |  |
| measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the                                                                                                                                                                                                                                | Cat. I   |  |  |  |  |  |
| plant species in Table 4 are present, the wetland is a bog.                                                                                                                                                                                                                                                                                     | Cat. 1   |  |  |  |  |  |
| SC 3.4. Is an area with peats or mucks forested (> 30% cover) with Sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the                                                                                                                      |          |  |  |  |  |  |
| species (or combination of species) listed in Table 4 provide more than 30% of the cover under the canopy?                                                                                                                                                                                                                                      |          |  |  |  |  |  |
| Yes = Is a Category I bog No = Is not a bog                                                                                                                                                                                                                                                                                                     |          |  |  |  |  |  |
|                                                                                                                                                                                                                                                                                                                                                 |          |  |  |  |  |  |

| SC 4.0. Forested Wetlands                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |          |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| Does the wetland have at least 1 contiguous acre of forest that meets one of these criteria for the WA Department of Fish and Wildlife's forests as priority habitats? If you answer YES you will still need to rate the wetland based on its functions.                                                                                                                                                                                                                                                                   |          |
| <ul> <li>Old-growth forests (west of Cascade crest): Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 in (81 cm) or more.</li> <li>Mature forests (west of the Cascade Crest): Stands where the largest trees are 80- 200 years old OR the species that make up the canopy have an average diameter (dbh) exceeding 21 in (53 cm).</li> </ul> |          |
| Yes = Category I No = Not a forested wetland for this section                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Cat. I   |
| SC 5.0. Wetlands in Coastal Lagoons                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |          |
| Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?  — The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks  — The lagoon in which the wetland is located contains ponded water that is saline or brackish (> 0.5 ppt)                                                                                                                                    |          |
| during most of the year in at least a portion of the lagoon (needs to be measured near the bottom)  Yes – Go to SC 5.1  No = Not a wetland in a coastal lagoon                                                                                                                                                                                                                                                                                                                                                             | Cat. I   |
| <ul> <li>5C 5.1. Does the wetland meet all of the following three conditions?</li> <li>— The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of aggressive, opportunistic plant species (see list of species on p. 100).</li> <li>— At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or unmowed grassland.</li> </ul>                                                                             | Cat. II  |
| — The wetland is larger than $^{1}/_{10}$ ac (4350 ft <sup>2</sup> )  Yes = Category I  No = Category II                                                                                                                                                                                                                                                                                                                                                                                                                   |          |
| SC 6.0. Interdunal Wetlands                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |          |
| Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? If you answer yes you will still need to rate the wetland based on its habitat functions.  In practical terms that means the following geographic areas:                                                                                                                                                                                                                                                              |          |
| <ul> <li>Long Beach Peninsula: Lands west of SR 103</li> <li>Grayland-Westport: Lands west of SR 105</li> <li>Ocean Shores-Copalis: Lands west of SR 115 and SR 109         Yes – Go to SC 6.1         No = not an interdunal wetland for rating</li> </ul>                                                                                                                                                                                                                                                                | Cat I    |
| for the three aspects of function)?  Yes = Category I  No – Go to SC 6.2  SC 6.2. Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger?                                                                                                                                                                                                                                                                                                                                                  | Cat. II  |
| Yes = <b>Category II</b> No – Go to <b>SC 6.3</b> C 6.3. Is the unit between 0.1 and 1 ac, or is it in a mosaic of wetlands that is between 0.1 and 1 ac?  Yes = <b>Category III</b> No = <b>Category IV</b>                                                                                                                                                                                                                                                                                                               | Cat. III |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Cat. IV  |
| Category of wetland based on Special Characteristics                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |          |

Wetland name or number  $\underline{\text{Wetland } L}$ 

# **RATING SUMMARY – Western Washington**

| Name of wetland (or ID #): _      | Wetland M                         | Date of site                   | visit: _ | 3/24/17                                  |    |
|-----------------------------------|-----------------------------------|--------------------------------|----------|------------------------------------------|----|
| Rated by <u>Katie Boa</u>         | Trained by Ecolo                  | gy? Yes <u>X</u> No            | _ Date c | of training 11/16                        |    |
| <b>HGM Class used for rating_</b> | Depressional                      | Wetland has mult               | iple HGI | M classes?Y _X_                          | _N |
| OVERALL WETLAND CA                | erial photo/map <u>Go</u>         | ogle Earth based on functions_ |          |                                          | ;) |
| 1. Category of wetland            |                                   |                                |          |                                          |    |
| Category                          | I – Total score = 23              | -2/                            |          | Score for each                           | ]  |
| Category                          | <pre>/ II - Total score = 2</pre> | 0 – 22                         |          | function based                           |    |
| Category                          | III – Total score = 1             | 16 – 19                        |          | on three<br>ratings<br>(order of ratings |    |
| X Catego                          | ry IV – Total score =             | 9 – 15                         |          | (order of ratings                        |    |

| FUNCTION                  | Improving<br>Water Quality |   | H | ydrolo   | gic      | Habit  |       | at      |          |       |
|---------------------------|----------------------------|---|---|----------|----------|--------|-------|---------|----------|-------|
|                           |                            |   |   |          | Circle 1 | the ap | propr | iate ra | tings    |       |
| Site Potential            | Н                          | M | L | <u>H</u> | М        | L      | Н     | М       | <u>L</u> |       |
| Landscape Potential       | Н                          | М | Ī | Н        | М        | L      | Н     | M       | L        |       |
| Value                     | Н                          | M | L | Н        | M        | L      | Н     | М       | Ī        | TOTAL |
| Score Based on<br>Ratings |                            | 5 |   |          | 6        |        |       | 4       |          | 15    |

# Score for each function based on three ratings (order of ratings is not important) 9 = H,H,H 8 = H,H,M 7 = H,H,L 7 = H,M,M 6 = H,M,L 6 = M,M,M 5 = H,L,L 5 = M,M,L 4 = M,L,L 3 = L,L,L

# 2. Category based on SPECIAL CHARACTERISTICS of wetland

| CHARACTERISTIC                     | CATEGORY |        |  |
|------------------------------------|----------|--------|--|
| Estuarine                          | I II     |        |  |
| Wetland of High Conservation Value |          | I      |  |
| Bog                                |          | I      |  |
| Mature Forest                      | I        |        |  |
| Old Growth Forest                  |          | I      |  |
| Coastal Lagoon                     | I        | II     |  |
| Interdunal                         | I II     | III IV |  |
| None of the above                  | ı        | N/A    |  |

# Maps and figures required to answer questions correctly for Western Washington

# **Depressional Wetlands**

| Map of:                                                                                                                           | To answer questions: | Figure # |
|-----------------------------------------------------------------------------------------------------------------------------------|----------------------|----------|
| Cowardin plant classes                                                                                                            | D 1.3, H 1.1, H 1.4  | 14       |
| Hydroperiods                                                                                                                      | D 1.4, H 1.2         | 14       |
| Location of outlet (can be added to map of hydroperiods)                                                                          | D 1.1, D 4.1         | 14       |
| Boundary of area within 150 ft of the wetland (can be added to another figure)                                                    | D 2.2, D 5.2         | 14       |
| Map of the contributing basin                                                                                                     | D 4.3, D 5.3         | 16       |
| 1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat | H 2.1, H 2.2, H 2.3  | 16       |
| Screen capture of map of 303(d) listed waters in basin (from Ecology website)                                                     | D 3.1, D 3.2         | 17       |
| Screen capture of list of TMDLs for WRIA in which unit is found (from web)                                                        | D 3.3                | 17       |

#### **Riverine Wetlands**

| Map of:                                                                        | To answer questions: | Figure # |
|--------------------------------------------------------------------------------|----------------------|----------|
| Cowardin plant classes                                                         | H 1.1, H 1.4         |          |
| Hydroperiods                                                                   | H 1.2                |          |
| Ponded depressions                                                             | R 1.1                |          |
| Boundary of area within 150 ft of the wetland (can be added to another figure) | R 2.4                |          |
| Plant cover of trees, shrubs, and herbaceous plants                            | R 1.2, R 4.2         |          |
| Width of unit vs. width of stream (can be added to another figure)             | R 4.1                |          |
| Map of the contributing basin                                                  | R 2.2, R 2.3, R 5.2  |          |
| 1 km Polygon: Area that extends 1 km from entire wetland edge - including      | H 2.1, H 2.2, H 2.3  |          |
| polygons for accessible habitat and undisturbed habitat                        |                      |          |
| Screen capture of map of 303(d) listed waters in basin (from Ecology website)  | R 3.1                |          |
| Screen capture of list of TMDLs for WRIA in which unit is found (from web)     | R 3.2, R 3.3         |          |

# Lake Fringe Wetlands

| Map of:                                                                        | To answer questions:       | Figure # |
|--------------------------------------------------------------------------------|----------------------------|----------|
| Cowardin plant classes                                                         | L 1.1, L 4.1, H 1.1, H 1.4 |          |
| Plant cover of trees, shrubs, and herbaceous plants                            | L 1.2                      |          |
| Boundary of area within 150 ft of the wetland (can be added to another figure) | L 2.2                      |          |
| 1 km Polygon: Area that extends 1 km from entire wetland edge - including      | H 2.1, H 2.2, H 2.3        |          |
| polygons for accessible habitat and undisturbed habitat                        |                            |          |
| Screen capture of map of 303(d) listed waters in basin (from Ecology website)  | L 3.1, L 3.2               |          |
| Screen capture of list of TMDLs for WRIA in which unit is found (from web)     | L 3.3                      |          |

# Slope Wetlands

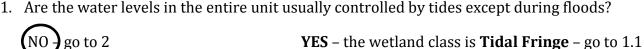
| Map of:                                                                         | To answer questions: | Figure # |
|---------------------------------------------------------------------------------|----------------------|----------|
| Cowardin plant classes                                                          | H 1.1, H 1.4         |          |
| Hydroperiods                                                                    | H 1.2                |          |
| Plant cover of <b>dense</b> trees, shrubs, and herbaceous plants                | S 1.3                |          |
| Plant cover of <b>dense</b> , <b>rigid</b> trees, shrubs, and herbaceous plants | S 4.1                |          |
| (can be added to figure above)                                                  |                      |          |
| Boundary of 150 ft buffer (can be added to another figure)                      | S 2.1, S 5.1         |          |
| 1 km Polygon: Area that extends 1 km from entire wetland edge - including       | H 2.1, H 2.2, H 2.3  |          |
| polygons for accessible habitat and undisturbed habitat                         |                      |          |
| Screen capture of map of 303(d) listed waters in basin (from Ecology website)   | S 3.1, S 3.2         |          |
| Screen capture of list of TMDLs for WRIA in which unit is found (from web)      | S 3.3                |          |

# **HGM Classification of Wetlands in Western Washington**

For questions 1-7, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-7 apply, and go to Question 8.

| Ċ | lues | uons | 1-/ | appı | y, and | u go t | o Ques | auon 8. | • |   |      |  |   |     |     |  |
|---|------|------|-----|------|--------|--------|--------|---------|---|---|------|--|---|-----|-----|--|
|   |      |      |     |      |        |        |        |         |   |   |      |  |   |     |     |  |
|   |      |      |     |      |        |        |        | _       |   | , | <br> |  | _ | CI. | 1 0 |  |



1.1 Is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)?

### NO - Saltwater Tidal Fringe (Estuarine)

#### **YES - Freshwater Tidal Fringe**

If your wetland can be classified as a Freshwater Tidal Fringe use the forms for **Riverine** wetlands. If it is Saltwater Tidal Fringe it is an **Estuarine** wetland and is not scored. This method **cannot** be used to score functions for estuarine wetlands.

2. The entire wetland unit is flat and precipitation is the only source (>90%) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit.

(NO) go to 3

**YES** – The wetland class is **Flats** 

If your wetland can be classified as a Flats wetland, use the form for **Depressional** wetlands.

- 3. Does the entire wetland unit **meet all** of the following criteria?
  - \_\_The vegetated part of the wetland is on the shores of a body of permanent open water (without any plants on the surface at any time of the year) at least 20 ac (8 ha) in size;
  - \_\_At least 30% of the open water area is deeper than 6.6 ft (2 m).

(NO) go to 4

**YES** – The wetland class is **Lake Fringe** (Lacustrine Fringe)

- 4. Does the entire wetland unit **meet all** of the following criteria?
  - The wetland is on a slope (slope can be very gradual),
  - \_\_\_The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks,
    - \_The water leaves the wetland without being impounded.

NO go to 5

**YES** - The wetland class is **Slope** 

**NOTE**: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 ft deep).

- 5. Does the entire wetland unit **meet all** of the following criteria?
  - \_\_\_The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river,
  - \_\_\_The overbank flooding occurs at least once every 2 years.

#### Wetland name or number Wetland M

NO— go to 6

YES – The wetland class is **Riverine**NOTE: The Riverine unit can contain depressions that are filled with water when the river is not flooding

6. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year? *This means that any outlet, if present, is higher than the interior of the wetland.* 

NO - go to 7

YES- The wetland class is **Depressional** 

7. Is the entire wetland unit located in a very flat area with no obvious depression and no overbank flooding? The unit does not pond surface water more than a few inches. The unit seems to be maintained by high groundwater in the area. The wetland may be ditched, but has no obvious natural outlet.

NO – go to 8

**YES** – The wetland class is **Depressional** 

8. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

**NOTE**: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the HGM class listed in column 2 is less than 10% of the unit; classify the wetland using the class that represents more than 90% of the total area.

| HGM classes within the wetland unit   | HGM class to  |
|---------------------------------------|---------------|
| being rated                           | use in rating |
| Slope + Riverine                      | Riverine      |
| Slope + Depressional                  | Depressional  |
| Slope + Lake Fringe                   | Lake Fringe   |
| Depressional + Riverine along stream  | Depressional  |
| within boundary of depression         |               |
| Depressional + Lake Fringe            | Depressional  |
| Riverine + Lake Fringe                | Riverine      |
| Salt Water Tidal Fringe and any other | Treat as      |
| class of freshwater wetland           | ESTUARINE     |

If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.

| <u>DEPRESSIONAL AND FLATS WETLANDS</u> Water Quality Functions - Indicators that the site functions to improve water quality                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                       |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|
| D 1.0. Does the site have the potential to improve water quality?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                       |
| D 1.1. Characteristics of surface water outflows from the wetland:  Wetland is a depression or flat depression (QUESTION 7 on key) with no surface water leaving it (no outlet).  points = 3  Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet.  points = 2  Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 3                                     |
| Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch. points = 1  D 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions). Yes = 4 No = 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 0                                     |
| D 1.3. Characteristics and distribution of persistent plants (Emergent, Scrub-shrub, and/or Forested Cowardin classes):  Wetland has persistent, ungrazed, plants > 95% of area  Wetland has persistent, ungrazed, plants > ½ of area  Wetland has persistent, ungrazed plants > ½ of area  Wetland has persistent, ungrazed plants > ½ of area  Wetland has persistent, ungrazed plants > ½ of area  points = 1  Wetland has persistent, ungrazed plants < ½ of area  points = 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 1                                     |
| D 1.4. Characteristics of seasonal ponding or inundation:  This is the area that is ponded for at least 2 months. See description in manual.  Area seasonally ponded is > ½ total area of wetland  Area seasonally ponded is > ½ total area of wetland  Area seasonally ponded is < ¼ total area of wetland  points = 2  points = 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 4                                     |
| Total for D 1 Add the points in the boxes above                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 8                                     |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                       |
| Rating of Site Potential If score is: 12-16 = H X 6-11 = M 0-5 = L Record the rating on the first                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                       |
| Rating of Site Potential If score is:12-16 = HX6-11 = M0-5 = L Record the rating on the first D 2.0. Does the landscape have the potential to support the water quality function of the site?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                       |
| D 2.0. Does the landscape have the potential to support the water quality function of the site?  D 2.1. Does the wetland unit receive stormwater discharges?  Yes = 1 No = 0  D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants?  Yes = 1 No = 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | page                                  |
| D 2.0. Does the landscape have the potential to support the water quality function of the site?  D 2.1. Does the wetland unit receive stormwater discharges?  Yes = 1 No = 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | page<br>0                             |
| D 2.0. Does the landscape have the potential to support the water quality function of the site?  D 2.1. Does the wetland unit receive stormwater discharges?  Yes = 1 No = 0  D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants?  Yes = 1 No = 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | page 0 0                              |
| D 2.0. Does the landscape have the potential to support the water quality function of the site?  D 2.1. Does the wetland unit receive stormwater discharges?  Yes = 1 No = 0  D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants?  Yes = 1 No = 0  D 2.3. Are there septic systems within 250 ft of the wetland?  Yes = 1 No = 0  D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1-D 2.3?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 0<br>0<br>0                           |
| D 2.0. Does the landscape have the potential to support the water quality function of the site?  D 2.1. Does the wetland unit receive stormwater discharges?  Yes = 1 No = 0  D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants?  Yes = 1 No = 0  D 2.3. Are there septic systems within 250 ft of the wetland?  Yes = 1 No = 0  D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1-D 2.3?  Source  Yes = 1 No = 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 0<br>0<br>0<br>0                      |
| D 2.0. Does the landscape have the potential to support the water quality function of the site?  D 2.1. Does the wetland unit receive stormwater discharges?  D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants?  Yes = 1 No = 0  D 2.3. Are there septic systems within 250 ft of the wetland?  Yes = 1 No = 0  D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1-D 2.3?  Source  Yes = 1 No = 0  Add the points in the boxes above                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 0<br>0<br>0<br>0                      |
| D 2.0. Does the landscape have the potential to support the water quality function of the site?  D 2.1. Does the wetland unit receive stormwater discharges?  D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants?  D 2.3. Are there septic systems within 250 ft of the wetland?  D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1-D 2.3?  Source  Total for D 2  Add the points in the boxes above  Rating of Landscape Potential If score is:3 or 4 = H1 or 2 = MX_0 = L Record the rating on the                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 0<br>0<br>0<br>0                      |
| D 2.0. Does the landscape have the potential to support the water quality function of the site?  D 2.1. Does the wetland unit receive stormwater discharges?  Ves = 1 No = 0  D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants?  Yes = 1 No = 0  D 2.3. Are there septic systems within 250 ft of the wetland?  D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1-D 2.3?  Source  Yes = 1 No = 0  Add the points in the boxes above  Rating of Landscape Potential If score is:3 or 4 = H1 or 2 = MX _0 = L Record the rating on the store is:3 or 4 = H1 or 2 = MX _0 = L Record the rating on the store is:303(d) list?  D 3.0. Is the water quality improvement provided by the site valuable to society?  D 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the Yes = 1 No = 0  D 3.2. Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list?  Yes = 1 No = 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | o o o o first page                    |
| D 2.0. Does the landscape have the potential to support the water quality function of the site?  D 2.1. Does the wetland unit receive stormwater discharges?  D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants?  Yes = 1 No = 0  D 2.3. Are there septic systems within 250 ft of the wetland?  Yes = 1 No = 0  D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1-D 2.3?  Source  Yes = 1 No = 0  Add the points in the boxes above  Rating of Landscape Potential If score is:3 or 4 = H1 or 2 = MX_0 = L Record the rating on the D 3.0. Is the water quality improvement provided by the site valuable to society?  D 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the Yes = 1 No = 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | O O O O O O O O O O O O O O O O O O O |
| D 2.0. Does the landscape have the potential to support the water quality function of the site?  D 2.1. Does the wetland unit receive stormwater discharges?  Yes = 1 No = 0  D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants?  Yes = 1 No = 0  D 2.3. Are there septic systems within 250 ft of the wetland?  Yes = 1 No = 0  D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1-D 2.3?  Source  Yes = 1 No = 0  Total for D 2  Add the points in the boxes above  Rating of Landscape Potential If score is:3 or 4 = H1 or 2 = MX_0 = L Record the rating on the store is:3 or 4 = H1 or 2 = MX_0 = L Record the rating on the store is:3 or 4 = H1 or 2 = MX_0 = L Record the rating on the store is:3 or 4 = H1 or 2 = MX_0 = L Record the rating on the store is:3 or 4 = H1 or 2 = M3 or 4 = H1 or 3 = M3 or 4 | page  O O O O first page  O 1         |

| DEPRESSIONAL AND FLATS WETLANDS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                             |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|
| Hydrologic Functions - Indicators that the site functions to reduce flooding and stream degradations                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | ion                         |
| D 4.0. Does the site have the potential to reduce flooding and erosion?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                             |
| D 4.1. Characteristics of surface water outflows from the wetland:  Wetland is a depression or flat depression with no surface water leaving it (no outlet)  Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet points = 2  Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch  Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing  points = 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 4                           |
| D 4.2. Depth of storage during wet periods: Estimate the height of ponding above the bottom of the outlet. For wetlands with no outlet, measure from the surface of permanent water or if dry, the deepest part.  Marks of ponding are 3 ft or more above the surface or bottom of outlet points = 7  Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet points = 5  Marks are at least 0.5 ft to < 2 ft from surface or bottom of outlet points = 3  The wetland is a "headwater" wetland points = 3  Wetland is flat but has small depressions on the surface that trap water points = 1  Marks of ponding less than 0.5 ft (6 in) points = 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 3                           |
| D 4.3. Contribution of the wetland to storage in the watershed: Estimate the ratio of the area of upstream basin contributing surface water to the wetland to the area of the wetland unit itself.  The area of the basin is less than 10 times the area of the unit points = 5  The area of the basin is 10 to 100 times the area of the unit points = 3  The area of the basin is more than 100 times the area of the unit points = 0  Entire wetland is in the Flats class points = 5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 5                           |
| Total for D 4 Add the points in the boxes above                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 12                          |
| Rating of Site Potential If score is: X 12-16 = H 6-11 = M 0-5 = L Record the rating on the                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | e first page                |
| D 5.0. Does the landscape have the potential to support hydrologic functions of the site?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                             |
| D 5.1. Does the wetland receive stormwater discharges? Yes = 1 No = 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | _                           |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 0                           |
| D 5.2. Is >10% of the area within 150 ft of the wetland in land uses that generate excess runoff? Yes = 1 No = 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 0                           |
| -                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                             |
| D 5.2. Is >10% of the area within 150 ft of the wetland in land uses that generate excess runoff? Yes = 1 No = 0  D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses (residential at                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 0                           |
| D 5.2. Is >10% of the area within 150 ft of the wetland in land uses that generate excess runoff? Yes = 1 No = 0  D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses (residential at >1 residence/ac, urban, commercial, agriculture, etc.)? Yes = 1 No = 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 0 0                         |
| D 5.2. Is >10% of the area within 150 ft of the wetland in land uses that generate excess runoff? Yes = 1 No = 0  D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses (residential at >1 residence/ac, urban, commercial, agriculture, etc.)? Yes = 1 No = 0  Total for D 5 Add the points in the boxes above                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 0 0                         |
| D 5.2. Is >10% of the area within 150 ft of the wetland in land uses that generate excess runoff? Yes = 1 No = 0  D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses (residential at >1 residence/ac, urban, commercial, agriculture, etc.)? Yes = 1 No = 0  Total for D 5 Add the points in the boxes above  Rating of Landscape Potential If score is:3 = H1 or 2 = MX_0 = L Record the rating on the rating o | 0 0                         |
| D 5.2. Is >10% of the area within 150 ft of the wetland in land uses that generate excess runoff? Yes = 1 No = 0  D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses (residential at >1 residence/ac, urban, commercial, agriculture, etc.)? Yes = 1 No = 0  Total for D 5  Rating of Landscape Potential If score is:3 = H1 or 2 = MX0 = L  Record the rating on the standard problems. Choose the hydrologic functions provided by the site valuable to society?  D 6.1. The unit is in a landscape that has flooding problems. Choose the description that best matches conditions around the wetland unit being rated. Do not add points. Choose the highest score if more than one condition is met.  The wetland captures surface water that would otherwise flow down-gradient into areas where flooding has damaged human or natural resources (e.g., houses or salmon redds):  • Flooding occurs in a sub-basin that is immediately down-gradient of unit.  • Surface flooding problems are in a sub-basin farther down-gradient.  Flooding from groundwater is an issue in the sub-basin.  The existing or potential outflow from the wetland is so constrained by human or natural conditions that the                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 0<br>0<br>0<br>e first page |
| D 5.2. Is >10% of the area within 150 ft of the wetland in land uses that generate excess runoff? Yes = 1 No = 0  D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses (residential at >1 residence/ac, urban, commercial, agriculture, etc.)? Yes = 1 No = 0  Total for D 5 Add the points in the boxes above  Rating of Landscape Potential If score is:3 = H1 or 2 = MX_0 = L Record the rating on the rating o | 0<br>0<br>0<br>e first page |

Rating of Value If score is: 2-4 = H X 1 = M 0 = L

Record the rating on the first page

#### These questions apply to wetlands of all HGM classes. **HABITAT FUNCTIONS** - Indicators that site functions to provide important habitat H 1.0. Does the site have the potential to provide habitat? H 1.1. Structure of plant community: Indicators are Cowardin classes and strata within the Forested class. Check the Cowardin plant classes in the wetland. Up to 10 patches may be combined for each class to meet the threshold of ¼ ac or more than 10% of the unit if it is smaller than 2.5 ac. Add the number of structures checked. Aquatic bed 4 structures or more: points = 4 Emergent 3 structures: points = 2 0 Scrub-shrub (areas where shrubs have > 30% cover) 2 structures: points = 1 X Forested (areas where trees have > 30% cover) 1 structure: points = 0 If the unit has a Forested class, check if: The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the Forested polygon H 1.2. Hydroperiods Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or ¼ ac to count (see text for descriptions of hydroperiods). Permanently flooded or inundated 4 or more types present: points = 3 X Seasonally flooded or inundated 3 types present: points = 2 Occasionally flooded or inundated 2 types present: points = 1 1 X Saturated only 1 type present: points = 0 Permanently flowing stream or river in, or adjacent to, the wetland Seasonally flowing stream in, or adjacent to, the wetland Lake Fringe wetland 2 points Freshwater tidal wetland 2 points H 1.3. Richness of plant species Count the number of plant species in the wetland that cover at least 10 ft<sup>2</sup>. Different patches of the same species can be combined to meet the size threshold and you do not have to name the species. Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle 1 If you counted: > 19 species points = 2 5 - 19 species points = 1< 5 species points = 0 H 1.4. Interspersion of habitats Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. If you have four or more plant classes or three classes and open water, the rating is always high. 1 None = 0 points Low = 1 point Moderate = 2 points All three diagrams in this row are **HIGH** = 3points

# Wetland name or number Wetland M

| H 1.5. Special habitat features:                                                                                                                                                          |                |                |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|----------------|
| Check the habitat features that are present in the wetland. The number of checks is the number of po                                                                                      | ints.          |                |
| $\underline{\hspace{0.1cm}X\hspace{0.1cm}}$ Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long).                                                               |                |                |
| X Standing snags (dbh > 4 in) within the wetland                                                                                                                                          |                |                |
| Undercut banks are present for at least 6.6 ft (2 m) and/or overhanging plants extends at least 3. over a stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (10 m) | .3 ft (1 m)    |                |
| Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 30 c                                                                                           | degree         | 3              |
| slope) OR signs of recent beaver activity are present (cut shrubs or trees that have not yet wear where wood is exposed)                                                                  | _              |                |
| At least ¼ ac of thin-stemmed persistent plants or woody branches are present in areas that are                                                                                           |                |                |
| permanently or seasonally inundated (structures for egg-laying by amphibians)                                                                                                             |                |                |
| X Invasive plants cover less than 25% of the wetland area in every stratum of plants (see H 1.1 for                                                                                       | list of        |                |
| strata)                                                                                                                                                                                   |                |                |
| Total for H 1 Add the points in the box                                                                                                                                                   | es above       | 6              |
| Rating of Site Potential If score is:15-18 = H7-14 = MX0-6 = L Record                                                                                                                     | the rating on  | the first page |
| H 2.0. Does the landscape have the potential to support the habitat functions of the site?                                                                                                |                |                |
| H 2.1. Accessible habitat (include only habitat that directly abuts wetland unit).                                                                                                        |                |                |
| Calculate: % undisturbed habitat + [(% moderate and low intensity land uses)/2] =                                                                                                         | %              |                |
| If total accessible habitat is:                                                                                                                                                           |                |                |
| 1                                                                                                                                                                                         | points = 3     | 3              |
| l · · · · · · · · · · · · · · · · · · ·                                                                                                                                                   | ooints = 2     |                |
| 10-19% of 1 km Polygon                                                                                                                                                                    | ooints = 1     |                |
| l · ·                                                                                                                                                                                     | points = 0     |                |
| H 2.2. Undisturbed habitat in 1 km Polygon around the wetland.                                                                                                                            |                |                |
| Calculate: % undisturbed habitat + [(% moderate and low intensity land uses)/2] =                                                                                                         | %              |                |
|                                                                                                                                                                                           | points = 3     |                |
| l ·                                                                                                                                                                                       | points = 2     | 0              |
| · ·                                                                                                                                                                                       | points = 1     |                |
| ·                                                                                                                                                                                         | points = 0     |                |
| H 2.3. Land use intensity in 1 km Polygon: If                                                                                                                                             |                |                |
|                                                                                                                                                                                           | nts = (- 2)    | 0              |
|                                                                                                                                                                                           | points = 0     | · ·            |
| Total for H 2 Add the points in the box                                                                                                                                                   |                | 3              |
| '                                                                                                                                                                                         | he rating on t |                |
| <u> </u>                                                                                                                                                                                  | J              | , , 3          |
| H 3.0. Is the habitat provided by the site valuable to society?                                                                                                                           |                | _              |
| H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose only the high that applies to the wetland being rated.                                  | est score      |                |
|                                                                                                                                                                                           | points = 2     |                |
| $\Xi$ — It has 3 or more priority habitats within 100 m (see next page)                                                                                                                   | _              |                |
| It provides habitat for Threatened or Endangered species (any plant or animal on the state or fed                                                                                         | deral lists)   |                |
| It is mapped as a location for an individual WDFW priority species                                                                                                                        |                |                |
| <ul> <li>It is a Wetland of High Conservation Value as determined by the Department of Natural Resource</li> </ul>                                                                        | es             |                |
| — It has been categorized as an important habitat site in a local or regional comprehensive plan, in                                                                                      |                |                |
| Shoreline Master Plan, or in a watershed plan                                                                                                                                             |                |                |
| Site has 1 or 2 priority habitats (listed on next page) within 100 m                                                                                                                      | ooints = 1     |                |
| Site does not meet any of the criteria above                                                                                                                                              | points = 0     |                |
| Rating of Value If score is:2 = H1 = MX0 = L                                                                                                                                              | the rating on  | the first page |
| Wotland Dating System for Western WA. 2014 Undate                                                                                                                                         |                |                |

Wetland Rating System for Western WA: 2014 Update Rating Form – Effective January 1, 2015

# **WDFW Priority Habitats**

<u>Priority habitats listed by WDFW</u> (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. <a href="http://wdfw.wa.gov/publications/00165/wdfw00165.pdf">http://wdfw.wa.gov/publications/00165/wdfw00165.pdf</a> or access the list from here: <a href="http://wdfw.wa.gov/conservation/phs/list/">http://wdfw.wa.gov/conservation/phs/list/</a>)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland unit:  $\it NOTE: This question is independent of the land use between the wetland unit and the priority habitat.$ 

| <br>_Aspen Stands: Pure or mixed stands of aspen greater than 1 ac (0.4 ha).                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <br><b>Biodiversity Areas and Corridors</b> : Areas of habitat that are relatively important to various species of native fish and wildlife ( <i>full descriptions in WDFW PHS report</i> ).                                                                                                                                                                                                                                                                                                                                            |
| <br>_Herbaceous Balds: Variable size patches of grass and forbs on shallow soils over bedrock.                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Old-growth/Mature forests: Old-growth west of Cascade crest – Stands of at least 2 tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) > 32 in (81 cm) dbh or > 200 years of age. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west of the Cascade crest. |
| <br><b>Oregon White Oak:</b> Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (full descriptions in WDFW PHS report p. 158 – see web link above).                                                                                                                                                                                                                                                                                                                        |
| <br><b>_Riparian</b> : The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.                                                                                                                                                                                                                                                                                                                                                   |
| <br><b>Westside Prairies:</b> Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a web prairie (full descriptions in WDFW PHS report p. 161 – see web link above).                                                                                                                                                                                                                                                                                                                            |
| <br><b>Instream:</b> The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.                                                                                                                                                                                                                                                                                                                             |
| <b>Nearshore</b> : Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. ( <i>full descriptions of habitats and the definition of relatively undisturbed are in WDFW report – see web link on previous page</i> ).                                                                                                                                                                                                                                               |
| <br><b>Caves:</b> A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.                                                                                                                                                                                                                                                                                                                          |
| <br>_Cliffs: Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <br><b>Talus:</b> Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.                                                                                                                                                                                                                                                                                                  |
| _Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.                                                                                                                                                    |

**Note:** All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

# **CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS**

| Wetland Type                                                                                                                                                                                                                                                                                                                                           | Category |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.                                                                                                                                                                                                                                           |          |
| SC 1.0. Estuarine wetlands                                                                                                                                                                                                                                                                                                                             |          |
| Does the wetland meet the following criteria for Estuarine wetlands?                                                                                                                                                                                                                                                                                   |          |
| — The dominant water regime is tidal,                                                                                                                                                                                                                                                                                                                  |          |
| — Vegetated, and                                                                                                                                                                                                                                                                                                                                       |          |
| — With a salinity greater than 0.5 ppt Yes –Go to <b>SC 1.1</b> No= <b>Not an estuarine wetland</b>                                                                                                                                                                                                                                                    |          |
| SC 1.1. Is the wetland within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151?  Yes = Category I No - Go to SC 1.2                                                                                         | Cat. I   |
| SC 1.2. Is the wetland unit at least 1 ac in size and meets at least two of the following three conditions?                                                                                                                                                                                                                                            |          |
| <ul> <li>The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. (If non-native species are <i>Spartina</i>, see page 25)</li> <li>At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-</li> </ul> | Cat. I   |
| mowed grassland.                                                                                                                                                                                                                                                                                                                                       |          |
| — The wetland has at least two of the following features: tidal channels, depressions with open water, or                                                                                                                                                                                                                                              | Cat. II  |
| contiguous freshwater wetlands. Yes = Category I No = Category II                                                                                                                                                                                                                                                                                      |          |
| SC 2.0. Wetlands of High Conservation Value (WHCV)                                                                                                                                                                                                                                                                                                     |          |
| SC 2.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High                                                                                                                                                                                                                                       |          |
| Conservation Value? Yes – Go to SC 2.2 No – Go to SC 2.3                                                                                                                                                                                                                                                                                               | Cat. I   |
| SC 2.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value?                                                                                                                                                                                                                                                            |          |
| Yes = Category I No = Not a WHCV                                                                                                                                                                                                                                                                                                                       |          |
| SC 2.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland?                                                                                                                                                                                                                                                           |          |
| http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf                                                                                                                                                                                                                                                                                         |          |
| Yes – Contact WNHP/WDNR and go to SC 2.4 No = Not a WHCV                                                                                                                                                                                                                                                                                               |          |
| SC 2.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and listed it on their website?  Yes = Category I No = Not a WHCV                                                                                                                                                                                     |          |
| · ,                                                                                                                                                                                                                                                                                                                                                    |          |
| SC 3.0. Bogs  Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? Use the key                                                                                                                                                                                                                          |          |
| below. If you answer YES you will still need to rate the wetland based on its functions.                                                                                                                                                                                                                                                               |          |
| SC 3.1. Does an area within the wetland unit have organic soil horizons, either peats or mucks, that compose 16 in or                                                                                                                                                                                                                                  |          |
| more of the first 32 in of the soil profile? Yes – Go to SC 3.3 No – Go to SC 3.2                                                                                                                                                                                                                                                                      |          |
| SC 3.2. Does an area within the wetland unit have organic soils, either peats or mucks, that are less than 16 in deep                                                                                                                                                                                                                                  |          |
| over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or                                                                                                                                                                                                                                         |          |
| pond? Yes – Go to SC 3.3 No = s not a bog                                                                                                                                                                                                                                                                                                              |          |
| SC 3.3. Does an area with peats or mucks have more than 70% cover of mosses at ground level, AND at least a 30%                                                                                                                                                                                                                                        |          |
| cover of plant species listed in Table 4? Yes = Is a Category I bog No – Go to SC 3.4                                                                                                                                                                                                                                                                  |          |
| <b>NOTE:</b> If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by                                                                                                                                                                                                                                   |          |
| measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the                                                                                                                                                                                                                                       | Cat. I   |
| plant species in Table 4 are present, the wetland is a bog. SC 3.4. Is an area with peats or mucks forested (> 30% cover) with Sitka spruce, subalpine fir, western red cedar,                                                                                                                                                                         |          |
| western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the                                                                                                                                                                                                                                                |          |
| species (or combination of species) listed in Table 4 provide more than 30% of the cover under the canopy?                                                                                                                                                                                                                                             |          |
| Yes = Is a Category I bog No = Is not a bog                                                                                                                                                                                                                                                                                                            |          |

| SC 4.0. Forested Wetlands                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |          |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| Does the wetland have at least 1 contiguous acre of forest that meets one of these criteria for the WA Department of Fish and Wildlife's forests as priority habitats? If you answer YES you will still need to rate the wetland based on its functions.                                                                                                                                                                                                                                                                   |          |
| <ul> <li>Old-growth forests (west of Cascade crest): Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 in (81 cm) or more.</li> <li>Mature forests (west of the Cascade Crest): Stands where the largest trees are 80- 200 years old OR the species that make up the canopy have an average diameter (dbh) exceeding 21 in (53 cm).</li> </ul> |          |
| Yes = Category I No = Not a forested wetland for this section                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Cat. I   |
| SC 5.0. Wetlands in Coastal Lagoons                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |          |
| Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?  — The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks  — The lagoon in which the wetland is located contains ponded water that is saline or brackish (> 0.5 ppt)                                                                                                                                    |          |
| during most of the year in at least a portion of the lagoon (needs to be measured near the bottom)  Yes – Go to SC 5.1  No = Not a wetland in a coastal lagoon                                                                                                                                                                                                                                                                                                                                                             | Cat. I   |
| <ul> <li>5C 5.1. Does the wetland meet all of the following three conditions?</li> <li>— The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of aggressive, opportunistic plant species (see list of species on p. 100).</li> <li>— At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or unmowed grassland.</li> </ul>                                                                             | Cat. II  |
| — The wetland is larger than $^{1}/_{10}$ ac (4350 ft <sup>2</sup> )  Yes = Category I  No = Category II                                                                                                                                                                                                                                                                                                                                                                                                                   |          |
| SC 6.0. Interdunal Wetlands                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |          |
| Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? If you answer yes you will still need to rate the wetland based on its habitat functions.  In practical terms that means the following geographic areas:                                                                                                                                                                                                                                                              |          |
| <ul> <li>Long Beach Peninsula: Lands west of SR 103</li> <li>Grayland-Westport: Lands west of SR 105</li> <li>Ocean Shores-Copalis: Lands west of SR 115 and SR 109         Yes – Go to SC 6.1         No = not an interdunal wetland for rating</li> </ul>                                                                                                                                                                                                                                                                | Cat I    |
| for the three aspects of function)?  Yes = Category I  No – Go to SC 6.2  SC 6.2. Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger?                                                                                                                                                                                                                                                                                                                                                  | Cat. II  |
| Yes = <b>Category II</b> No – Go to <b>SC 6.3</b> C 6.3. Is the unit between 0.1 and 1 ac, or is it in a mosaic of wetlands that is between 0.1 and 1 ac?  Yes = <b>Category III</b> No = <b>Category IV</b>                                                                                                                                                                                                                                                                                                               | Cat. III |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Cat. IV  |
| Category of wetland based on Special Characteristics                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |          |

Wetland name or number  $\underline{\text{Wetland } M}$ 

# **RATING SUMMARY – Western Washington**

| Name of wetland (or ID #): $_{	extstyle 	exts$ | Wetland N                | Date of si            | te visit: _ | 3/24/17             |              |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|-----------------------|-------------|---------------------|--------------|
| Rated by <u>Katie Boa</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Trained by Ecol          | ogy? Yes <u>X</u> No_ | Date        | of training 11/16   |              |
| <b>HGM Class used for rating</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Depressional             | _ Wetland has mu      | ultiple H0  | GM classes?Y _X     | _N           |
| NOTE: Form is not consider the Source of base as OVERALL WETLAND CA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | rial photo/map <u>Go</u> | oogle Earth           |             |                     | 5 <u> </u> ) |
| 1. Category of wetland                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | based on FUNC            | TIONS                 |             |                     |              |
| Category                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | I – Total score = 23     | 3 – 27                |             | Score for each      |              |
| Category                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | II – Total score = 2     | 20 – 22               |             | function based      |              |
| Category                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | III – Total score =      | 16 – 19               |             | on three<br>ratings |              |
| X Categor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | rv IV – Total score =    | = 9 – 15              |             | (order of ratings   |              |

| FUNCTION               |                                | mprov<br>iter Q | _ | H        | ydrolo   | ogic     |   | Habita   | at       |       |
|------------------------|--------------------------------|-----------------|---|----------|----------|----------|---|----------|----------|-------|
|                        | Circle the appropriate ratings |                 |   |          |          |          |   |          |          |       |
| Site Potential         | Н                              | M               | L | <u>H</u> | М        | L        | Н | М        | <u>L</u> |       |
| Landscape Potential    | Н                              | M_              | Ī | Н        | М        | <u>L</u> | Н | <u>M</u> | L        |       |
| Value                  | Н                              | M               | L | Н        | <u>M</u> | L        | Н | М        | <u>L</u> | TOTAL |
| Score Based on Ratings |                                | 5               |   |          | 6        |          |   | 4        |          | 15    |

Score for each function based on three ratings (order of ratings is not important)

9 = H,H,H
8 = H,H,M
7 = H,H,L
7 = H,M,M
6 = H,M,L
6 = M,M,M
5 = H,L,L
5 = M,M,L
4 = M,L,L
3 = L,L,L

# 2. Category based on SPECIAL CHARACTERISTICS of wetland

| CHARACTERISTIC                     | CATEGORY |        |
|------------------------------------|----------|--------|
| Estuarine                          | I        | II     |
| Wetland of High Conservation Value |          | I      |
| Bog                                | I        |        |
| Mature Forest                      | I        |        |
| Old Growth Forest                  |          | I      |
| Coastal Lagoon                     | I        | II     |
| Interdunal                         | I II     | III IV |
| None of the above                  | ı        | N/A    |

# Maps and figures required to answer questions correctly for Western Washington

# **Depressional Wetlands**

| Map of:                                                                        | To answer questions: | Figure # |
|--------------------------------------------------------------------------------|----------------------|----------|
| Cowardin plant classes                                                         | D 1.3, H 1.1, H 1.4  | 14       |
| Hydroperiods                                                                   | D 1.4, H 1.2         | 14       |
| Location of outlet (can be added to map of hydroperiods)                       | D 1.1, D 4.1         | 14       |
| Boundary of area within 150 ft of the wetland (can be added to another figure) | D 2.2, D 5.2         | 14       |
| Map of the contributing basin                                                  | D 4.3, D 5.3         | 16       |
| 1 km Polygon: Area that extends 1 km from entire wetland edge - including      | H 2.1, H 2.2, H 2.3  | 16       |
| polygons for accessible habitat and undisturbed habitat                        |                      | 10       |
| Screen capture of map of 303(d) listed waters in basin (from Ecology website)  | D 3.1, D 3.2         | 17       |
| Screen capture of list of TMDLs for WRIA in which unit is found (from web)     | D 3.3                | 17       |

## Riverine Wetlands

| Map of:                                                                        | To answer questions: | Figure # |
|--------------------------------------------------------------------------------|----------------------|----------|
| Cowardin plant classes                                                         | H 1.1, H 1.4         |          |
| Hydroperiods                                                                   | H 1.2                |          |
| Ponded depressions                                                             | R 1.1                |          |
| Boundary of area within 150 ft of the wetland (can be added to another figure) | R 2.4                |          |
| Plant cover of trees, shrubs, and herbaceous plants                            | R 1.2, R 4.2         |          |
| Width of unit vs. width of stream (can be added to another figure)             | R 4.1                |          |
| Map of the contributing basin                                                  | R 2.2, R 2.3, R 5.2  |          |
| 1 km Polygon: Area that extends 1 km from entire wetland edge - including      | H 2.1, H 2.2, H 2.3  |          |
| polygons for accessible habitat and undisturbed habitat                        |                      |          |
| Screen capture of map of 303(d) listed waters in basin (from Ecology website)  | R 3.1                |          |
| Screen capture of list of TMDLs for WRIA in which unit is found (from web)     | R 3.2, R 3.3         |          |

# Lake Fringe Wetlands

| Map of:                                                                        | To answer questions:       | Figure # |
|--------------------------------------------------------------------------------|----------------------------|----------|
| Cowardin plant classes                                                         | L 1.1, L 4.1, H 1.1, H 1.4 |          |
| Plant cover of trees, shrubs, and herbaceous plants                            | L 1.2                      |          |
| Boundary of area within 150 ft of the wetland (can be added to another figure) | L 2.2                      |          |
| 1 km Polygon: Area that extends 1 km from entire wetland edge - including      | H 2.1, H 2.2, H 2.3        |          |
| polygons for accessible habitat and undisturbed habitat                        |                            |          |
| Screen capture of map of 303(d) listed waters in basin (from Ecology website)  | L 3.1, L 3.2               |          |
| Screen capture of list of TMDLs for WRIA in which unit is found (from web)     | L 3.3                      |          |

# Slope Wetlands

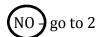
| Map of:                                                                         | To answer questions: | Figure # |
|---------------------------------------------------------------------------------|----------------------|----------|
| Cowardin plant classes                                                          | H 1.1, H 1.4         |          |
| Hydroperiods                                                                    | H 1.2                |          |
| Plant cover of <b>dense</b> trees, shrubs, and herbaceous plants                | S 1.3                |          |
| Plant cover of <b>dense</b> , <b>rigid</b> trees, shrubs, and herbaceous plants | S 4.1                |          |
| (can be added to figure above)                                                  |                      |          |
| Boundary of 150 ft buffer (can be added to another figure)                      | S 2.1, S 5.1         |          |
| 1 km Polygon: Area that extends 1 km from entire wetland edge - including       | H 2.1, H 2.2, H 2.3  |          |
| polygons for accessible habitat and undisturbed habitat                         |                      |          |
| Screen capture of map of 303(d) listed waters in basin (from Ecology website)   | S 3.1, S 3.2         |          |
| Screen capture of list of TMDLs for WRIA in which unit is found (from web)      | S 3.3                |          |

# **HGM Classification of Wetlands in Western Washington**

For questions 1-7, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-7 apply, and go to Question 8.

| 1. | Are the water levels in the entire unit usually controlled by tides except during floods? |
|----|-------------------------------------------------------------------------------------------|



**YES** – the wetland class is **Tidal Fringe** – go to 1.1

1.1 Is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)?

### **NO - Saltwater Tidal Fringe (Estuarine)**

#### **YES - Freshwater Tidal Fringe**

If your wetland can be classified as a Freshwater Tidal Fringe use the forms for **Riverine** wetlands. If it is Saltwater Tidal Fringe it is an **Estuarine** wetland and is not scored. This method **cannot** be used to score functions for estuarine wetlands.

2. The entire wetland unit is flat and precipitation is the only source (>90%) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit.

NO go to 3

**YES** – The wetland class is **Flats** 

If your wetland can be classified as a Flats wetland, use the form for **Depressional** wetlands.

- 3. Does the entire wetland unit **meet all** of the following criteria?
  - \_\_The vegetated part of the wetland is on the shores of a body of permanent open water (without any plants on the surface at any time of the year) at least 20 ac (8 ha) in size;
  - \_\_At least 30% of the open water area is deeper than 6.6 ft (2 m).

(NO) go to 4

**YES** – The wetland class is **Lake Fringe** (Lacustrine Fringe)

- 4. Does the entire wetland unit **meet all** of the following criteria?
  - The wetland is on a slope (slope can be very gradual),
  - \_\_\_The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks,
    - \_The water leaves the wetland without being impounded.

NO go to 5

**YES** – The wetland class is **Slope** 

**NOTE**: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 ft deep).

- 5. Does the entire wetland unit **meet all** of the following criteria?
  - \_\_\_The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river,
  - \_\_\_The overbank flooding occurs at least once every 2 years.

#### Wetland name or number Wetland N

NO go to 6

YES – The wetland class is **Riverine**NOTE: The Riverine unit can contain depressions that are filled with water when the river is not flooding

6. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year? *This means that any outlet, if present, is higher than the interior of the wetland.* 

NO - go to 7

YES- The wetland class is **Depressional** 

7. Is the entire wetland unit located in a very flat area with no obvious depression and no overbank flooding? The unit does not pond surface water more than a few inches. The unit seems to be maintained by high groundwater in the area. The wetland may be ditched, but has no obvious natural outlet.

NO – go to 8

**YES** – The wetland class is **Depressional** 

8. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

**NOTE**: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the HGM class listed in column 2 is less than 10% of the unit; classify the wetland using the class that represents more than 90% of the total area.

| HGM classes within the wetland unit   | HGM class to  |
|---------------------------------------|---------------|
| being rated                           | use in rating |
| Slope + Riverine                      | Riverine      |
| Slope + Depressional                  | Depressional  |
| Slope + Lake Fringe                   | Lake Fringe   |
| Depressional + Riverine along stream  | Depressional  |
| within boundary of depression         |               |
| Depressional + Lake Fringe            | Depressional  |
| Riverine + Lake Fringe                | Riverine      |
| Salt Water Tidal Fringe and any other | Treat as      |
| class of freshwater wetland           | ESTUARINE     |

If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.

| DEPRESSIONAL AND FLATS WETLANDS                                                                                                                                                                                                                                                                                                                                                                                                                                          |            |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
| Water Quality Functions - Indicators that the site functions to improve water quality                                                                                                                                                                                                                                                                                                                                                                                    |            |
| D 1.0. Does the site have the potential to improve water quality?                                                                                                                                                                                                                                                                                                                                                                                                        |            |
| D 1.1. <u>Characteristics of surface water outflows from the wetland</u> :                                                                                                                                                                                                                                                                                                                                                                                               |            |
| Wetland is a depression or flat depression (QUESTION 7 on key) with no surface water leaving it (no outlet).  points = 3  Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet.  points = 2  Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 1  Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch.  points = 1 | 3          |
| D 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions). Yes = 4 No = 0                                                                                                                                                                                                                                                                                                                                               | 0          |
| D 1.3. Characteristics and distribution of persistent plants (Emergent, Scrub-shrub, and/or Forested Cowardin classes):  Wetland has persistent, ungrazed, plants > 95% of area  Wetland has persistent, ungrazed, plants > $\frac{1}{10}$ of area  Wetland has persistent, ungrazed plants > $\frac{1}{10}$ of area  Wetland has persistent, ungrazed plants < $\frac{1}{10}$ of area  points = 0                                                                       | 1          |
| D 1.4. Characteristics of seasonal ponding or inundation:  This is the area that is ponded for at least 2 months. See description in manual.  Area seasonally ponded is > ½ total area of wetland  Area seasonally ponded is > ¼ total area of wetland  Area seasonally ponded is < ¼ total area of wetland  points = 2  Area seasonally ponded is < ¼ total area of wetland  points = 0                                                                                 | 4          |
| Total for D 1 Add the points in the boxes above                                                                                                                                                                                                                                                                                                                                                                                                                          | 8          |
| Rating of Site Potential If score is: 12-16 = H X 6-11 = M 0-5 = L Record the rating on the first p                                                                                                                                                                                                                                                                                                                                                                      | age        |
| D 2.0. Does the landscape have the potential to support the water quality function of the site?                                                                                                                                                                                                                                                                                                                                                                          |            |
| D 2.1. Does the wetland unit receive stormwater discharges?  Yes = 1 No = 0                                                                                                                                                                                                                                                                                                                                                                                              | 0          |
| D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants? Yes = 1 No = 0                                                                                                                                                                                                                                                                                                                                                           | 0          |
| D 2.3. Are there septic systems within 250 ft of the wetland?  Yes = 1 No = 0                                                                                                                                                                                                                                                                                                                                                                                            | 0          |
| D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1-D 2.3?  Source  Yes = 1 No = 0                                                                                                                                                                                                                                                                                                                               | 0          |
| Total for D 2 Add the points in the boxes above                                                                                                                                                                                                                                                                                                                                                                                                                          | 0          |
| Rating of Landscape Potential If score is:3 or 4 = H1 or 2 = MX0 = L Record the rating on the f                                                                                                                                                                                                                                                                                                                                                                          | first page |
| D 3.0. Is the water quality improvement provided by the site valuable to society?                                                                                                                                                                                                                                                                                                                                                                                        |            |
| D 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list?  Yes = 1 No = 0                                                                                                                                                                                                                                                                                                                     | 0          |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 1          |
| D 3.2. Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list? Yes = 1 No = 0                                                                                                                                                                                                                                                                                                                                                            | 1          |
| D 3.2. Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list? Yes = 1 No = 0  D 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (answer YES if there is a TMDL for the basin in which the unit is found)? Yes = 2 No = 0                                                                                                                                                      | 0          |

| DEPRESSIONAL AND FLATS WETLANDS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                             |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|
| Hydrologic Functions - Indicators that the site functions to reduce flooding and stream degradation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | ion                         |
| D 4.0. Does the site have the potential to reduce flooding and erosion?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                             |
| D 4.1. Characteristics of surface water outflows from the wetland:  Wetland is a depression or flat depression with no surface water leaving it (no outlet)  Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet points = 2  Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch  Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing  points = 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 4                           |
| D 4.2. Depth of storage during wet periods: Estimate the height of ponding above the bottom of the outlet. For wetlands with no outlet, measure from the surface of permanent water or if dry, the deepest part.  Marks of ponding are 3 ft or more above the surface or bottom of outlet points = 7  Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet points = 5  Marks are at least 0.5 ft to < 2 ft from surface or bottom of outlet points = 3  The wetland is a "headwater" wetland points = 3  Wetland is flat but has small depressions on the surface that trap water points = 1  Marks of ponding less than 0.5 ft (6 in) points = 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 3                           |
| D 4.3. Contribution of the wetland to storage in the watershed: Estimate the ratio of the area of upstream basin contributing surface water to the wetland to the area of the wetland unit itself.  The area of the basin is less than 10 times the area of the unit points = 5  The area of the basin is 10 to 100 times the area of the unit points = 3  The area of the basin is more than 100 times the area of the unit points = 0  Entire wetland is in the Flats class points = 5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 5                           |
| Total for D 4 Add the points in the boxes above                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 12                          |
| Rating of Site Potential If score is: X 12-16 = H 6-11 = M 0-5 = L Record the rating on the                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | e first page                |
| D 5.0. Does the landscape have the potential to support hydrologic functions of the site?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                             |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                             |
| D 5.1. Does the wetland receive stormwater discharges? Yes = 1 No = 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 0                           |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 0                           |
| D 5.1. Does the wetland receive stormwater discharges? Yes = 1 No = 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                             |
| D 5.1. Does the wetland receive stormwater discharges?  Yes = 1 No = 0  D 5.2. Is >10% of the area within 150 ft of the wetland in land uses that generate excess runoff?  Yes = 1 No = 0  D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses (residential at                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 0                           |
| D 5.1. Does the wetland receive stormwater discharges?  D 5.2. Is >10% of the area within 150 ft of the wetland in land uses that generate excess runoff?  Yes = 1 No = 0  D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses (residential at >1 residence/ac, urban, commercial, agriculture, etc.)?  Yes = 1 No = 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 0 0                         |
| D 5.1. Does the wetland receive stormwater discharges?  D 5.2. Is >10% of the area within 150 ft of the wetland in land uses that generate excess runoff?  Ves = 1 No = 0  D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses (residential at >1 residence/ac, urban, commercial, agriculture, etc.)?  Yes = 1 No = 0  Total for D 5  Add the points in the boxes above                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 0 0                         |
| D 5.1. Does the wetland receive stormwater discharges?  D 5.2. Is >10% of the area within 150 ft of the wetland in land uses that generate excess runoff?  Ves = 1 No = 0  D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses (residential at >1 residence/ac, urban, commercial, agriculture, etc.)?  Yes = 1 No = 0  Total for D 5  Add the points in the boxes above  Rating of Landscape Potential If score is:3 = H1 or 2 = MX_0 = L  Record the rating on the                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 0 0                         |
| D 5.1. Does the wetland receive stormwater discharges?  D 5.2. Is >10% of the area within 150 ft of the wetland in land uses that generate excess runoff?  D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses (residential at >1 residence/ac, urban, commercial, agriculture, etc.)?  Total for D 5  Add the points in the boxes above  Rating of Landscape Potential If score is:3 = H1 or 2 = MX_0 = L                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 0<br>0<br>0<br>e first page |
| D 5.1. Does the wetland receive stormwater discharges?  D 5.2. Is >10% of the area within 150 ft of the wetland in land uses that generate excess runoff?  Yes = 1 No = 0  D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses (residential at >1 residence/ac, urban, commercial, agriculture, etc.)?  Yes = 1 No = 0  Total for D 5  Add the points in the boxes above  Rating of Landscape Potential If score is:3 = H1 or 2 = MX_0 = L  Record the rating on the D 6.0. Are the hydrologic functions provided by the site valuable to society?  D 6.1. The unit is in a landscape that has flooding problems. Choose the description that best matches conditions around the wetland unit being rated. Do not add points. Choose the highest score if more than one condition is met.  The wetland captures surface water that would otherwise flow down-gradient into areas where flooding has damaged human or natural resources (e.g., houses or salmon redds):  • Flooding occurs in a sub-basin that is immediately down-gradient of unit.  Points = 2  • Surface flooding problems are in a sub-basin farther down-gradient.  Plooding from groundwater is an issue in the sub-basin.  The existing or potential outflow from the wetland is so constrained by human or natural conditions that the water stored by the wetland cannot reach areas that flood. Explain why | 0<br>0<br>0<br>e first page |

Rating of Value If score is: 2-4 = H X 1 = M 0 = L

Record the rating on the first page

#### These questions apply to wetlands of all HGM classes. **HABITAT FUNCTIONS** - Indicators that site functions to provide important habitat H 1.0. Does the site have the potential to provide habitat? H 1.1. Structure of plant community: Indicators are Cowardin classes and strata within the Forested class. Check the Cowardin plant classes in the wetland. Up to 10 patches may be combined for each class to meet the threshold of ¼ ac or more than 10% of the unit if it is smaller than 2.5 ac. Add the number of structures checked. Aquatic bed 4 structures or more: points = 4 Emergent 3 structures: points = 2 0 Scrub-shrub (areas where shrubs have > 30% cover) 2 structures: points = 1 X Forested (areas where trees have > 30% cover) 1 structure: points = 0 If the unit has a Forested class, check if: The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the Forested polygon H 1.2. Hydroperiods Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or ¼ ac to count (see text for descriptions of hydroperiods). Permanently flooded or inundated 4 or more types present: points = 3 X Seasonally flooded or inundated 3 types present: points = 2 Occasionally flooded or inundated 2 types present: points = 1 1 X Saturated only 1 type present: points = 0 Permanently flowing stream or river in, or adjacent to, the wetland Seasonally flowing stream in, or adjacent to, the wetland Lake Fringe wetland 2 points Freshwater tidal wetland 2 points H 1.3. Richness of plant species Count the number of plant species in the wetland that cover at least 10 ft<sup>2</sup>. Different patches of the same species can be combined to meet the size threshold and you do not have to name the species. Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle 1 If you counted: > 19 species points = 2 5 - 19 species points = 1< 5 species points = 0 H 1.4. Interspersion of habitats Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. If you have four or more plant classes or three classes and open water, the rating is always high. 1 None = 0 points Low = 1 point Moderate = 2 points All three diagrams in this row are **HIGH** = 3points

# Wetland name or number Wetland N

| H 1.5. Special habitat features:                                                                                                                                               |                                       |                  |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|------------------|
| Check the habitat features that are present in the wetland. The number of checks is the                                                                                        | number of points.                     |                  |
| X Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long).                                                                                              |                                       |                  |
| Standing snags (dbh > 4 in) within the wetland                                                                                                                                 |                                       |                  |
| Undercut banks are present for at least 6.6 ft (2 m) and/or overhanging plants extended over a stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (10 m) |                                       |                  |
| Stable steep banks of fine material that might be used by beaver or muskrat for de                                                                                             | •                                     | 2                |
| slope) OR signs of recent beaver activity are present (cut shrubs or trees that have where wood is exposed)                                                                    |                                       |                  |
| At least ¼ ac of thin-stemmed persistent plants or woody branches are present in a                                                                                             | reas that are                         |                  |
| permanently or seasonally inundated (structures for egg-laying by amphibians)                                                                                                  |                                       |                  |
| X Invasive plants cover less than 25% of the wetland area in every stratum of plants                                                                                           | (see H 1.1 for list of                |                  |
| strata)                                                                                                                                                                        |                                       |                  |
| Total for H 1 Add the poi                                                                                                                                                      | ints in the boxes above               | 5                |
| Rating of Site Potential   If score is:15-18 = H7-14 = MX0-6 = L                                                                                                               | Record the rating or                  | n the first page |
| H 2.0. Does the landscape have the potential to support the habitat functions of the                                                                                           | site?                                 |                  |
| H 2.1. Accessible habitat (include only habitat that directly abuts wetland unit).                                                                                             |                                       |                  |
| Calculate: % undisturbed habitat + [(% moderate and low intensity land us                                                                                                      | ses)/21 = %                           |                  |
| If total accessible habitat is:                                                                                                                                                | JC3]/ 2]/0                            |                  |
| $> \frac{1}{3}$ (33.3%) of 1 km Polygon                                                                                                                                        | points = 3                            | 3                |
| 20-33% of 1 km Polygon                                                                                                                                                         | points = 3                            | 3                |
| 10-19% of 1 km Polygon                                                                                                                                                         | points = 1                            |                  |
|                                                                                                                                                                                | · · · · · · · · · · · · · · · · · · · |                  |
| < 10% of 1 km Polygon                                                                                                                                                          | points = 0                            |                  |
| H 2.2. Undisturbed habitat in 1 km Polygon around the wetland.                                                                                                                 | \                                     |                  |
| Calculate: % undisturbed habitat + [(% moderate and low intensity land us                                                                                                      |                                       |                  |
| Undisturbed habitat > 50% of Polygon                                                                                                                                           | points = 3                            | 0                |
| Undisturbed habitat 10-50% and in 1-3 patches                                                                                                                                  | points = 2                            |                  |
| Undisturbed habitat 10-50% and > 3 patches                                                                                                                                     | points = 1                            |                  |
| Undisturbed habitat < 10% of 1 km Polygon                                                                                                                                      | points = 0                            |                  |
| H 2.3. Land use intensity in 1 km Polygon: If                                                                                                                                  |                                       |                  |
| > 50% of 1 km Polygon is high intensity land use                                                                                                                               | points = (- 2)                        | 0                |
| ≤ 50% of 1 km Polygon is high intensity                                                                                                                                        | points = 0                            |                  |
| Total for H 2 Add the po                                                                                                                                                       | ints in the boxes above               | 3                |
| Rating of Landscape Potential If score is:4-6 = HX1-3 = M<1 = L                                                                                                                | Record the rating on                  | the first page   |
|                                                                                                                                                                                |                                       |                  |
| H 3.0. Is the habitat provided by the site valuable to society?                                                                                                                |                                       |                  |
| H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose                                                                              | e only the highest score              |                  |
| that applies to the wetland being rated.                                                                                                                                       |                                       |                  |
| Site meets ANY of the following criteria:                                                                                                                                      | points = 2                            |                  |
| $\Xi$ — It has 3 or more priority habitats within 100 m (see next page)                                                                                                        |                                       |                  |
| <ul> <li>It provides habitat for Threatened or Endangered species (any plant or animal on t</li> </ul>                                                                         | he state or federal lists)            |                  |
| <ul> <li>It is mapped as a location for an individual WDFW priority species</li> </ul>                                                                                         |                                       |                  |
| <ul> <li>It is a Wetland of High Conservation Value as determined by the Department of Na</li> </ul>                                                                           |                                       |                  |
| It has been categorized as an important habitat site in a local or regional comprehensive states.                                                                              | ensive plan, in a                     |                  |
| Shoreline Master Plan, or in a watershed plan Site has 1 or 2 priority habitats (listed on next page) within 100 m                                                             | points = 1                            |                  |
|                                                                                                                                                                                |                                       |                  |
| Site does not meet any of the criteria above                                                                                                                                   | points = 0                            |                  |
| Rating of Value If score is: 2 = H 1 = M X 0 = L                                                                                                                               | Record the rating on                  | the first page   |
|                                                                                                                                                                                |                                       |                  |

Wetland Rating System for Western WA: 2014 Update Rating Form – Effective January 1, 2015

# **WDFW Priority Habitats**

<u>Priority habitats listed by WDFW</u> (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. <a href="http://wdfw.wa.gov/publications/00165/wdfw00165.pdf">http://wdfw.wa.gov/publications/00165/wdfw00165.pdf</a> or access the list from here: <a href="http://wdfw.wa.gov/conservation/phs/list/">http://wdfw.wa.gov/conservation/phs/list/</a>)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland unit: **NOTE:** This question is independent of the land use between the wetland unit and the priority habitat. **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha). **Biodiversity Areas and Corridors**: Areas of habitat that are relatively important to various species of native fish and wildlife (full descriptions in WDFW PHS report). **Herbaceous Balds:** Variable size patches of grass and forbs on shallow soils over bedrock. Old-growth/Mature forests: Old-growth west of Cascade crest - Stands of at least 2 tree species, forming a multilayered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) > 32 in (81 cm) dbh or > 200 years of age. Mature forests - Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west of the Cascade crest. **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (full descriptions in WDFW PHS report p. 158 – see web link above). Riparian: The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other. **Westside Prairies:** Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (full descriptions in WDFW PHS report p. 161 – see web link above). **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources. Nearshore: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (full descriptions of habitats and the definition of relatively undisturbed are in WDFW report see web link on previous page). **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human. **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation. Talus: Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs. Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft

**Note:** All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

(6 m) long.

# **CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS**

| Westland Time                                                                                                                                                                                                                                                                                                                                   | Catagogg |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| Wetland Type                                                                                                                                                                                                                                                                                                                                    | Category |
| Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.                                                                                                                                                                                                                                    |          |
| SC 1.0. Estuarine wetlands                                                                                                                                                                                                                                                                                                                      |          |
| Does the wetland meet the following criteria for Estuarine wetlands?                                                                                                                                                                                                                                                                            |          |
| — The dominant water regime is tidal,                                                                                                                                                                                                                                                                                                           |          |
| — Vegetated, and                                                                                                                                                                                                                                                                                                                                |          |
| — With a salinity greater than 0.5 ppt Yes –Go to <b>SC 1.1</b> No= <b>Not an estuarine wetland</b>                                                                                                                                                                                                                                             |          |
| SC 1.1. Is the wetland within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151?  Yes = Category I No - Go to SC 1.2                                                                                  | Cat. I   |
| SC 1.2. Is the wetland unit at least 1 ac in size and meets at least two of the following three conditions?                                                                                                                                                                                                                                     |          |
| <ul> <li>The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. (If non-native species are Spartina, see page 25)</li> <li>At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-</li> </ul> | Cat. I   |
| mowed grassland. — The wetland has at least two of the following features: tidal channels, depressions with open water, or                                                                                                                                                                                                                      | Cat. II  |
| contiguous freshwater wetlands.  Yes = Category I  No = Category II                                                                                                                                                                                                                                                                             |          |
| SC 2.0. Wetlands of High Conservation Value (WHCV)                                                                                                                                                                                                                                                                                              |          |
| SC 2.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High                                                                                                                                                                                                                                |          |
| Conservation Value? Yes – Go to SC 2.2 No – o to SC 2.3                                                                                                                                                                                                                                                                                         | Cat. I   |
| SC 2.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value?                                                                                                                                                                                                                                                     |          |
| Yes = Category I No = Not a WHCV                                                                                                                                                                                                                                                                                                                |          |
| SC 2.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland?                                                                                                                                                                                                                                                    |          |
| http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf  Yes – Contact WNHP/WDNR and go to SC 2.4  No = Not a WHCV                                                                                                                                                                                                                       |          |
| SC 2.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and listed it on                                                                                                                                                                                                                               |          |
| their website? Yes = Category I No = Not a WHCV                                                                                                                                                                                                                                                                                                 |          |
| SC 3.0. Bogs                                                                                                                                                                                                                                                                                                                                    |          |
| Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? Use the key                                                                                                                                                                                                                                 |          |
| below. If you answer YES you will still need to rate the wetland based on its functions.                                                                                                                                                                                                                                                        |          |
| SC 3.1. Does an area within the wetland unit have organic soil horizons, either peats or mucks, that compose 16 in or                                                                                                                                                                                                                           |          |
| more of the first 32 in of the soil profile? Yes – Go to SC 3.3 No – 30 to SC 3.2                                                                                                                                                                                                                                                               |          |
| SC 3.2. Does an area within the wetland unit have organic soils, either peats or mucks, that are less than 16 in deep over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or                                                                                                            |          |
| pond? Yes – Go to <b>SC 3.3</b> No = <b>s not a bog</b>                                                                                                                                                                                                                                                                                         |          |
| SC 3.3. Does an area with peats or mucks have more than 70% cover of mosses at ground level, AND at least a 30%                                                                                                                                                                                                                                 |          |
| cover of plant species listed in Table 4? Yes = Is a Category I bog No – Go to SC 3.4                                                                                                                                                                                                                                                           |          |
| <b>NOTE:</b> If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by                                                                                                                                                                                                                            |          |
| measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the                                                                                                                                                                                                                                | Cat. I   |
| plant species in Table 4 are present, the wetland is a bog.                                                                                                                                                                                                                                                                                     | Cat. 1   |
| SC 3.4. Is an area with peats or mucks forested (> 30% cover) with Sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the                                                                                                                      |          |
| species (or combination of species) listed in Table 4 provide more than 30% of the cover under the canopy?                                                                                                                                                                                                                                      |          |
| Yes = Is a Category I bog No = Is not a bog                                                                                                                                                                                                                                                                                                     |          |
|                                                                                                                                                                                                                                                                                                                                                 |          |

| Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?  — The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks  — The lagoon in which the wetland is located contains ponded water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (needs to be measured near the bottom)  Yes — Go to SC 5.1  No = Not a wetland in a coastal lagoon  C 5.1. Does the wetland meet all of the following three conditions?  — The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of aggressive, opportunistic plant species (see list of species on p. 100).  — At least % of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland.  — The wetland is larger than $^{1}/_{10}$ ac (4350 ft²)  Yes = Category I  No = Category II  C 6.0. Interdunal Wetlands  Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? If you answer yes you will still need to rate the wetland based on its habitat functions.  In practical terms that means the following geographic areas:  — Long Beach Peninsula: Lands west of SR 103  — Grayland-Westport: Lands west of SR 105  — Ocean Shores-Copalis: Lands west of SR 105  — Ocean Shores-Copalis: Lands west of SR 105  — Ocean Shores-Copalis: Lands west of SR 105  — Ocean Shores of function)?  Yes — Go to SC 6.1  No — not an interdunal wetland for rating  C 6.1. Is the wetland 1 ac or larger and scores an 8 or 9 for the habitat functions on the form (rates H,H,H or H,H,M for the three aspects of function)?  Yes — Category I  No — Go to SC 6.2  Category I  No — Go to SC 6.3  Category II  No — Go to SC 6.3  Category II  No — Category IV                                                                                                                                                                   | C 4.0. Forested Wetlands                                                                                            |          |
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| the wetland based on its functions.  Old-growth forests (west of Cascade crest): Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 in (81 cm) or more.  Mature forests (west of the Cascade Crest): Stands where the largest trees are 80-200 years old OR the species that make up the canopy have an average diameter (dbh) exceeding 21 in (53 cm).  Yes = Category I No = Not a forested wetland for this section  C 5.0. Wetlands in Coastal Lagoons  Does the wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks  The lagoon in which the wetland is located contains ponded water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (needs to be necessured near the bottom)  Yes = Go to S C 5.1 No = Not a wetland in a coastal lagoon  C 5.1. Does the wetland meet all of the following three conditions?  The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of aggressive, opportunistic plant species (see list of species on p. 100).  At least % of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland.  The wetland is larger than ½100 ac (4350 ft²)  Yes = Category I No = Category II  C 6.0. Interdunal Wetlands  Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? If you answer yes you will still need to rate the wetland based on its habitat functions.  In practical terms that means the following geographic areas:  Long Beach Peninsula: Lands west of SR 105  Ocean Shores-Copalis: Lands west of SR 105  Ocean Shores-Copalis: Lands west of SR 105  Ocean Shores-Copalis: Lands west of SR 105  No = Other Category II No - Go to SC 6.2  Cate                             |                                                                                                                     |          |
| Old-growth forests (west of Cascade crest): Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) that are at least 200 years of age OR have a diameter at breast height (dob) of 32 in (81 cm) or more.  — Mature forests (west of the Cascade Crest): Stands where the largest trees are 80-200 years old OR the species that make up the canopy have an average diameter (dbh) exceeding 21 in (53 cm).  Yes = Category! No = Not a forested wetland for this section  C 5.0. Wetlands in Coastal Lagoons  Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?  — The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks  — The lagoon in which the wetland is located contains ponded water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (needs to be greasured near the bottom)  Yes = Go to SC 5.1 No = No t a wetland in a coastal lagoon  C 5.1. Does the wetland meet all of the following three conditions?  — The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of aggressive, opportunistic plant species (see list of species on p. 100).  — At least % of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland.  — The wetland is larger than ¹/₁₀ ac (4350 ft²)  Yes = Category! No = Category!!  C 6.0. Interdunal Wetlands  Is the wetland Wetlands  Is the wetland that man sthe following geographic areas:  — Long Beach Peninsula: Lands west of SR 103  — Grayland-Westport: Lands west of SR 103  — Grayland-Westport: Lands west of SR 105  — Ocean Shores-Copalis: Lands west of SR 105  — Category!! No = Go to                               |                                                                                                                     |          |
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| Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?  — The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks  — The lagoon in which the wetland is located contains ponded water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (needs to be measured near the bottom)  Yes — Go to SC 5.1 No = Not a wetland in a coastal lagoon  C 5.1. Does the wetland meet all of the following three conditions?  — The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of aggressive, opportunistic plant species (see list of species on p. 100).  — At least % of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or unmowed grassland.  — The wetland is larger than ½ 100 ac (4350 ft²)  Yes = Category I No = Category II  C 6.0. Interdunal Wetlands  Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? If you answer yes you will still need to rate the wetland based on its habitat functions.  In practical terms that means the following geographic areas:  — Long Beach Peninsula: Lands west of SR 103  — Grayland-Westport: Lands west of SR 105  — Ocean Shores-Copalis: Lands of the lands of wetlands that is 1 ac or larger?  Yes = Category I No – Go to SC 6.2  Category II No – Go to SC 6.3  Category II No – Category IV                                                                                                                                                                                                                                                           |                                                                                                                     | Cat. I   |
| Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?  The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks  The lagoon in which the wetland is located contains ponded water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (needs to be measured near the bottom)  Yes – Go to SC 5.1 No = Not a wetland in a coastal lagoon  The wetland meet all of the following three conditions?  The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of aggressive, opportunistic plant species (see list of species on p. 100).  At least % of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or unmowed grassland.  The wetland is larger than ½ 10 ac (4350 ft²)  Yes = Category   No = Category   No = Category   Ves = Category   No = Category   Ves = Grayland-Westport: Lands west of SR 103  Grayland-Westport: Lands west of SR 105  Ocean Shores-Copalis: Lands west of SR 115 and SR 109  Yes — Go to SC 6.1 No = not an interdunal wetland for rating  Category   No - Go to SC 6.2 Category   No - Go to SC 6.3 Category   No - Go                              | C 5.0. Wetlands in Coastal Lagoons                                                                                  |          |
| marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks  — The lagoon in which the wetland is located contains ponded water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (needs to be measured near the bottom)  Yes – Go to SC 5.1 No = No t a wetland in a coastal lagoon  C5.1. Does the wetland meet all of the following three conditions?  — The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of aggressive, opportunistic plant species (see list of species on p. 100).  — At least % of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland.  — The wetland is larger than $^{1}/_{10}$ ac (4350 ft²)  Yes = Category I No = Category II  C 6.0. Interdunal Wetlands  Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? If you answer yes you will still need to rate the wetland based on its habitat functions.  In practical terms that means the following geographic areas:  — Long Beach Peninsula: Lands west of SR 103  — Grayland-Westport: Lands west of SR 105  — Ocean Shores-Copalis: Lands west of SR 115 and SR 109  Yes — Go to SC 6.1  No = not an interdunal wetland for rating  C6.1. Is the wetland 1 ac or larger and scores an 8 or 9 for the habitat functions on the form (rates H,H,H or H,H,M for the three aspects of function)?  Yes = Category I No — Go to SC 6.2  C6.2. Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger?  Yes = Category II No — Go to SC 6.3  Category II No — Go to SC 6.3  Yes = Category III No — Go to SC 6.3  Yes = Category III No — Go to SC 6.3  Yes = Category III No — Go to SC 6.3  No = Category III No = Category IV                                                                                                                                                                                                                                                          | •                                                                                                                   |          |
| The lagoon in which the wetland is located contains ponded water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (needs to be measured near the bottom)  Yes — Go to SC 5.1  No = Not a wetland in a coastal lagoon  C5.1. Does the wetland meet all of the following three conditions?  — The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of aggressive, opportunistic plant species (see list of species on p. 100).  — At least ¼ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or unmowed grassland.  — The wetland is larger than ½ 100 ac (4350 ft²)  Yes = Category I  No = Category II  C 6.0. Interdunal Wetlands  Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? If you answer yes you will still need to rate the wetland based on its habitat functions.  In practical terms that means the following geographic areas:  — Long Beach Peninsula: Lands west of SR 103  — Grayland-Westport: Lands west of SR 105  — Ocean Shores-Copalis: Lands west of SR 115 and SR 109  Yes — Go to SC 6.1  No — not an interdunal wetland for rating  C6.1. Is the wetland 1 ac or larger and scores an 8 or 9 for the habitat functions on the form (rates H,H,H or H,H,M for the three aspects of function)?  Yes = Category I  No — Go to SC 6.2  C6.2. Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger?  Yes = Category II  No — Go to SC 6.3  Category II  No — Go to SC 6.3  Category III  No — Go to SC 6.3  Category III  No — Category IV                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                     |          |
| during most of the year in at least a portion of the lagoon (needs to be measured near the bottom)  Yes – Go to SC 5.1  No = Not a wetland in a coastal lagoon  The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of aggressive, opportunistic plant species (see list of species on p. 100).  — At least % of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or unmowed grassland.  — The wetland is larger than \(^1/_{10}\) ac (4350 ft^2)  Yes = Category I  No = Category II  C.6.0. Interdunal Wetlands  Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? If you answer yes you will still need to rate the wetland based on its habitat functions.  In practical terms that means the following geographic areas:  — Long Beach Peninsula: Lands west of SR 103  — Grayland-Westport: Lands west of SR 105  — Ocean Shores-Copalis: Lands west of SR 115 and SR 109  Yes – Go to SC 6.1  No = not an interdunal wetland for rating  C.6.1. Is the wetland 1 ac or larger and scores an 8 or 9 for the habitat functions on the form (rates H,H,H or H,H,M for the three aspects of function)?  Yes = Category I  No – Go to SC 6.2  Category II  C.6.2. Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger?  Yes = Category II  No – Go to SC 6.3  Category II  No – Go to SC 6.3  Category III  No – Go to SC 6.3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                     |          |
| Yes — Go to SC 5.1 No = Net a wetland in a coastal lagoon  C5.1. Does the wetland meet all of the following three conditions?  — The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of aggressive, opportunistic plant species (see list of species on p. 100).  — At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland.  — The wetland is larger than ¹/¹₀ ac (4350 ft²)  Yes = Category I No = Category II  C 6.0. Interdunal Wetlands  Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? If you answer yes you will still need to rate the wetland based on its habitat functions.  In practical terms that means the following geographic areas:  — Long Beach Peninsula: Lands west of SR 103  — Grayland-Westport: Lands west of SR 105  — Ocean Shores-Copalis: Lands west of SR 115 and SR 109  Yes — Go to SC 6.1  No = right an interdunal wetland for rating  C6.1. Is the wetland 1 ac or larger and scores an 8 or 9 for the habitat functions on the form (rates H,H,H or H,H,M for the three aspects of function)?  Yes = Category I No — Go to SC 6.2  C6.2. Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger?  Yes = Category II No — Go to SC 6.3  Category II No — Go to SC 6.3  Category II No — Go to SC 6.3  Category II No — Category IV                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                     | Cat. I   |
| <ul> <li>5.1. Does the wetland meet all of the following three conditions?  — The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of aggressive, opportunistic plant species (see list of species on p. 100).  — At least % of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or unmowed grassland.  — The wetland is larger than <sup>1</sup>/<sub>10</sub> ac (4350 ft²)  Yes = Category I No = Category II  C6.0. Interdunal Wetlands  Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? If you answer yes you will still need to rate the wetland based on its habitat functions.  In practical terms that means the following geographic areas:  — Long Beach Peninsula: Lands west of SR 105  — Grayland-Westport: Lands west of SR 115 and SR 109  Yes — Go to SC 6.1  No — not an interdunal wetland for rating  6.1. Is the wetland 1 ac or larger and scores an 8 or 9 for the habitat functions on the form (rates H,H,H or H,H,M for the three aspects of function)?  Yes = Category I No — Go to SC 6.2  6.2. Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger?  Yes = Category II No — Go to SC 6.3  Category II No — Go to SC 6.3  Solve and the second of the seco</li></ul> |                                                                                                                     | catti    |
| than 20% cover of aggressive, opportunistic plant species (see list of species on p. 100).  — At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or unmowed grassland.  — The wetland is larger than ¹/¹₀ ac (4350 ft²)  Yes = Category I No = Category II  6.0. Interdunal Wetlands  Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? If you answer yes you will still need to rate the wetland based on its habitat functions.  In practical terms that means the following geographic areas:  — Long Beach Peninsula: Lands west of SR 103  — Grayland-Westport: Lands west of SR 105  — Ocean Shores-Copalis: Lands west of SR 115 and SR 109  Yes − Go to SC 6.1  No − not an interdunal wetland for rating  6.1. Is the wetland 1 ac or larger and scores an 8 or 9 for the habitat functions on the form (rates H,H,H or H,H,M for the three aspects of function)?  Yes = Category I No − Go to SC 6.2  6.2. Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger?  Yes = Category II No − Go to SC 6.3  Category IV  No = Category IV                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                     |          |
| — At least % of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or unmowed grassland.  — The wetland is larger than \$^1/_{10}\$ ac (4350 ft2)  Yes = Category I No = Category II  6.0. Interdunal Wetlands  Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? If you answer yes you will still need to rate the wetland based on its habitat functions.  In practical terms that means the following geographic areas:  — Long Beach Peninsula: Lands west of SR 103  — Grayland-Westport: Lands west of SR 105  — Ocean Shores-Copalis: Lands west of SR 115 and SR 109  Yes — Go to SC 6.1  No = not an interdunal wetland for rating  6.1. Is the wetland 1 ac or larger and scores an 8 or 9 for the habitat functions on the form (rates H,H,H or H,H,M for the three aspects of function)?  Yes = Category I No — Go to SC 6.2  6.2. Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger?  Yes = Category II No — Go to SC 6.3  Category IV  No = Category IV                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | — The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less      |          |
| mowed grassland.  — The wetland is larger than $^{1}/_{10}$ ac (4350 ft <sup>2</sup> )  Yes = Category I No = Category II  6.0. Interdunal Wetlands  Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? If you answer yes you will still need to rate the wetland based on its habitat functions.  In practical terms that means the following geographic areas:  — Long Beach Peninsula: Lands west of SR 103  — Grayland-Westport: Lands west of SR 105  — Ocean Shores-Copalis: Lands west of SR 115 and SR 109  Yes — Go to SC 6.1  No = rot an interdunal wetland for rating  6.1. Is the wetland 1 ac or larger and scores an 8 or 9 for the habitat functions on the form (rates H,H,H or H,H,M for the three aspects of function)?  Yes = Category I  No — Go to SC 6.2  6.2. Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger?  Yes = Category II  No — Go to SC 6.3  Category II  No — Go to SC 6.3  Category III  No — Category IV                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                     | Cat. II  |
| The wetland is larger than $^1/_{10}$ ac (4350 ft²)  Yes = Category I No = Category II  C.6.0. Interdunal Wetlands  Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? If you answer yes you will still need to rate the wetland based on its habitat functions.  In practical terms that means the following geographic areas:  — Long Beach Peninsula: Lands west of SR 103  — Grayland-Westport: Lands west of SR 105  — Ocean Shores-Copalis: Lands west of SR 115 and SR 109  Yes — Go to SC 6.1  No — not an interdunal wetland for rating  16.1. Is the wetland 1 ac or larger and scores an 8 or 9 for the habitat functions on the form (rates H,H,H or H,H,M for the three aspects of function)?  Yes = Category I No — Go to SC 6.2  Yes = Category II No — Go to SC 6.3  Category II No — Go to SC 6.3  Category II No — Category IV                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                     |          |
| Yes = Category I No = Category II  C. 6.0. Interdunal Wetlands  Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? If you answer yes you will still need to rate the wetland based on its habitat functions.  In practical terms that means the following geographic areas:  — Long Beach Peninsula: Lands west of SR 103  — Grayland-Westport: Lands west of SR 105  — Ocean Shores-Copalis: Lands west of SR 115 and SR 109  Yes — Go to SC 6.1  No = not an interdunal wetland for rating  C. 6.1. Is the wetland 1 ac or larger and scores an 8 or 9 for the habitat functions on the form (rates H,H,H or H,H,M for the three aspects of function)?  Yes = Category I  No — Go to SC 6.2  Category II  No — Go to SC 6.3  Category III  No — Category IV                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                     |          |
| Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? If  you answer yes you will still need to rate the wetland based on its habitat functions.  In practical terms that means the following geographic areas:  — Long Beach Peninsula: Lands west of SR 103  — Grayland-Westport: Lands west of SR 105  — Ocean Shores-Copalis: Lands west of SR 115 and SR 109  Yes – Go to SC 6.1  No = not an interdunal wetland for rating  C.6.1. Is the wetland 1 ac or larger and scores an 8 or 9 for the habitat functions on the form (rates H,H,H or H,H,M for the three aspects of function)?  Yes = Category I  No – Go to SC 6.2  C.6.2. Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger?  Yes = Category II  No – Go to SC 6.3  Category IV                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                     |          |
| Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? If  you answer yes you will still need to rate the wetland based on its habitat functions.  In practical terms that means the following geographic areas:  — Long Beach Peninsula: Lands west of SR 103  — Grayland-Westport: Lands west of SR 105  — Ocean Shores-Copalis: Lands west of SR 115 and SR 109  Yes – Go to SC 6.1  No = not an interdunal wetland for rating  C.6.1. Is the wetland 1 ac or larger and scores an 8 or 9 for the habitat functions on the form (rates H,H,H or H,H,M for the three aspects of function)?  Yes = Category I  No – Go to SC 6.2  C.6.2. Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger?  Yes = Category II  No – Go to SC 6.3  Category IV                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | C. C. Interdunal Wetlands                                                                                           |          |
| you answer yes you will still need to rate the wetland based on its habitat functions.  In practical terms that means the following geographic areas:  — Long Beach Peninsula: Lands west of SR 103  — Grayland-Westport: Lands west of SR 105  — Ocean Shores-Copalis: Lands west of SR 115 and SR 109  Yes – Go to SC 6.1  No = not an interdunal wetland for rating  6.1. Is the wetland 1 ac or larger and scores an 8 or 9 for the habitat functions on the form (rates H,H,H or H,H,M for the three aspects of function)?  Yes = Category I  No – Go to SC 6.2  6.2. Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger?  Yes = Category II  No – Go to SC 6.3  Category II  No – Go to SC 6.3  Category II  No – Go to SC 6.3  Category II  No – Category IV                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                     |          |
| In practical terms that means the following geographic areas:  — Long Beach Peninsula: Lands west of SR 103  — Grayland-Westport: Lands west of SR 105  — Ocean Shores-Copalis: Lands west of SR 115 and SR 109  Yes – Go to SC 6.1  No = not an interdunal wetland for rating  6.1. Is the wetland 1 ac or larger and scores an 8 or 9 for the habitat functions on the form (rates H,H,H or H,H,M for the three aspects of function)?  Yes = Category I  No – Go to SC 6.2  6.2. Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger?  Yes = Category II  No – Go to SC 6.3  Category II  No – Go to SC 6.3  Category II  No – Category IV                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                     |          |
| — Grayland-Westport: Lands west of SR 105 — Ocean Shores-Copalis: Lands west of SR 115 and SR 109 Yes – Go to SC 6.1  No = not an interdunal wetland for rating  6.1. Is the wetland 1 ac or larger and scores an 8 or 9 for the habitat functions on the form (rates H,H,H or H,H,M for the three aspects of function)?  Yes = Category I No – Go to SC 6.2  6.2. Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger?  Yes = Category II No – Go to SC 6.3  6.3. Is the unit between 0.1 and 1 ac, or is it in a mosaic of wetlands that is between 0.1 and 1 ac?  Yes = Category III No = Category IV                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                     |          |
| Ocean Shores-Copalis: Lands west of SR 115 and SR 109 Yes – Go to SC 6.1  No = not an interdunal wetland for rating  6.1. Is the wetland 1 ac or larger and scores an 8 or 9 for the habitat functions on the form (rates H,H,H or H,H,M for the three aspects of function)?  Yes = Category I  No – Go to SC 6.2  6.2. Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger?  Yes = Category II  No – Go to SC 6.3  6.3. Is the unit between 0.1 and 1 ac, or is it in a mosaic of wetlands that is between 0.1 and 1 ac?  Yes = Category III  No = Category IV                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                     |          |
| Yes – Go to SC 6.1 No = not an interdunal wetland for rating  6.1. Is the wetland 1 ac or larger and scores an 8 or 9 for the habitat functions on the form (rates H,H,H or H,H,M for the three aspects of function)? Yes = Category I No – Go to SC 6.2  6.2. Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger?  Yes = Category II No – Go to SC 6.3  6.3. Is the unit between 0.1 and 1 ac, or is it in a mosaic of wetlands that is between 0.1 and 1 ac?  Yes = Category III No = Category IV                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | ,                                                                                                                   | Cat I    |
| 6.1. Is the wetland 1 ac or larger and scores an 8 or 9 for the habitat functions on the form (rates H,H,H or H,H,M for the three aspects of function)?  6.2. Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger?  Yes = Category II  No - Go to SC 6.2  Cate 6.3. Is the unit between 0.1 and 1 ac, or is it in a mosaic of wetlands that is between 0.1 and 1 ac?  Yes = Category III  No = Category IV                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                     |          |
| for the three aspects of function)?  6.2. Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger?  Yes = Category I  No – Go to SC 6.2  Yes = Category II  No – Go to SC 6.3  Cat  6.3. Is the unit between 0.1 and 1 ac, or is it in a mosaic of wetlands that is between 0.1 and 1 ac?  Yes = Category III  No = Category IV                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 163 GO to 36 O.1                                                                                                    |          |
| 6.2. Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger?  Yes = Category II No – Go to SC 6.3  6.3. Is the unit between 0.1 and 1 ac, or is it in a mosaic of wetlands that is between 0.1 and 1 ac?  Yes = Category III No = Category IV                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 6.1. Is the wetland 1 ac or larger and scores an 8 or 9 for the habitat functions on the form (rates H,H,H or H,H,M | Cat. II  |
| Yes = Category II No – Go to SC 6.3 6.3. Is the unit between 0.1 and 1 ac, or is it in a mosaic of wetlands that is between 0.1 and 1 ac? Yes = Category III No = Category IV                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | · · · · · · · · · · · · · · · · · · ·                                                                               |          |
| 6.3. Is the unit between 0.1 and 1 ac, or is it in a mosaic of wetlands that is between 0.1 and 1 ac?  Yes = Category III No = Category IV                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                     |          |
| Yes = Category III No = Category IV                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                     | Cat. III |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | ·                                                                                                                   |          |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | ics category in No - category iv                                                                                    | Cat. IV  |
| Category of wetland based on Special Characteristics                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Category of wetland based on Special Characteristics                                                                | N/A      |

Wetland name or number Wetland N

# **RATING SUMMARY – Western Washington**

| Name of wetland (or ID #): $\_$                  | Wetland O                              | Date of site        | visit: <u>3</u> | 3/24/17                |                 |    |
|--------------------------------------------------|----------------------------------------|---------------------|-----------------|------------------------|-----------------|----|
| Rated by <u>Katie Boa</u>                        | Trained by Ecolo                       | gy? Yes <u>X</u> No | _ Date of       | training 11/           | <sup>'</sup> 16 |    |
| HGM Class used for rating_                       | Depressional                           | Wetland has mult    | iple HGN        | 1 classes?             | _Y <u>X</u> _   | _N |
| NOTE: Form is not consider the Source of base ae | rial photo/map <u>Goo</u>              | ogle Earth          |                 |                        | _               | s) |
| 1. Category of wetlandCategory                   | based on FUNCT<br>I – Total score = 23 |                     |                 | Soone for              |                 | 1  |
| Category                                         | II – Total score = 20                  | ) – 22              |                 | Score for e function b |                 |    |
| Category                                         | III – Total score = 1                  | .6 – 19             |                 | on three               |                 |    |

| FUNCTION               |   | mprov<br>iter Q | _        | H        | ydrolo   | ogic     |       | Habita  | at       |       |
|------------------------|---|-----------------|----------|----------|----------|----------|-------|---------|----------|-------|
|                        |   |                 |          |          | Circle 1 | the ap   | propr | iate ra | tings    |       |
| Site Potential         | Н | M               | L        | <u>H</u> | М        | L        | Н     | М       | <u>L</u> |       |
| Landscape Potential    | Н | М               | <u>L</u> | Н        | М        | <u>L</u> | Н     | M       | L        |       |
| Value                  | Н | <u>M</u>        | L        | Н        | M        | L        | Н     | М       | <u>L</u> | TOTAL |
| Score Based on Ratings |   | 5               |          |          | 6        |          |       | 4       |          | 15    |

X Category IV – Total score = 9 - 15

Score for each function based on three ratings (order of ratings is not important)

9 = H,H,H
8 = H,H,M
7 = H,H,L
7 = H,M,M
6 = H,M,L
6 = M,M,M
5 = H,L,L
5 = M,M,L
4 = M,L,L
3 = L,L,L

# 2. Category based on SPECIAL CHARACTERISTICS of wetland

| CHARACTERISTIC                     | CATEGORY |        |
|------------------------------------|----------|--------|
| Estuarine                          | I        | II     |
| Wetland of High Conservation Value | I        |        |
| Bog                                | I        |        |
| Mature Forest                      | I        |        |
| Old Growth Forest                  | I        |        |
| Coastal Lagoon                     | I        | II     |
| Interdunal                         | I II     | III IV |
| None of the above                  | N/A      |        |

# Maps and figures required to answer questions correctly for Western Washington

# **Depressional Wetlands**

| Map of:                                                                        | To answer questions: | Figure # |
|--------------------------------------------------------------------------------|----------------------|----------|
| Cowardin plant classes                                                         | D 1.3, H 1.1, H 1.4  | 14       |
| Hydroperiods                                                                   | D 1.4, H 1.2         | 14       |
| Location of outlet (can be added to map of hydroperiods)                       | D 1.1, D 4.1         | 14       |
| Boundary of area within 150 ft of the wetland (can be added to another figure) | D 2.2, D 5.2         | 14       |
| Map of the contributing basin                                                  | D 4.3, D 5.3         | 16       |
| 1 km Polygon: Area that extends 1 km from entire wetland edge - including      | H 2.1, H 2.2, H 2.3  | 16       |
| polygons for accessible habitat and undisturbed habitat                        |                      | 10       |
| Screen capture of map of 303(d) listed waters in basin (from Ecology website)  | D 3.1, D 3.2         | 17       |
| Screen capture of list of TMDLs for WRIA in which unit is found (from web)     | D 3.3                | 17       |

## Riverine Wetlands

| Map of:                                                                        | To answer questions: | Figure # |
|--------------------------------------------------------------------------------|----------------------|----------|
| Cowardin plant classes                                                         | H 1.1, H 1.4         |          |
| Hydroperiods                                                                   | H 1.2                |          |
| Ponded depressions                                                             | R 1.1                |          |
| Boundary of area within 150 ft of the wetland (can be added to another figure) | R 2.4                |          |
| Plant cover of trees, shrubs, and herbaceous plants                            | R 1.2, R 4.2         |          |
| Width of unit vs. width of stream (can be added to another figure)             | R 4.1                |          |
| Map of the contributing basin                                                  | R 2.2, R 2.3, R 5.2  |          |
| 1 km Polygon: Area that extends 1 km from entire wetland edge - including      | H 2.1, H 2.2, H 2.3  |          |
| polygons for accessible habitat and undisturbed habitat                        |                      |          |
| Screen capture of map of 303(d) listed waters in basin (from Ecology website)  | R 3.1                |          |
| Screen capture of list of TMDLs for WRIA in which unit is found (from web)     | R 3.2, R 3.3         |          |

# Lake Fringe Wetlands

| Map of:                                                                        | To answer questions:       | Figure # |
|--------------------------------------------------------------------------------|----------------------------|----------|
| Cowardin plant classes                                                         | L 1.1, L 4.1, H 1.1, H 1.4 |          |
| Plant cover of trees, shrubs, and herbaceous plants                            | L 1.2                      |          |
| Boundary of area within 150 ft of the wetland (can be added to another figure) | L 2.2                      |          |
| 1 km Polygon: Area that extends 1 km from entire wetland edge - including      | H 2.1, H 2.2, H 2.3        |          |
| polygons for accessible habitat and undisturbed habitat                        |                            |          |
| Screen capture of map of 303(d) listed waters in basin (from Ecology website)  | L 3.1, L 3.2               |          |
| Screen capture of list of TMDLs for WRIA in which unit is found (from web)     | L 3.3                      |          |

# Slope Wetlands

| Map of:                                                                         | To answer questions: | Figure # |
|---------------------------------------------------------------------------------|----------------------|----------|
| Cowardin plant classes                                                          | H 1.1, H 1.4         |          |
| Hydroperiods                                                                    | H 1.2                |          |
| Plant cover of <b>dense</b> trees, shrubs, and herbaceous plants                | S 1.3                |          |
| Plant cover of <b>dense</b> , <b>rigid</b> trees, shrubs, and herbaceous plants | S 4.1                |          |
| (can be added to figure above)                                                  |                      |          |
| Boundary of 150 ft buffer (can be added to another figure)                      | S 2.1, S 5.1         |          |
| 1 km Polygon: Area that extends 1 km from entire wetland edge - including       | H 2.1, H 2.2, H 2.3  |          |
| polygons for accessible habitat and undisturbed habitat                         |                      |          |
| Screen capture of map of 303(d) listed waters in basin (from Ecology website)   | S 3.1, S 3.2         |          |
| Screen capture of list of TMDLs for WRIA in which unit is found (from web)      | S 3.3                |          |

## **HGM Classification of Wetlands in Western Washington**

For questions 1-7, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-7 apply, and go to Question 8.

| 1  | Are the water levels in the entire unit usually controlled by tides except during floods? |
|----|-------------------------------------------------------------------------------------------|
| ı. | Are the water levels in the entire unit usually controlled by tides except during hoods?  |

NO go to 2

**YES** – the wetland class is **Tidal Fringe** – go to 1.1

1.1 Is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)?

#### NO – Saltwater Tidal Fringe (Estuarine) YES – Freshwater Tidal Fringe

If your wetland can be classified as a Freshwater Tidal Fringe use the forms for **Riverine** wetlands. If it is Saltwater Tidal Fringe it is an **Estuarine** wetland and is not scored. This method **cannot** be used to score functions for estuarine wetlands.

2. The entire wetland unit is flat and precipitation is the only source (>90%) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit.

NO go to 3

**YES** – The wetland class is **Flats** 

If your wetland can be classified as a Flats wetland, use the form for **Depressional** wetlands.

- 3. Does the entire wetland unit **meet all** of the following criteria?
  - \_\_The vegetated part of the wetland is on the shores of a body of permanent open water (without any plants on the surface at any time of the year) at least 20 ac (8 ha) in size;
  - \_\_At least 30% of the open water area is deeper than 6.6 ft (2 m).

NO) go to 4

**YES** – The wetland class is **Lake Fringe** (Lacustrine Fringe)

- 4. Does the entire wetland unit **meet all** of the following criteria?
  - \_\_\_The wetland is on a slope (*slope can be very gradual*),
  - \_\_\_The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks,
    - \_The water leaves the wetland without being impounded.

NO go to 5

**YES** – The wetland class is **Slope** 

**NOTE**: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 ft deep).

- 5. Does the entire wetland unit **meet all** of the following criteria?
  - \_\_\_The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river,
  - \_\_\_The overbank flooding occurs at least once every 2 years.

#### Wetland name or number Wetland O

NO— go to 6

YES – The wetland class is **Riverine**NOTE: The Riverine unit can contain depressions that are filled with water when the river is not flooding

6. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year? *This means that any outlet, if present, is higher than the interior of the wetland.* 

NO - go to 7

YES- The wetland class is **Depressional** 

7. Is the entire wetland unit located in a very flat area with no obvious depression and no overbank flooding? The unit does not pond surface water more than a few inches. The unit seems to be maintained by high groundwater in the area. The wetland may be ditched, but has no obvious natural outlet.

NO – go to 8

**YES** – The wetland class is **Depressional** 

8. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

**NOTE**: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the HGM class listed in column 2 is less than 10% of the unit; classify the wetland using the class that represents more than 90% of the total area.

| HGM classes within the wetland unit   | HGM class to  |
|---------------------------------------|---------------|
| being rated                           | use in rating |
| Slope + Riverine                      | Riverine      |
| Slope + Depressional                  | Depressional  |
| Slope + Lake Fringe                   | Lake Fringe   |
| Depressional + Riverine along stream  | Depressional  |
| within boundary of depression         |               |
| Depressional + Lake Fringe            | Depressional  |
| Riverine + Lake Fringe                | Riverine      |
| Salt Water Tidal Fringe and any other | Treat as      |
| class of freshwater wetland           | ESTUARINE     |

If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.

| DEPRESSIONAL AND FLATS WETLANDS                                                                                                                                                                                                                                                                                                                                                                                                                                          |           |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| Water Quality Functions - Indicators that the site functions to improve water quality                                                                                                                                                                                                                                                                                                                                                                                    |           |
| D 1.0. Does the site have the potential to improve water quality?                                                                                                                                                                                                                                                                                                                                                                                                        |           |
| D 1.1. Characteristics of surface water outflows from the wetland:                                                                                                                                                                                                                                                                                                                                                                                                       |           |
| Wetland is a depression or flat depression (QUESTION 7 on key) with no surface water leaving it (no outlet).  points = 3  Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet.  points = 2  Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 1  Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch.  points = 1 | 3         |
| D 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions). Yes = 4 No = 0                                                                                                                                                                                                                                                                                                                                               | 0         |
| D 1.3. Characteristics and distribution of persistent plants (Emergent, Scrub-shrub, and/or Forested Cowardin classes): Wetland has persistent, ungrazed, plants > 95% of area  Wetland has persistent, ungrazed, plants > $\frac{1}{10}$ of area  Wetland has persistent, ungrazed plants > $\frac{1}{10}$ of area  Wetland has persistent, ungrazed plants < $\frac{1}{10}$ of area  points = 0                                                                        | 1         |
| D 1.4. Characteristics of seasonal ponding or inundation:  This is the area that is ponded for at least 2 months. See description in manual.  Area seasonally ponded is > ½ total area of wetland  Area seasonally ponded is > ¼ total area of wetland  Area seasonally ponded is < ¼ total area of wetland  points = 2  Area seasonally ponded is < ¼ total area of wetland  points = 0                                                                                 | 4         |
| Total for D 1 Add the points in the boxes above                                                                                                                                                                                                                                                                                                                                                                                                                          | 8         |
| Rating of Site Potential If score is: 12-16 = H X 6-11 = M 0-5 = L Record the rating on the first p                                                                                                                                                                                                                                                                                                                                                                      | age       |
| D 2.0. Does the landscape have the potential to support the water quality function of the site?                                                                                                                                                                                                                                                                                                                                                                          |           |
| D 2.1. Does the wetland unit receive stormwater discharges? Yes = 1 No = 0                                                                                                                                                                                                                                                                                                                                                                                               | 0         |
| D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants? Yes = 1 No = 0                                                                                                                                                                                                                                                                                                                                                           | 0         |
| D 2.3. Are there septic systems within 250 ft of the wetland?  Yes = 1 No = 0                                                                                                                                                                                                                                                                                                                                                                                            | 0         |
| D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1-D 2.3?  Source  Yes = 1 No = 0                                                                                                                                                                                                                                                                                                                               | 0         |
| Total for D 2 Add the points in the boxes above                                                                                                                                                                                                                                                                                                                                                                                                                          | 0         |
| Rating of Landscape Potential If score is:3 or 4 = H1 or 2 = MX _0 = L Record the rating on the j                                                                                                                                                                                                                                                                                                                                                                        | irst page |
| D 3.0. Is the water quality improvement provided by the site valuable to society?                                                                                                                                                                                                                                                                                                                                                                                        |           |
| D 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list?  Yes = 1 No = 0                                                                                                                                                                                                                                                                                                                     | 0         |
| D 3.2. Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list? Yes = 1 No = 0                                                                                                                                                                                                                                                                                                                                                            | 1         |
| D 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (answer YES                                                                                                                                                                                                                                                                                                                                                  | 0         |
| if there is a TMDL for the basin in which the unit is found)? Yes = $2 \text{ No} = 0$                                                                                                                                                                                                                                                                                                                                                                                   | L         |

| DEPRESSIONAL AND FLATS WETLANDS  Hydrologic Functions - Indicators that the site functions to reduce flooding and stream degradations.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | on                       |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|
| D 4.0. Does the site have the potential to reduce flooding and erosion?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 011                      |
| D 4.1. Characteristics of surface water outflows from the wetland:  Wetland is a depression or flat depression with no surface water leaving it (no outlet)  Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet points = 2  Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch  Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing  points = 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 4                        |
| D 4.2. Depth of storage during wet periods: Estimate the height of ponding above the bottom of the outlet. For wetlands with no outlet, measure from the surface of permanent water or if dry, the deepest part.  Marks of ponding are 3 ft or more above the surface or bottom of outlet points = 7  Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet points = 5  Marks are at least 0.5 ft to < 2 ft from surface or bottom of outlet points = 3  The wetland is a "headwater" wetland points = 3  Wetland is flat but has small depressions on the surface that trap water points = 1  Marks of ponding less than 0.5 ft (6 in) points = 0                                                                                                                                                                                                                                                                                                                                                                                                                                             | 3                        |
| D 4.3. Contribution of the wetland to storage in the watershed: Estimate the ratio of the area of upstream basin contributing surface water to the wetland to the area of the wetland unit itself.  The area of the basin is less than 10 times the area of the unit points = 5  The area of the basin is 10 to 100 times the area of the unit points = 3  The area of the basin is more than 100 times the area of the unit points = 0  Entire wetland is in the Flats class points = 5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 5                        |
| Total for D 4 Add the points in the boxes above  Rating of Site Potential If score is: X 12-16 = H 6-11 = M 0-5 = L Record the rating on the                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 12                       |
| Rating of Site Potential If score is: X 12-16 = H 6-11 = M 0-5 = L Record the rating on the D 5.0. Does the landscape have the potential to support hydrologic functions of the site?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | girst page               |
| D 5.1. Does the wetland receive stormwater discharges?  Yes = 1 No = 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 0                        |
| D 5.2. Is >10% of the area within 150 ft of the wetland in land uses that generate excess runoff? Yes = 1 No = 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 0                        |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                          |
| D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses (residential at >1 residence/ac, urban, commercial, agriculture, etc.)?  Yes = 1 No = 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 0                        |
| >1 residence/ac, urban, commercial, agriculture, etc.)?  Yes = 1 No = 0  Add the points in the boxes above                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 0                        |
| >1 residence/ac, urban, commercial, agriculture, etc.)? Yes = 1 No = 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 0                        |
| >1 residence/ac, urban, commercial, agriculture, etc.)?  Yes = 1 No = 0  Add the points in the boxes above                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 0                        |
| >1 residence/ac, urban, commercial, agriculture, etc.)?  Total for D 5  Rating of Landscape Potential If score is:3 = H1 or 2 = MX0 = L  Record the rating on the D 6.0. Are the hydrologic functions provided by the site valuable to society?  D 6.1. The unit is in a landscape that has flooding problems. Choose the description that best matches conditions around the wetland unit being rated. Do not add points. Choose the highest score if more than one condition is met.  The wetland captures surface water that would otherwise flow down-gradient into areas where flooding has damaged human or natural resources (e.g., houses or salmon redds):  • Flooding occurs in a sub-basin that is immediately down-gradient of unit. points = 2  • Surface flooding problems are in a sub-basin farther down-gradient. points = 1  Flooding from groundwater is an issue in the sub-basin. points = 1  The existing or potential outflow from the wetland is so constrained by human or natural conditions that the water stored by the wetland cannot reach areas that flood. Explain why points = 0 | <b>0</b><br>e first page |

Rating of Value If score is: 2-4 = H X 1 = M 0 = L

Record the rating on the first page

#### These questions apply to wetlands of all HGM classes. **HABITAT FUNCTIONS** - Indicators that site functions to provide important habitat H 1.0. Does the site have the potential to provide habitat? H 1.1. Structure of plant community: Indicators are Cowardin classes and strata within the Forested class. Check the Cowardin plant classes in the wetland. Up to 10 patches may be combined for each class to meet the threshold of ¼ ac or more than 10% of the unit if it is smaller than 2.5 ac. Add the number of structures checked. Aquatic bed 4 structures or more: points = 4 Emergent 3 structures: points = 2 0 Scrub-shrub (areas where shrubs have > 30% cover) 2 structures: points = 1 X Forested (areas where trees have > 30% cover) 1 structure: points = 0 If the unit has a Forested class, check if: The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the Forested polygon H 1.2. Hydroperiods Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or ¼ ac to count (see text for descriptions of hydroperiods). Permanently flooded or inundated 4 or more types present: points = 3 X Seasonally flooded or inundated 3 types present: points = 2 Occasionally flooded or inundated 2 types present: points = 1 1 X Saturated only 1 type present: points = 0 Permanently flowing stream or river in, or adjacent to, the wetland Seasonally flowing stream in, or adjacent to, the wetland Lake Fringe wetland 2 points Freshwater tidal wetland 2 points H 1.3. Richness of plant species Count the number of plant species in the wetland that cover at least 10 ft<sup>2</sup>. Different patches of the same species can be combined to meet the size threshold and you do not have to name the species. Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle 1 If you counted: > 19 species points = 2 5 - 19 species points = 1< 5 species points = 0 H 1.4. Interspersion of habitats Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. If you have four or more plant classes or three classes and open water, the rating is always high. 1 None = 0 points Low = 1 point Moderate = 2 points All three diagrams in this row are **HIGH** = 3points

#### Wetland name or number Wetland O

| H 1.5. Special habitat features:                                                                                                                                      |                                      |                  |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|------------------|
| Check the habitat features that are present in the wetland. The number of che                                                                                         | ecks is the number of points.        |                  |
| X Large, downed, woody debris within the wetland (> 4 in diameter and 6                                                                                               | ft long).                            |                  |
| Standing snags (dbh > 4 in) within the wetland                                                                                                                        |                                      |                  |
| Undercut banks are present for at least 6.6 ft (2 m) <b>and/or</b> overhanging properties over a stream (or ditch) in, or contiguous with the wetland, for at least 3 |                                      |                  |
| Stable steep banks of fine material that might be used by beaver or mus                                                                                               | -                                    | 2                |
| slope) OR signs of recent beaver activity are present (cut shrubs or trees where wood is exposed)                                                                     | = : =                                | _                |
| At least ¼ ac of thin-stemmed persistent plants or woody branches are pr                                                                                              | resent in areas that are             |                  |
| permanently or seasonally inundated (structures for egg-laying by ampl                                                                                                |                                      |                  |
| X Invasive plants cover less than 25% of the wetland area in every stratum                                                                                            |                                      |                  |
| strata)                                                                                                                                                               | , in (1.1.1)                         |                  |
| Total for H 1 A                                                                                                                                                       | dd the points in the boxes above     | 5                |
| Rating of Site Potential If score is:15-18 = H7-14 = MX0-6 = L                                                                                                        | Record the rating or                 | ι the first pagε |
| H 2.0. Does the landscape have the potential to support the habitat function                                                                                          |                                      | , , ,            |
|                                                                                                                                                                       |                                      |                  |
| H 2.1. Accessible habitat (include <i>only habitat that directly abuts wetland unit</i> ).                                                                            |                                      |                  |
| Calculate: % undisturbed habitat + [(% moderate and low intens                                                                                                        | ity land uses)/2] =%                 |                  |
| If total accessible habitat is:                                                                                                                                       |                                      |                  |
| $> \frac{1}{3}$ (33.3%) of 1 km Polygon                                                                                                                               | points = 3                           | 3                |
| 20-33% of 1 km Polygon                                                                                                                                                | points = 2                           |                  |
| 10-19% of 1 km Polygon                                                                                                                                                | points = 1                           |                  |
| < 10% of 1 km Polygon                                                                                                                                                 | points = 0                           |                  |
| H 2.2. Undisturbed habitat in 1 km Polygon around the wetland.                                                                                                        |                                      |                  |
| Calculate: % undisturbed habitat + [(% moderate and low intens                                                                                                        | ity land uses)/2] =%                 |                  |
| Undisturbed habitat > 50% of Polygon                                                                                                                                  | points = 3                           |                  |
| Undisturbed habitat 10-50% and in 1-3 patches                                                                                                                         | points = 2                           | 0                |
| Undisturbed habitat 10-50% and > 3 patches                                                                                                                            | points = 1                           |                  |
| Undisturbed habitat < 10% of 1 km Polygon                                                                                                                             | points = 0                           |                  |
| H 2.3. Land use intensity in 1 km Polygon: If                                                                                                                         | •                                    |                  |
| > 50% of 1 km Polygon is high intensity land use                                                                                                                      | points = (- 2)                       | 0                |
| ≤ 50% of 1 km Polygon is high intensity                                                                                                                               | points = 0                           |                  |
|                                                                                                                                                                       | dd the points in the boxes above     | 3                |
| Rating of Landscape Potential If score is: 4-6 = H X 1-3 = M < 1 = L                                                                                                  | Record the rating on                 |                  |
|                                                                                                                                                                       | necesta ene raemig en                | are just page    |
| H 3.0. Is the habitat provided by the site valuable to society?                                                                                                       |                                      |                  |
| H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies                                                                             | es? Choose only the highest score    |                  |
| that applies to the wetland being rated.                                                                                                                              |                                      |                  |
| Site meets ANY of the following criteria:                                                                                                                             | points = 2                           |                  |
| $\Xi$ — It has 3 or more priority habitats within 100 m (see next page)                                                                                               |                                      |                  |
| <ul> <li>It provides habitat for Threatened or Endangered species (any plant or an</li> </ul>                                                                         | nimal on the state or federal lists) |                  |
| <ul> <li>It is mapped as a location for an individual WDFW priority species</li> </ul>                                                                                |                                      |                  |
| <ul> <li>It is a Wetland of High Conservation Value as determined by the Departn</li> </ul>                                                                           |                                      |                  |
| <ul> <li>It has been categorized as an important habitat site in a local or regional</li> </ul>                                                                       | comprehensive plan, in a             |                  |
| Shoreline Master Plan, or in a watershed plan                                                                                                                         |                                      |                  |
| Site has 1 or 2 priority habitats (listed on next page) within 100 m                                                                                                  | points = 1                           |                  |
| Site does not meet any of the criteria above                                                                                                                          | points = 0                           |                  |
| Rating of Value If score is:2 = H1 = MX_0 = L                                                                                                                         | Record the rating on                 | the first nage   |
| Motland Dating Custom for Mostom MA: 2014 Undete                                                                                                                      | necora the rating on                 | j.i.ot page      |

Wetland Rating System for Western WA: 2014 Update Rating Form – Effective January 1, 2015

## **WDFW Priority Habitats**

<u>Priority habitats listed by WDFW</u> (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. <a href="http://wdfw.wa.gov/publications/00165/wdfw00165.pdf">http://wdfw.wa.gov/publications/00165/wdfw00165.pdf</a> or access the list from here: <a href="http://wdfw.wa.gov/conservation/phs/list/">http://wdfw.wa.gov/conservation/phs/list/</a>)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland unit: **NOTE:** This question is independent of the land use between the wetland unit and the priority habitat. **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha). **Biodiversity Areas and Corridors**: Areas of habitat that are relatively important to various species of native fish and wildlife (full descriptions in WDFW PHS report). **Herbaceous Balds:** Variable size patches of grass and forbs on shallow soils over bedrock. Old-growth/Mature forests: Old-growth west of Cascade crest - Stands of at least 2 tree species, forming a multilayered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) > 32 in (81 cm) dbh or > 200 years of age. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west of the Cascade crest. **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (full descriptions in WDFW PHS report p. 158 – see web link above). Riparian: The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other. **Westside Prairies:** Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (full descriptions in WDFW PHS report p. 161 – see web link above). **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources. Nearshore: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (full descriptions of habitats and the definition of relatively undisturbed are in WDFW report see web link on previous page). **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human. **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation. Talus: Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs. Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft

**Note:** All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

(6 m) long.

#### **CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS**

| Wetland Type                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Category |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |          |
| Does the wetland meet the following criteria for Estuarine wetlands?  — The dominant water regime is tidal,  — Vegetated, and  — With a salinity greater than 0.5 ppt  Yes –Go to SC 1.1  No= Not an estuarine wetland                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |          |
| SC 1.1. Is the wetland within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151?  Yes = Category I No - Go to SC 1.2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Cat. I   |
| <ul> <li>SC 1.2. Is the wetland unit at least 1 ac in size and meets at least two of the following three conditions?</li> <li>— The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. (If non-native species are Spartina, see page 25)</li> <li>— At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Cat. I   |
| mowed grassland.  — The wetland has at least two of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands.  Yes = Category I  No = Category II                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Cat. II  |
| SC 2.0. Wetlands of High Conservation Value (WHCV)  SC 2.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value?  Yes – Go to SC 2.2  No – Go to SC 2.3  SC 2.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value?  Yes = Category I  No = Not a WHCV                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Cat. I   |
| SC 2.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland?  http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf  Yes — Contact WNHP/WDNR and go to SC 2.4  No = Not a WHCV  SC 2.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and listed it on                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |          |
| their website? Yes = Category I No = Not a WHCV                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |          |
| Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? <i>Use the key below. If you answer YES you will still need to rate the wetland based on its functions.</i> SC 3.1. Does an area within the wetland unit have organic soil horizons, either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile?  Yes – Go to SC 3.3  No – Oo to SC 3.2  SC 3.2. Does an area within the wetland unit have organic soils, either peats or mucks, that are less than 16 in deep over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on ten of a lake or pond?  Yes – Go to SC 3.3  No – S not a bog  No – Go to SC 3.4  NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the plant species in Table 4 are present, the wetland is a bog.  SC 3.4. Is an area with peats or mucks forested (> 30% cover) with Sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 4 provide more than 30% of the cover under the canopy?  Yes = Is a Category I bog  No = Is not a bog | Cat. I   |

| SC 4.0. Forested Wetlands                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |          |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| Does the wetland have at least 1 contiguous acre of forest that meets one of these criteria for the WA Department of Fish and Wildlife's forests as priority habitats? If you answer YES you will still need to rate the wetland based on its functions.                                                                                                                                                                                                                                                                   |          |
| <ul> <li>Old-growth forests (west of Cascade crest): Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 in (81 cm) or more.</li> <li>Mature forests (west of the Cascade Crest): Stands where the largest trees are 80- 200 years old OR the species that make up the canopy have an average diameter (dbh) exceeding 21 in (53 cm).</li> </ul> |          |
| Yes = Category I No = Not a forested wetland for this section                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Cat. I   |
| SC 5.0. Wetlands in Coastal Lagoons                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |          |
| Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?  — The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks                                                                                                                                                                                                                                               |          |
| — The lagoon in which the wetland is located contains ponded water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (needs to be measured near the bottom)  Yes — Go to SC 5.1  No = Not a wetland in a coastal lagoon                                                                                                                                                                                                                                                   | Cat. I   |
| <ul> <li>SC 5.1. Does the wetland meet all of the following three conditions?</li> <li>— The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of aggressive, opportunistic plant species (see list of species on p. 100).</li> <li>— At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or unmowed grassland.</li> </ul>                                                                             | Cat. II  |
| The wetland is larger than $^{1}/_{10}$ ac (4350 ft <sup>2</sup> )  Yes = Category I  No = Category II                                                                                                                                                                                                                                                                                                                                                                                                                     |          |
| SC 6.0. Interdunal Wetlands Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? If                                                                                                                                                                                                                                                                                                                                                                                        |          |
| you answer yes you will still need to rate the wetland based on its habitat functions. In practical terms that means the following geographic areas:                                                                                                                                                                                                                                                                                                                                                                       |          |
| <ul> <li>Long Beach Peninsula: Lands west of SR 103</li> <li>Grayland-Westport: Lands west of SR 105</li> <li>Ocean Shores-Copalis: Lands west of SR 115 and SR 109         Yes – Go to SC 6.1         No = not an interdunal wetland for rating</li> </ul>                                                                                                                                                                                                                                                                | Cat I    |
| SC 6.1. Is the wetland 1 ac or larger and scores an 8 or 9 for the habitat functions on the form (rates H,H,H or H,H,M for the three aspects of function)?  Yes = Category I  No – Go to SC 6.2  SC 6.2. Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger?                                                                                                                                                                                                                           | Cat. II  |
| Yes = Category II No - Go to SC 6.3  SC 6.3. Is the unit between 0.1 and 1 ac, or is it in a mosaic of wetlands that is between 0.1 and 1 ac?  Yes = Category III No = Category IV                                                                                                                                                                                                                                                                                                                                         | Cat. III |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Cat. IV  |
| Category of wetland based on Special Characteristics  If you answered No for all types, enter "Not Applicable" on Summary Form                                                                                                                                                                                                                                                                                                                                                                                             | N/A      |

Wetland name or number  $\underline{\text{Wetland } 0}$ 

## **RATING SUMMARY – Western Washington**

| Name of wetland (or ID #): _                                 | Wetland P               | Date of site         | e visit: _ | 3/24/17                            |          |
|--------------------------------------------------------------|-------------------------|----------------------|------------|------------------------------------|----------|
| Rated by <u>Katie Boa</u>                                    | Trained by Ecol         | ogy? Yes <u>X</u> No | Date       | of training 11/16                  |          |
| HGM Class used for rating                                    | Depressional            | _ Wetland has mu     | ltiple HG  | GM classes?Y _X                    | <u> </u> |
| NOTE: Form is not co Source of base aer  OVERALL WETLAND CAT | ial photo/map <u>Go</u> | oogle Earth          |            |                                    |          |
| 1. Category of wetland                                       | based on FUNC           | TIONS                |            |                                    |          |
| Category                                                     | I – Total score = 2     | 3 – 27               |            | Score for each                     |          |
| Category                                                     | II – Total score = :    | 20 – 22              |            | function based                     |          |
| Category                                                     | III – Total score =     | 16 – 19              |            | on three ratings                   |          |
| X Category                                                   | / IV – Total score      | = 9 – 15             |            | (order of rating is not important) | S        |

| FUNCTION               | Improving Water Quality |          | Hydrologic |          | Habitat  |          |       |          |          |       |
|------------------------|-------------------------|----------|------------|----------|----------|----------|-------|----------|----------|-------|
|                        |                         |          |            |          | Circle 1 | the ap   | propr | riate ra | itings   |       |
| Site Potential         | Н                       | M        | L          | <u>H</u> | М        | L        | Н     | М        | L        |       |
| Landscape Potential    | Н                       | М        | <u>L</u>   | Н        | М        | <u>L</u> | Н     | M        | L        |       |
| Value                  | Н                       | <u>M</u> | L          | Н        | M        | L        | Н     | М        | <u>L</u> | TOTAL |
| Score Based on Ratings |                         | 5        |            |          | 6        |          |       | 4        |          | 15    |

Score for each function based on three ratings (order of ratings is not important)

9 = H,H,H
8 = H,H,M
7 = H,H,L
7 = H,M,M
6 = H,M,L
6 = M,M,M
5 = H,L,L
5 = M,M,L
4 = M,L,L
3 = L,L,L

#### 2. Category based on SPECIAL CHARACTERISTICS of wetland

| CHARACTERISTIC                     | CATEGORY    |  |
|------------------------------------|-------------|--|
| Estuarine                          | I II        |  |
| Wetland of High Conservation Value | I           |  |
| Bog                                | I           |  |
| Mature Forest                      | I           |  |
| Old Growth Forest                  | I           |  |
| Coastal Lagoon                     | I II        |  |
| Interdunal                         | I II III IV |  |
| None of the above                  | N/A         |  |

# Maps and figures required to answer questions correctly for Western Washington

#### **Depressional Wetlands**

| Map of:                                                                        | To answer questions: | Figure # |
|--------------------------------------------------------------------------------|----------------------|----------|
| Cowardin plant classes                                                         | D 1.3, H 1.1, H 1.4  | 14       |
| Hydroperiods                                                                   | D 1.4, H 1.2         | 14       |
| Location of outlet (can be added to map of hydroperiods)                       | D 1.1, D 4.1         | 14       |
| Boundary of area within 150 ft of the wetland (can be added to another figure) | D 2.2, D 5.2         | 14       |
| Map of the contributing basin                                                  | D 4.3, D 5.3         | 16       |
| 1 km Polygon: Area that extends 1 km from entire wetland edge - including      | H 2.1, H 2.2, H 2.3  | 16       |
| polygons for accessible habitat and undisturbed habitat                        |                      | 10       |
| Screen capture of map of 303(d) listed waters in basin (from Ecology website)  | D 3.1, D 3.2         | 17       |
| Screen capture of list of TMDLs for WRIA in which unit is found (from web)     | D 3.3                | 17       |

#### Riverine Wetlands

| Map of:                                                                        | To answer questions: | Figure # |
|--------------------------------------------------------------------------------|----------------------|----------|
| Cowardin plant classes                                                         | H 1.1, H 1.4         |          |
| Hydroperiods                                                                   | H 1.2                |          |
| Ponded depressions                                                             | R 1.1                |          |
| Boundary of area within 150 ft of the wetland (can be added to another figure) | R 2.4                |          |
| Plant cover of trees, shrubs, and herbaceous plants                            | R 1.2, R 4.2         |          |
| Width of unit vs. width of stream (can be added to another figure)             | R 4.1                |          |
| Map of the contributing basin                                                  | R 2.2, R 2.3, R 5.2  |          |
| 1 km Polygon: Area that extends 1 km from entire wetland edge - including      | H 2.1, H 2.2, H 2.3  |          |
| polygons for accessible habitat and undisturbed habitat                        |                      |          |
| Screen capture of map of 303(d) listed waters in basin (from Ecology website)  | R 3.1                |          |
| Screen capture of list of TMDLs for WRIA in which unit is found (from web)     | R 3.2, R 3.3         |          |

#### Lake Fringe Wetlands

| Map of:                                                                        | To answer questions:       | Figure # |
|--------------------------------------------------------------------------------|----------------------------|----------|
| Cowardin plant classes                                                         | L 1.1, L 4.1, H 1.1, H 1.4 |          |
| Plant cover of trees, shrubs, and herbaceous plants                            | L 1.2                      |          |
| Boundary of area within 150 ft of the wetland (can be added to another figure) | L 2.2                      |          |
| 1 km Polygon: Area that extends 1 km from entire wetland edge - including      | H 2.1, H 2.2, H 2.3        |          |
| polygons for accessible habitat and undisturbed habitat                        |                            |          |
| Screen capture of map of 303(d) listed waters in basin (from Ecology website)  | L 3.1, L 3.2               |          |
| Screen capture of list of TMDLs for WRIA in which unit is found (from web)     | L 3.3                      |          |

#### Slope Wetlands

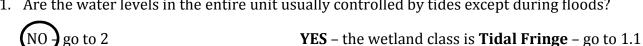
| Map of:                                                                         | To answer questions: | Figure # |
|---------------------------------------------------------------------------------|----------------------|----------|
| Cowardin plant classes                                                          | H 1.1, H 1.4         |          |
| Hydroperiods                                                                    | H 1.2                |          |
| Plant cover of <b>dense</b> trees, shrubs, and herbaceous plants                | S 1.3                |          |
| Plant cover of <b>dense</b> , <b>rigid</b> trees, shrubs, and herbaceous plants | S 4.1                |          |
| (can be added to figure above)                                                  |                      |          |
| Boundary of 150 ft buffer (can be added to another figure)                      | S 2.1, S 5.1         |          |
| 1 km Polygon: Area that extends 1 km from entire wetland edge - including       | H 2.1, H 2.2, H 2.3  |          |
| polygons for accessible habitat and undisturbed habitat                         |                      |          |
| Screen capture of map of 303(d) listed waters in basin (from Ecology website)   | S 3.1, S 3.2         |          |
| Screen capture of list of TMDLs for WRIA in which unit is found (from web)      | S 3.3                |          |

## **HGM Classification of Wetlands in Western Washington**

For questions 1-7, the criteria described must apply to the entire unit being rated.

If the hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1-7 apply, and go to Question 8.

|   | questions 1-7 apply, and go to Question 8.                                                |
|---|-------------------------------------------------------------------------------------------|
| 1 | Are the water levels in the entire unit usually controlled by tides except during fleeds? |



1.1 Is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)?

#### NO – Saltwater Tidal Fringe (Estuarine) YES – Freshwater Tidal Fringe

If your wetland can be classified as a Freshwater Tidal Fringe use the forms for **Riverine** wetlands. If it is Saltwater Tidal Fringe it is an **Estuarine** wetland and is not scored. This method **cannot** be used to score functions for estuarine wetlands.

2. The entire wetland unit is flat and precipitation is the only source (>90%) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit.

NO go to 3

YES – The wetland class is Flats

If your wetland can be classified as a Flats wetland, use the form for **Depressional** wetlands.

- 3. Does the entire wetland unit **meet all** of the following criteria?
  - \_\_The vegetated part of the wetland is on the shores of a body of permanent open water (without any plants on the surface at any time of the year) at least 20 ac (8 ha) in size;
  - \_\_At least 30% of the open water area is deeper than 6.6 ft (2 m).



- 4. Does the entire wetland unit **meet all** of the following criteria?
  - \_\_\_The wetland is on a slope (*slope can be very gradual*),
  - \_\_\_The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks,
    - \_The water leaves the wetland without being impounded.

NO go to 5

YES – The wetland class is Slope

**NOTE**: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 ft deep).

- 5. Does the entire wetland unit **meet all** of the following criteria?
  - \_\_\_The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river,
  - \_\_\_The overbank flooding occurs at least once every 2 years.

#### Wetland name or number Wetland P

NO— go to 6

YES – The wetland class is **Riverine**NOTE: The Riverine unit can contain depressions that are filled with water when the river is not flooding

6. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year? *This means that any outlet, if present, is higher than the interior of the wetland.* 

NO - go to 7

YES- The wetland class is **Depressional** 

7. Is the entire wetland unit located in a very flat area with no obvious depression and no overbank flooding? The unit does not pond surface water more than a few inches. The unit seems to be maintained by high groundwater in the area. The wetland may be ditched, but has no obvious natural outlet.

NO – go to 8

**YES** – The wetland class is **Depressional** 

8. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

**NOTE**: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the HGM class listed in column 2 is less than 10% of the unit; classify the wetland using the class that represents more than 90% of the total area.

| HGM classes within the wetland unit   | HGM class to  |
|---------------------------------------|---------------|
| being rated                           | use in rating |
| Slope + Riverine                      | Riverine      |
| Slope + Depressional                  | Depressional  |
| Slope + Lake Fringe                   | Lake Fringe   |
| Depressional + Riverine along stream  | Depressional  |
| within boundary of depression         |               |
| Depressional + Lake Fringe            | Depressional  |
| Riverine + Lake Fringe                | Riverine      |
| Salt Water Tidal Fringe and any other | Treat as      |
| class of freshwater wetland           | ESTUARINE     |

If you are still unable to determine which of the above criteria apply to your wetland, or if you have **more than 2 HGM classes** within a wetland boundary, classify the wetland as Depressional for the rating.

| DEPRESSIONAL AND FLATS WETLANDS  Water Quality Functions - Indicators that the site functions to improve water quality                                                                                                                                                                                                                                                                                                                                                                                                                      |           |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| D 1.0. Does the site have the potential to improve water quality?                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |           |
| D 1.1. Characteristics of surface water outflows from the wetland:  Wetland is a depression or flat depression (QUESTION 7 on key) with no surface water leaving it (no outlet).  points = 3  Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet.  points = 2  Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 1  Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch. points = 1 | 3         |
| D 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions). Yes = 4 No = 0                                                                                                                                                                                                                                                                                                                                                                                                                  | 0         |
| D 1.3. Characteristics and distribution of persistent plants (Emergent, Scrub-shrub, and/or Forested Cowardin classes): Wetland has persistent, ungrazed, plants > 95% of area Wetland has persistent, ungrazed, plants > $\frac{1}{10}$ of area Wetland has persistent, ungrazed plants > $\frac{1}{10}$ of area Wetland has persistent, ungrazed plants < $\frac{1}{10}$ of area points = 0                                                                                                                                               | 1         |
| D 1.4. Characteristics of seasonal ponding or inundation:  This is the area that is ponded for at least 2 months. See description in manual.  Area seasonally ponded is > ½ total area of wetland  Area seasonally ponded is > ¼ total area of wetland  Area seasonally ponded is < ¼ total area of wetland  points = 2  points = 0                                                                                                                                                                                                         | 4         |
| Total for D 1 Add the points in the boxes above                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 8         |
| <b>Rating of Site Potential</b> If score is:12-16 = HX6-11 = M0-5 = L                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | age       |
| D 2.0. Does the landscape have the potential to support the water quality function of the site?                                                                                                                                                                                                                                                                                                                                                                                                                                             | T         |
| D 2.1. Does the wetland unit receive stormwater discharges? Yes = 1 No = 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 0         |
| D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants? Yes = 1 No = 0                                                                                                                                                                                                                                                                                                                                                                                                                              | 0         |
| D 2.3. Are there septic systems within 250 ft of the wetland?  Yes = 1 No = 0                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 0         |
| D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1-D 2.3?  Source  Yes = 1 No = 0                                                                                                                                                                                                                                                                                                                                                                                                  | 0         |
| Total for D 2 Add the points in the boxes above                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 0         |
| Rating of Landscape Potential If score is:3 or 4 = H1 or 2 = MX_0 = L Record the rating on the f                                                                                                                                                                                                                                                                                                                                                                                                                                            | îrst page |
| D 3.0. Is the water quality improvement provided by the site valuable to society?                                                                                                                                                                                                                                                                                                                                                                                                                                                           |           |
| D 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list?  Yes = 1 No = 0                                                                                                                                                                                                                                                                                                                                                                                        | 0         |
| D 3.2. Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list? Yes = 1 No = 0                                                                                                                                                                                                                                                                                                                                                                                                                               | 1         |
| D 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (answer YES if there is a TMDL for the basin in which the unit is found)? Yes = 2 No = 0                                                                                                                                                                                                                                                                                                                                        | 0         |
| Total for D 3 Add the points in the boxes above                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 1         |
| Rating of Value If score is: 2-4 = H X 1 = M 0 = L Record the rating on the first page                                                                                                                                                                                                                                                                                                                                                                                                                                                      |           |

| <u>DEPRESSIONAL AND FLATS WETLANDS</u> Hydrologic Functions - Indicators that the site functions to reduce flooding and stream degradati                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | ion          |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|
| D 4.0. Does the site have the potential to reduce flooding and erosion?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |              |
| D 4.1. Characteristics of surface water outflows from the wetland:  Wetland is a depression or flat depression with no surface water leaving it (no outlet)  Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet points = 2  Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch  Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing  points = 0                                                                                                                                                                         | 4            |
| D 4.2. Depth of storage during wet periods: Estimate the height of ponding above the bottom of the outlet. For wetlands with no outlet, measure from the surface of permanent water or if dry, the deepest part.  Marks of ponding are 3 ft or more above the surface or bottom of outlet points = 7  Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet points = 5  Marks are at least 0.5 ft to < 2 ft from surface or bottom of outlet points = 3  The wetland is a "headwater" wetland points = 3  Wetland is flat but has small depressions on the surface that trap water points = 1  Marks of ponding less than 0.5 ft (6 in) points = 0 | 3            |
| D 4.3. Contribution of the wetland to storage in the watershed: Estimate the ratio of the area of upstream basin contributing surface water to the wetland to the area of the wetland unit itself.  The area of the basin is less than 10 times the area of the unit points = 5  The area of the basin is 10 to 100 times the area of the unit points = 3  The area of the basin is more than 100 times the area of the unit points = 0  Entire wetland is in the Flats class points = 5                                                                                                                                                                              | 5            |
| Total for D 4 Add the points in the boxes above                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 12           |
| Rating of Site Potential If score is: X 12-16 = H 6-11 = M 0-5 = L Record the rating on the D 5.0. Does the landscape have the potential to support hydrologic functions of the site?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | ? first page |
| D 5.1. Does the wetland receive stormwater discharges?  Yes = 1 No = 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 0            |
| D 5.2. Is >10% of the area within 150 ft of the wetland in land uses that generate excess runoff? Yes = 1 No = 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 0            |
| D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses (residential at >1 residence/ac, urban, commercial, agriculture, etc.)?  Yes = 1 No = 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 0            |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |              |
| Total for D 5 Add the points in the boxes above                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 0            |
| Total for D 5  Rating of Landscape Potential If score is: 3 = H 1 or 2 = M X 0 = L  Record the rating on the                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | _            |
| '                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | _            |
| Rating of Landscape Potential If score is:3 = H1 or 2 = MX0 = L                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | e first page |

Rating of Value If score is: 2-4 = H X 1 = M 0 = L

Record the rating on the first page

| These questions apply to wetlands of all HGM classes.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |   |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|
| HABITAT FUNCTIONS - Indicators that site functions to provide important habitat                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |   |
| H 1.0. Does the site have the potential to provide habitat?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |   |
| H 1.1. Structure of plant community: Indicators are Cowardin classes and strata within the Forested class. Check the Cowardin plant classes in the wetland. Up to 10 patches may be combined for each class to meet the threshold of ¼ ac or more than 10% of the unit if it is smaller than 2.5 ac. Add the number of structures checked. Aquatic bedAquatic bedEmergentScrub-shrub (areas where shrubs have > 30% cover)Scrub-shrub (areas where shrubs have > 30% cover)Z structures: points = 1X Forested (areas where trees have > 30% cover)I structure: points = 0If the unit has a Forested class, check if:The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover)that each cover 20% within the Forested polygon | 0 |
| H 1.2. Hydroperiods                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |   |
| Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or ¼ ac to count (see text for descriptions of hydroperiods). Permanently flooded or inundated                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 1 |
| H 1.3. Richness of plant species  Count the number of plant species in the wetland that cover at least 10 ft <sup>2</sup> .  Different patches of the same species can be combined to meet the size threshold and you do not have to name the species.  Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle  If you counted: > 19 species  points = 2  5 - 19 species  points = 1  < 5 species  points = 0                                                                                                                                                                                                                                                                                                                          | 1 |
| H 1.4. Interspersion of habitats  Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. If you have four or more plant classes or three classes and open water, the rating is always high.  None = 0 points  Low = 1 point  Moderate = 2 points  All three diagrams in this row are HIGH = 3points                                                                                                                                                                                                                                                                                                        | 1 |

## Wetland name or number $\underline{\text{Wetland P}}$

| H 1.5. Special habitat features:                                                                                                                 |                  |
|--------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| Check the habitat features that are present in the wetland. The number of checks is the number of points.                                        |                  |
| X Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long).                                                                |                  |
| Standing snags (dbh > 4 in) within the wetland                                                                                                   |                  |
| Undercut banks are present for at least 6.6 ft (2 m) and/or overhanging plants extends at least 3.3 ft (1 m)                                     |                  |
| over a stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (10 m)                                                           |                  |
| Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 30 degree                                             | 2                |
| slope) OR signs of recent beaver activity are present (cut shrubs or trees that have not yet weathered                                           |                  |
| where wood is exposed)                                                                                                                           |                  |
| At least ¼ ac of thin-stemmed persistent plants or woody branches are present in areas that are                                                  |                  |
| permanently or seasonally inundated (structures for egg-laying by amphibians)                                                                    |                  |
| X Invasive plants cover less than 25% of the wetland area in every stratum of plants (see H 1.1 for list of                                      |                  |
| Strata)  Total for H 1 Add the points in the boxes above                                                                                         | 5                |
| <u>'</u>                                                                                                                                         | _                |
| Rating of Site Potential If score is: 15-18 = H 7-14 = M X 0-6 = L Record the rating of Site Potential If score is: 15-18 = H 7-14 = M X 0-6 = L | n the first page |
| H 2.0. Does the landscape have the potential to support the habitat functions of the site?                                                       |                  |
| H 2.1. Accessible habitat (include only habitat that directly abuts wetland unit).                                                               |                  |
| Calculate: % undisturbed habitat + [(% moderate and low intensity land uses)/2] =%                                                               |                  |
| If total accessible habitat is:                                                                                                                  |                  |
| $> \frac{1}{3}$ (33.3%) of 1 km Polygon points = 3                                                                                               | 3                |
| 20-33% of 1 km Polygon points = 2                                                                                                                |                  |
| 10-19% of 1 km Polygon points = 1                                                                                                                |                  |
| < 10% of 1 km Polygon points = 0                                                                                                                 | <u> </u>         |
| H 2.2. Undisturbed habitat in 1 km Polygon around the wetland.                                                                                   |                  |
| Calculate: % undisturbed habitat + [(% moderate and low intensity land uses)/2] =%                                                               |                  |
| Undisturbed habitat > 50% of Polygon points = 3                                                                                                  | 0                |
| Undisturbed habitat 10-50% and in 1-3 patches points = 2                                                                                         |                  |
| Undisturbed habitat 10-50% and > 3 patches points = 1                                                                                            |                  |
| Undisturbed habitat < 10% of 1 km Polygon points = 0                                                                                             | 1                |
| H 2.3. Land use intensity in 1 km Polygon: If                                                                                                    | _                |
| > 50% of 1 km Polygon is high intensity land use points = (-2)                                                                                   | 0                |
| ≤ 50% of 1 km Polygon is high intensity points = 0                                                                                               |                  |
| Total for H 2 Add the points in the boxes above                                                                                                  | . 3              |
| Rating of Landscape Potential If score is: 4-6 = H X 1-3 = M < 1 = L Record the rating on                                                        | the first page   |
| H 3.0. Is the habitat provided by the site valuable to society?                                                                                  |                  |
| H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? <i>Choose only the highest score</i>                  |                  |
| that applies to the wetland being rated.                                                                                                         |                  |
| Site meets ANY of the following criteria: points = 2                                                                                             |                  |
| Ξ— It has 3 or more priority habitats within 100 m (see next page)                                                                               |                  |
| <ul> <li>It provides habitat for Threatened or Endangered species (any plant or animal on the state or federal lists)</li> </ul>                 |                  |
| It is mapped as a location for an individual WDFW priority species                                                                               |                  |
| <ul> <li>It is a Wetland of High Conservation Value as determined by the Department of Natural Resources</li> </ul>                              |                  |
| <ul> <li>It has been categorized as an important habitat site in a local or regional comprehensive plan, in a</li> </ul>                         |                  |
| Shoreline Master Plan, or in a watershed plan  Site has 1 or 3 priority habitate (listed on post page) within 100 m.                             |                  |
| Site has 1 or 2 priority habitats (listed on next page) within 100 m points = 1                                                                  |                  |
| Site does not meet any of the criteria above points = 0                                                                                          |                  |
| Rating of Value If score is:2 = H1 = MX_0 = L Record the rating of                                                                               | n the first page |
| Westland Dating Cristons for Westons MA. 2014 Undate                                                                                             | , r-3-           |

Wetland Rating System for Western WA: 2014 Update Rating Form – Effective January 1, 2015

## **WDFW Priority Habitats**

<u>Priority habitats listed by WDFW</u> (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. <a href="http://wdfw.wa.gov/publications/00165/wdfw00165.pdf">http://wdfw.wa.gov/publications/00165/wdfw00165.pdf</a> or access the list from here: <a href="http://wdfw.wa.gov/conservation/phs/list/">http://wdfw.wa.gov/conservation/phs/list/</a>)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland unit: **NOTE:** This question is independent of the land use between the wetland unit and the priority habitat.

| <b>Aspen Stands:</b> Pure or mixed stands of aspen greater than 1 ac (0.4 ha).                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>_Biodiversity Areas and Corridors</b> : Areas of habitat that are relatively important to various species of native fish and wildlife ( <i>full descriptions in WDFW PHS report</i> ).                                                                                                                                                                                                                                                                                                                                               |
| _Herbaceous Balds: Variable size patches of grass and forbs on shallow soils over bedrock.                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Old-growth/Mature forests: Old-growth west of Cascade crest – Stands of at least 2 tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) > 32 in (81 cm) dbh or > 200 years of age. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west of the Cascade crest. |
| <br><b>Oregon White Oak:</b> Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important ( <i>full descriptions in WDFW PHS report p. 158 – see web link above</i> ).                                                                                                                                                                                                                                                                                                               |
| <b>Riparian</b> : The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.                                                                                                                                                                                                                                                                                                                                                        |
| <b>Westside Prairies:</b> Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a we prairie (full descriptions in WDFW PHS report p. 161 – see web link above).                                                                                                                                                                                                                                                                                                                                 |
| <b>Instream:</b> The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.                                                                                                                                                                                                                                                                                                                                 |
| <b>Nearshore</b> : Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (full descriptions of habitats and the definition of relatively undisturbed are in WDFW report – see web link on previous page).                                                                                                                                                                                                                                                        |
| <b>Caves:</b> A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.                                                                                                                                                                                                                                                                                                                              |
| Cliffs: Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <br><b>Talus:</b> Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.                                                                                                                                                                                                                                                                                                  |
| <b>Snags and Logs:</b> Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.                                                                                                                                              |

**Note:** All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

#### **CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS**

| Wetland Type                                                                                                                                                                                                                                                                                                                                           | Category |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.                                                                                                                                                                                                                                           |          |
| SC 1.0. Estuarine wetlands                                                                                                                                                                                                                                                                                                                             |          |
| Does the wetland meet the following criteria for Estuarine wetlands?                                                                                                                                                                                                                                                                                   |          |
| — The dominant water regime is tidal,                                                                                                                                                                                                                                                                                                                  |          |
| — Vegetated, and                                                                                                                                                                                                                                                                                                                                       |          |
| — With a salinity greater than 0.5 ppt Yes –Go to <b>SC 1.1</b> No= <b>Not an estuarine wetland</b>                                                                                                                                                                                                                                                    |          |
| SC 1.1. Is the wetland within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151?  Yes = Category I No - Go to SC 1.2                                                                                         | Cat. I   |
| SC 1.2. Is the wetland unit at least 1 ac in size and meets at least two of the following three conditions?                                                                                                                                                                                                                                            |          |
| <ul> <li>The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. (If non-native species are <i>Spartina</i>, see page 25)</li> <li>At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-</li> </ul> | Cat. I   |
| mowed grassland.                                                                                                                                                                                                                                                                                                                                       |          |
| — The wetland has at least two of the following features: tidal channels, depressions with open water, or                                                                                                                                                                                                                                              | Cat. II  |
| contiguous freshwater wetlands. Yes = Category I No = Category II                                                                                                                                                                                                                                                                                      |          |
| SC 2.0. Wetlands of High Conservation Value (WHCV)                                                                                                                                                                                                                                                                                                     |          |
| SC 2.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High                                                                                                                                                                                                                                       |          |
| Conservation Value? Yes – Go to SC 2.2 No – Go to SC 2.3                                                                                                                                                                                                                                                                                               | Cat. I   |
| SC 2.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value?                                                                                                                                                                                                                                                            |          |
| Yes = Category I No = Not a WHCV                                                                                                                                                                                                                                                                                                                       |          |
| SC 2.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland?                                                                                                                                                                                                                                                           |          |
| http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf                                                                                                                                                                                                                                                                                         |          |
| Yes – Contact WNHP/WDNR and go to SC 2.4 No = Not a WHCV                                                                                                                                                                                                                                                                                               |          |
| SC 2.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and listed it on their website?  Yes = Category I No = Not a WHCV                                                                                                                                                                                     |          |
| <u> </u>                                                                                                                                                                                                                                                                                                                                               |          |
| SC 3.0. Bogs  Does the wetland (or any part of the unit) most both the criteria for sails and vegetation in hear? Use the Vey                                                                                                                                                                                                                          |          |
| Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? <i>Use the key below.</i> If you answer YES you will still need to rate the wetland based on its functions.                                                                                                                                        |          |
| SC 3.1. Does an area within the wetland unit have organic soil horizons, either peats or mucks, that compose 16 in or                                                                                                                                                                                                                                  |          |
| more of the first 32 in of the soil profile?  Yes – Go to SC 3.3 No – Go to SC 3.2                                                                                                                                                                                                                                                                     |          |
| SC 3.2. Does an area within the wetland unit have organic soils, either peats or mucks, that are less than 16 in deep                                                                                                                                                                                                                                  |          |
| over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or                                                                                                                                                                                                                                         |          |
| pond? Yes – Go to SC 3.3 No = s not a bog                                                                                                                                                                                                                                                                                                              |          |
| SC 3.3. Does an area with peats or mucks have more than 70% cover of mosses at ground level, AND at least a 30%                                                                                                                                                                                                                                        |          |
| cover of plant species listed in Table 4? Yes = Is a Category I bog No - Go to SC 3.4                                                                                                                                                                                                                                                                  |          |
| NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by                                                                                                                                                                                                                                          |          |
| measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the                                                                                                                                                                                                                                       |          |
| plant species in Table 4 are present, the wetland is a bog.                                                                                                                                                                                                                                                                                            | Cat. I   |
| SC 3.4. Is an area with peats or mucks forested (> 30% cover) with Sitka spruce, subalpine fir, western red cedar,                                                                                                                                                                                                                                     |          |
| western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 4 provide more than 30% of the cover under the canopy?                                                                                                                                     |          |
| species for combination of species) listed in Table 4 biovide more than 50% of the Cover under the Calloby?                                                                                                                                                                                                                                            | I        |

| SC 4.0. Forested Wetlands                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |          |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| Does the wetland have at least 1 contiguous acre of forest that meets one of these criteria for the WA Department of Fish and Wildlife's forests as priority habitats? If you answer YES you will still need to rate the wetland based on its functions.                                                                                                                                                                                                                                                                   |          |
| <ul> <li>Old-growth forests (west of Cascade crest): Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 in (81 cm) or more.</li> <li>Mature forests (west of the Cascade Crest): Stands where the largest trees are 80- 200 years old OR the species that make up the canopy have an average diameter (dbh) exceeding 21 in (53 cm).</li> </ul> |          |
| Yes = Category I No = Not a forested wetland for this section                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Cat. I   |
| C 5.0. Wetlands in Coastal Lagoons                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |          |
| Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?  — The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks                                                                                                                                                                                                                                               |          |
| <ul> <li>The lagoon in which the wetland is located contains ponded water that is saline or brackish (&gt; 0.5 ppt) during most of the year in at least a portion of the lagoon (needs to be measured near the bottom)</li> <li>Yes – Go to SC 5.1 No = Not a wetland in a coastal lagoon</li> </ul>                                                                                                                                                                                                                       | Cat. I   |
| <ul> <li>C 5.1. Does the wetland meet all of the following three conditions?</li> <li>— The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of aggressive, opportunistic plant species (see list of species on p. 100).</li> <li>— At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or unmowed grassland.</li> </ul>                                                                              | Cat. II  |
| — The wetland is larger than $^{1}/_{10}$ ac (4350 ft <sup>2</sup> )  Yes = <b>Category I</b> No = <b>Category II</b>                                                                                                                                                                                                                                                                                                                                                                                                      |          |
| C 6.0. Interdunal Wetlands                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |          |
| Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? If you answer yes you will still need to rate the wetland based on its habitat functions.  In practical terms that means the following geographic areas:                                                                                                                                                                                                                                                              |          |
| <ul> <li>Long Beach Peninsula: Lands west of SR 103</li> <li>Grayland-Westport: Lands west of SR 105</li> <li>Ocean Shores-Copalis: Lands west of SR 115 and SR 109         Yes – Go to SC 6.1         No = not an interdunal wetland for rating</li> </ul>                                                                                                                                                                                                                                                                | Cat I    |
| C 6.1. Is the wetland 1 ac or larger and scores an 8 or 9 for the habitat functions on the form (rates H,H,H or H,H,M for the three aspects of function)?  Yes = Category I  No – Go to SC 6.2  C 6.2. Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger?                                                                                                                                                                                                                             | Cat. II  |
| Yes = <b>Category II</b> No – Go to <b>SC 6.3</b> C 6.3. Is the unit between 0.1 and 1 ac, or is it in a mosaic of wetlands that is between 0.1 and 1 ac? Yes = <b>Category III</b> No = <b>Category IV</b>                                                                                                                                                                                                                                                                                                                | Cat. III |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Cat. IV  |
| Category of wetland based on Special Characteristics                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |          |

Wetland name or number Wetland P