Appendix F
Field Validation Data Summary and Data Sheets

Field Validation Data

The field validation approach involved assessing several categories of functional indicators within each of the Nearshore Assessment Units (NAUs) in June 2008. Within each of the categories (e.g., vegetation, driftwood, etc.), a series of functional measures were scored by two observers. Calculations of the mean scores for each of the functional indicators as well as for the overall NAU were performed at the laboratory.

The first table reflects a summary of the scores derived from the field validation task. The score associated with each of the functional indicators was obtained by calculating the mean of the functional attributes assessed within an indicator. The total NAU score is equal to the sum of each of the functional indicator scores. Refer to the methods section within this report for further clarification.

Following the summary table are the datasheets which were used during the field reconnaissance.

Geomorphic Type	NAU ID	Beach Scores					Rocky Beach			Pocket/Delta Scores													Total NAU Score	Proportion of Total	Functional Rating
		Flats	Driftwood	Veg	Eelgrass	Wrack	Substrate	Organisms	Veg	Flats	Barrier	Veg	Wrack	Driftwood	Marsh	Flood	Shade	ShadeLM	Bare	Pannes	Fresh	Pform			
Rocky Shore	178	--	--	--	--	--	1.7	2.8	2.1	--	--	--	--	--	--	--	--	--	--	--	--	--	7	0.44	Moderate
Rocky Beach	80	--	--	--	--	--	2.4	4.0	4.0	--	--	--	--	--	--	--	--	--	--	--	--	--	10	0.70	High
Drowned Channel	211	5.0	0.6	--	0.0	0.0	--	--	--	4.4	--	3.0	0.0	1.8	2.0	3.0	1.0	1.0	3.0	1.0	1.0	3.0	30	0.37	Moderate
Pocket Estuary	114	3.7	--	--	2.5	4.1	--	--	--	--	4.3	3.5	--	3.7	4.3	3.0	3.0	1.0	1.0	1.0	5.0	5.0	45	0.50	Moderate
Pocket Beach	81	3.4	1.0	3.9	3.4	3.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	15	1.0	High
Delta	18	4.4	3.0	4.2	3.3	1.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	16	0.64	Moderate - High
Sed. Source/ Transpt Beach	117	0.4	0.8	1.1	0.0	1.6	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	4	0.15	Low - Moderate
Sed. Source/ Transpt Beach	155	2.4	1.5	0.5	0.6	2.7	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	8	0.31	Moderate
Sed. Source/ Transpt Beach	156	4.0	1.6	1.0	3.0	3.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	13	0.51	Moderate
Delta Lagoon	148	3.6	2.8	2.8	1.8	2.7	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	14	0.55	Moderate
Sed. Source/ Transpt Beach	116	1.3	2.3	3.3	1.3	4.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	12	0.49	Moderate
Sed. Source/ Transpt Beach	151	5.0	2.5	3.7	2.0	3.3	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	16	0.66	High
Sed. Source/ Transpt Beach	149	3.0	4.0	4.9	2.8	2.7	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	17	0.70	High
Sed. Source/ Transpt Beach	150	4.1	3.3	4.5	2.2	3.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	17	0.68	High

Depositional or Source/Transport Beach

Code	Physical Function Indicator	Score	Guidance
1. **Flats**	A) Percent of NAU that has flats beyond 0 MLLW 0 = no flats observable 1 = <25 % 3 = 25-75 % 5 = >75 %	A = ____	After walking the length of the NAU, estimate the percent of the length that has flats out beyond the 0 MLLW (based on the tide at the time).
	B) Average width of flats at three locations within NAU 1 = < 50 m 3 = 50-100 m 5 = >100 m	B1 = ____ B2 = ____ B3 = ____ B avg = ___	Use distance range finder to estimate the width (perpendicular to shore) at three locations (near each end and in the middle). Average the three values (1, 3, or 5) for the final value of B.
	C) Dominant substrate of flats (below 0 MLLW) at three locations within NAU 1 = gravel, cobble, boulder 3 = mixed coarse (sand, gravel, cobble) 5 = sand	C1 = ____ C2 = ____ C3 = ____ C avg = ___	At the same three locations as in B, determine the dominant substrate of the flats.). Average the three values (1, 3, or 5) for the final value of C.
	Time: _____	score 1:	Calculate: A + (B avg + C avg)
	Tide estimate (ft relative to MLLW): _____	certainty 1:	Provide certainty score for estimates 1 = highly uncertain 3 = moderately certain 5 = certain

Depositional or Source/Transport Beach

Code	Ecological Function Indicator	Score	Guidance
2. **Driftwood**	A) Percent of NAU that has drift logs above 0 MLLW 0 = no LWD observable 1 = <25 % 3 = 25-75 % 5 = >75 %	A = ____	After walking the length of the NAU, estimate the percent of the length that has LWD present above 0 MLLW.
	B) Average width of drift log accumulation at three locations within NAU 1 = < 2 m 3 = 2 - 7 m 5 = > 7 m	B1 = ____ B2 = ____ B3 = ____ B avg = ____	At the same three locations as in 2B above, use distance range finder or meter tape to estimate the width of LWD accumulation (perpendicular to shore). Average the three values (1, 3, or 5) for the final value of B.
	C) Composition of drift logs at three locations within NAU 1 = cut logs only 3 = mixed (cut logs, natural logs, root wads) 5 = natural logs	C1 = ____ C2 = ____ C3 = ____ C avg = ____	At the same three locations as in B, determine the composition of the LWD. Average the three values (1, 3, or 5) for the final value of C.
	D) Number of LWD pieces lying perpendicular to shore in NAU = _____ 1 = 1-5/100m shoreline 3 = 6-10/100m shoreline 5 = >10/100m shoreline length of NAU _____	D = ____ score 2:	Calculate: A + B avg + C avg +D
	Time: _____ Tide estimate (ft relative to MLLW): _____	certainty 2:	Provide certainty score for estimates 1 = highly uncertain 3 = moderately certain 5 = certain

Depositional or Source/Transport Beach

Code	Ecological Function Indicator	Score	Guidance
3. **Veg**	A) Percent of NAU that has vegetation in the backshore 0 = no vegetation within 75 meters of shoreline 1 = <25 % 3 = 25-75 % 5 = >75 % B) Adjacent or separated from the shoreline at three locations within NAU 1 = separated (>10m between OHW mark and start of vegetation) 5 = adjacent (<10m between OHW mark and start of vegetation) C) Composition of vegetation at three locations within NAU 0 = no vegetation within 75 meters of shoreline 1 = grass/landscaped 3 = immature trees/shrubs 5 = mature trees (may also include shrubs) D) Estimate distance overhanging the intertidal zone at three locations within NAU 0 = no overhanging veg 1 = < 2m 3 = 2 – 3m 5 = > 3m Time: _____ Tide estimate (ft relative to MLLW): _____	A = ____ B1 = ____ B2 = ____ B3 = ____ B avg = ____ C1 = ____ C2 = ____ C3 = ____ C avg = ____ D1 = ____ D2 = ____ D3 = ____ Davg = ____ score 3: certainty 3:	After walking the length of the NAU, estimate the percent of the length that has backshore veg above OHW mark. At the same three locations as in 2B above, use distance range finder or meter tape to estimate the distance from OHW to veg (perpendicular to shore). Average the three values (1, 3, or 5) for the final value of B. At the same three locations as in B, determine the composition of the veg. Average the three values (1, 3, or 5) for the final value of C. At the same three locations as in B, determine the amount that the veg hangs over the intertidal zone. Average the three values (1, 3, or 5) for the final value of C. Calculate: A + (Bavg + Cavg + Davg) Provide certainty score for estimates 1 = highly uncertain 3 = moderately certain 5 = certain

Depositional or Source/Transport Beach

Code	Ecological Function Indicator	Score	Guidance
4. **Eelgrass**	A) Percent of NAU that has eelgrass in the intertidal zone 0 = no eelgrass 1 = <25 % 3 = 25-75 % 5 = >75 % B) Average width of eelgrass at three locations within NAU 1 = < 20 m 3 = 20- 50 m 5 = >50 m C) Patchy or continuous eelgrass at three locations within NAU 1 = sparse 3 = patchy (>5m between patches) 5 = continuous (<5m between patches) D) Composition of eelgrass at three locations within NAU 0 = no eelgrass 3 = eelgrass and other macroalgae 5 = eelgrass only Time: _____ Tide estimate (ft relative to MLLW): _____	A = ____ B1 = ____ B2 = ____ B3 = ____ B avg = ____ C1 = ____ C2 = ____ C3 = ____ C avg = ____ D1 = ____ D2 = ____ D3 = ____ Davg = ____ score 4 certainty 4:	After walking the length of the NAU, estimate the percent of the length that has eelgrass. At the same three locations as in 2B above, use distance range finder or meter tape to estimate the width of the eelgrass meadow (perpendicular to shore). Average the three values (1, 3, or 5) for the final value of B. At the same three locations as in B, determine the distribution of the eelgrass within the meadow. Average the three values (1, 3, or 5) for the final value of C. At the same three locations as in B, determine the composition of the eelgrass meadow. Average the three values (1, 3, or 5) for the final value of D. Calculate: A + (Bavg + Cavg + Davg) Provide certainty score for estimates 1 = highly uncertain 3 = moderately certain 5 = certain

Depositional or Source/Transport Beach

Code	Ecological Function Indicator	Score	Guidance
5. **Wrack**	A) Percent of NAU that has drift wrack above 0 MLLW 0 = no wrack observable 1 = <25 % 3 = 25-75 % 5 = >75 %	A = ____	After walking the length of the NAU, estimate the percent of the length that has wrack.
	B) Average width of wrack accumulation at three locations within NAU 1 = < 1 m 3 = 1-3 m 5 = > 3 m	B1 = ____ B2 = ____ B3 = ____ B avg = ____	At the same three locations as in 2B above, use meter tape to estimate the width of the wrack (perpendicular to shore). Average the three values (1, 3, or 5) for the final value of B.
	C) Composition of wrack at three locations within NAU 0 = none 1 = ulva 5 = mixed (macroalgae, marsh detritus, small wood)	C1 = ____ C2 = ____ C3 = ____ C avg = ____	At the same three locations as in B, determine the composition of the wrack. Average the three values (1, 3, or 5) for the final value of C.
	Time: _____ Tide estimate (ft relative to MLLW): _____	score 3: certainty 3:	Calculate: A + (Bavg + Cavg + Davg) Provide certainty score for estimates 1 = highly uncertain 3 = moderately certain 5 = certain

Pocket Estuary

Code	Physical Function Indicator	Score	Guidance
1. Flats	A) Percent of NAU that has flats beyond 0 MLLW 0 = no flats observable 1 = <25 % 3 = 25-75 % 5 = >75 %	A = ____	After walking the perimeter of the NAU (pocket estuary), estimate the percent of the length that has flats out beyond the 0 MLLW (based on the tide at the time).
	B) Average width of flats at three locations within pocket estuary as a percentage of total width (from upland to upland0 0 = no flats observable 1 = <25 % 3 = 25-75 % 5 = >75 %	B1 = ____ B2 = ____ B3 = ____ B avg = ___	Use distance range finder to estimate the width (perpendicular to shore) at three locations (near mouth, mid estuary, and upper end). Average the three values (1, 3, or 5) for the final value of B.
	C) Dominant substrate of flats (below 0 MLLW) at three locations within NAU 1 = mixed coarse (sand, gravel, cobble) 3 = sand 5 = mud	C1 = ____ C2 = ____ C3 = ____ C avg = ___	At the same three locations as in B, determine the dominant substrate of the flats.). Average the three values (1, 3, or 5) for the final value of C.
		score 1:	Calculate: A + (B avg + C avg)
		certainty 1:	Provide certainty score for estimates 1 = highly uncertain 3 = moderately certain 5 = certain

Pocket Estuary

Code	Physical Function Indicator	Score	Guidance
2. **Barrier**	A) Condition of barrier 1 = highly modified 3 = somewhat modified 5 = natural condition	A = ____	
	B) Connection of pocket estuary to salt water 0 = no connection 1 = intermittent connection (e.g. tide gate or culvert that is too high) 3 = constricted connection (e.g. through man-made structure such as a culvert or bridge) 5 = natural connection	B = ____	
	C) Hydrodynamic potential in pocket estuary provided by channel 1 = inundation only during high tide 3 = inundation during high and moderate tides 5 = inundation during most or all tides	C1 = ____	Calculate: A + (B avg + C avg)
		score 1:	Provide certainty score for estimates 1 = highly uncertain 3 = moderately certain 5 = certain
		certainty 1:	

Pocket Estuary

Code	Ecological Function Indicator	Score	Guidance
3.**Driftwood**	A) Percent of NAU that has drift logs above 0 MLLW 0 = no LWD observable 1 = <25 % 3 = 25-75 % 5 = >75 %	A = ____	After walking the length of the NAU, estimate the percent of the length that has LWD present above 0 MLLW.
	B) Average width of drift log accumulation at three locations within NAU 1 = < 2 m or > 20 m 3 = 2 - 7 m 5 = > 7 m	B1 = ____ B2 = ____ B3 = ____ B avg = ____	At the same three locations as in 1B above, use distance range finder or meter tape to estimate the width of LWD accumulation (perpendicular to shore). Average the three values (1, 3, or 5) for the final value of B.
	C) Composition of drift logs at three locations within NAU 1 = cut logs only 3 = mixed (cut logs, natural logs, root wads) 5 = natural logs	C1 = ____ C2 = ____ C3 = ____ C avg = ____	At the same three locations as in B, determine the composition of the LWD. Average the three values (1, 3, or 5) for the final value of C.
	D) Number of pieces of large woody debris (LWD) in wetland's tidal channel network 1 = 0, or no channels present 3 = 1-10 5 = >10	D = ____	To count, the LWD must have a minimum diameter >15 cm and a length >2 m
	E) Number of LWD projecting at least 1m above the wetland surface: 0 = 0 1 = 1 - 9 3 = 10-30 5 = >30	E = ____ score 3: certainty 3:	Calculate: A + (B avg + C avg +D + E) Provide certainty score for estimates 1 = highly uncertain 3 = moderately certain 5 = certain

Pocket Estuary

Code	Ecological Function Indicator	Score	Guidance
4. **Veg**	A) Percent of NAU that has vegetation in the backshore 0 = no vegetation within 75 meters of shoreline 1 = <25 % 3 = 25-75 % 5 = >75 %	A = _____ B1 = _____ B2 = _____ B3 = _____	After walking the length of the NAU, estimate the percent of the length that has backshore veg above OHW mark. At the same three locations as in 2B above, use distance range finder or meter tape to estimate the distance from OHW to veg (perpendicular to shore). Average the three values (1, 3, or 5) for the final value of B.
	B) Adjacent or separated from the shoreline at three locations within NAU 1 = separated (>10m between OHW mark and start of vegetation) 5 = adjacent (<10m between OHW mark and start of vegetation)	B avg = _____ C1 = _____ C2 = _____	
	C) Composition of vegetation at three locations within NAU 0 = no vegetation within 75 meters of shoreline 1 = grass/landscaped 3 = immature trees/shrubs 5 = mature trees (may also include shrubs)	C3 = _____ C avg = _____ D1 = _____	At the same three locations as in B, determine the composition of the veg. Average the three values (1, 3, or 5) for the final value of C.
	D) Estimate distance overhanging the intertidal zone at three locations within NAU 0 = no overhanging veg 1 = < 2m 3 = 2 – 3m 5 = > 3m	D2 = _____ D3 = _____ Davg = _____ score 4:	At the same three locations as in B, determine the amount that the veg hangs over the intertidal zone. Average the three values (1, 3, or 5) for the final value of C. Calculate: A + (Bavg + Cavg + Davg)
		certainty 4:	Provide certainty score for estimates 1 = highly uncertain 3 = moderately certain 5 = certain

Pocket Estuary

Code	Ecological Function Indicator	Score	Guidance
5. **Wrack**	A) Percent of NAU that has drift wrack above 0 MLLW 0 = no wrack observable 1 = <25 % 3 = 25-75 % 5 = >75 %	A = ____	After walking the length of the NAU, estimate the percent of the length that has wrack.
	B) Average width of wrack accumulation at three locations within NAU 1 = < 1 m 3 = 1-3 m 5 = > 3 m	B1 = ____ B2 = ____ B3 = ____ B avg = ____	At the same three locations as in 1B above, use meter tape to estimate the width of the wrack (perpendicular to shore). Average the three values (1, 3, or 5) for the final value of B.
	C) Composition of wrack at three locations within NAU 0 = none 1 = ulva 5 = mixed (macroalgae, marsh detritus, small wood)	C1 = ____ C2 = ____ C3 = ____ C avg = ____	At the same three locations as in B, determine the composition of the wrack. Average the three values (1, 3, or 5) for the final value of C.
		score 5:	Calculate: A + (Bavg + Cavg + Davg)
		certainty 5:	Provide certainty score for estimates 1 = highly uncertain 3 = moderately certain 5 = certain

Pocket Estuary

<table>
<tr><th>Code</th><th>Ecological Function Indicator</th><th>Score</th><th>Guidance</th></tr>
<tr><td>6. Marsh</td><td>A) Percent of NAU that has emergent marsh
0 = no marsh
1 = <25 %
3 = 25-75 %
5 = >75 %

B) Average width of marsh at three locations within pocket estuary as a percentage of total width (from upland to upland0
0 = no marsh observable
1 = <25 %
3 = 25-75 %
5 = >75 %</td><td>A = ____
B1 = ____
B2 = ____
B3 = ____
B avg = ____
score 6
certainty 6:</td><td>After walking the area of the NAU, estimate the percent of the estuary that has marsh.

At the same three locations as in 1B above use distance range finder to estimate the width (perpendicular to shore) of the marsh relative to the total width (from upland to upland). Average the three values (1, 3, or 5) for the final value of B.

Calculate: A + (Bavg + Cavg + Davg)

Provide certainty score for estimates
1 = highly uncertain
3 = moderately certain
5 = certain</td></tr>
<tr><td>7. Tidal Innundation</td><td>Imagine the wetland under each tidal condition listed below.

What % of the wetland's area (including its internal tidal channels) is likely to be accessible to young anadromous fish?

Select one number from each row, then sum the 4 numbers and use their sum with the scale on the right to generate a score for the box.
<table>
<tr><th>during:</th><th>0% (none)</th><th>1-10%</th><th>10-50%</th><th>50-90%</th><th>>90%</th></tr>
<tr><td>Monthly low tide</td><td>0</td><td>4</td><td>5</td><td>6</td><td>7</td></tr>
<tr><td>Daily low tide</td><td>0</td><td>3</td><td>4</td><td>5</td><td>6</td></tr>
<tr><td>Daily high tide</td><td>0</td><td>2</td><td>3</td><td>4</td><td>5</td></tr>
<tr><td>Monthly high tide</td><td>0</td><td>1</td><td>2</td><td>3</td><td>4</td></tr>
</table></td><td>0 = 0 - 1
1 = 2-8
3 = 9 -16
5 = >15
Score 7:
certainty 7:</td><td>Assume conditions are averaged over the period February-June. If the site cannot be visited repeatedly, answer this based on visual estimation of the topography of the wetland relative to the tidal amplitude reported from the closest monitoring station in the or improved local data where available.</td></tr>
</table>

Pocket Estuary

Code	Ecological Function Indicator	Score	Guidance
8. Shade	Percent of the entire wetland's vegetated area that is shaded by trees or topography: 1 = <1 % 3 = 1-10 % 5 = >10 %	Score 8: certainty 8:	To count, it must be shaded for 4+ hours during an average cloudless day. Include parts of the *internal channe*l network that are inundated most days and are shaded by deep incision, logs, or undercut banks. *Internal channels* included both tributary channels (flowing from uplands) and blind channels (flooding with the incoming tide).
9. ShadeLM	[skip if no low marsh is present]. Percent of just the low marsh that is shaded by trees or topography. 1 = <1 % 3 =1-10 % 5 =>10 %	Score 9: certainty 9:	see above. "Low marsh" is defined as areas flooded by the tide during the majority of days during most months of the year. Low marsh is not limited just to areas that flood every day.
10. Bare	Area of *pannes*, shallow pools, mudflats, and other bare areas wider than >2 m and located <u>within</u> the wetland: 0 = 0 1 = 4-100 m^2 3 = 100-2500 m^2 5 = > 2500	Score 10: certainty 10:	*Pannes* are shallow mostly-bare depressions in the marsh surface and aren't currently a part of tidal channels. Assess condition as at low tide.
11. Pannes	Area just of pannes and shallow isolated pools (not mudflats) Use same scale as above.	Score 11 certainty 11:	*Isolated = lacking a surface connection to other waters during daily low tide*

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Code	Ecological Function Indicator	Score	Guidance
12. Fresh	Types of freshwater sources that feed the wetland internally Select the maximum score in <u>each</u> group and then sum the two maxima: <u>Group A: Flowing into the wetland</u>: a) perennial fresh tributary 4 b) intermittent fresh tributary or stormwater pipe 2 c) neither 0 <u>Group B: Adjoining on the uphill side</u>: a) large* non-tidal freshwater wetland, pond, or spring 4 b) small non-tidal wetland, seep, or *hydric* soil patch 3 c) other land cover, and tidal wetland is not an island 1 d) tidal wetland occupies nearly all of an island 0 * wider than the tidal wetland (width measured perpendicular to slope)	Sum is: 0 = 0 - 1 1 = 2 - 3 3 = 4 - 6 5 = 7 - 8 Score 12: certainty 12:	<u>Perennial</u> tributaries flow year-round most years. <u>Intermittent</u> tributaries flow seasonally and have recognizable channels extending uphill at least twice the width of the tidal marsh. <u>Non-tidal</u> wetlands are typically dominated by alder, willow, cattail, skunk cabbage, slough sedge, small-fruited bulrush, and water parsley (some of these occur to a lesser degree in tidal wetlands). <u>Adjoining</u> means present within 10m.
13. Pform	Number of easily-recognizable vegetation structures present within the wetland. Check all that predominate over at least 100 sq.ft: __ large robust grasslike plants (e.g., bulrush, cattail) __ other large native grasslike plants (mostly >8 inches long, e.g., Deschampsia, Hordeum, Juncus) __ fleshy, succulent plants (e.g., pickleweed) __ other non-woody plants (e.g., saltmarsh aster, other forbs) __ nurse logs supporting plants taller than 1 ft __ submersed aquatics (e.g., wigeongrass or eelgrass) in internal channels or pools or externally within 50 ft.	0 = 0-2 1 = 3 3 = 4 - 5 5 = 6 Score 13: certainty 13:	"Nurse logs" are large logs or stumps present on the marsh surface which, because of the elevated substrate they provide, protect germinating plants on top of the log from potentially lethal long-duration flooding and high salinity

Pocket Estuary

Code	Physical Function Indicator	Score	Guidance
14. Flats **Seaward of the Berm**	A) Percent of NAU that has flats beyond 0 MLLW 0 = no flats observable 1 = <25 % 3 = 25-75 % 5 = >75 % B) Average width of flats at three locations within NAU 1 = < 50 m 3 = 50-100 m 5 = >100 m C) Dominant substrate of flats (below 0 MLLW) at three locations within NAU 1 = gravel, cobble, boulder 3 = mixed coarse (sand, gravel, cobble) 5 = sand Time: _____ Tide estimate (ft relative to MLLW): _____	A = ____ B1 = ____ B2 = ____ B3 = ____ B avg = ___ C1 = ____ C2 = ____ C3 = ____ C avg = ___ score 1: certainty 1:	After walking the length of the NAU, estimate the percent of the length that has flats out beyond the 0 MLLW (based on the tide at the time). Use distance range finder to estimate the width (perpendicular to shore) at three locations (near each end and in the middle). Average the three values (1, 3, or 5) for the final value of B. At the same three locations as in B, determine the dominant substrate of the flats.). Average the three values (1, 3, or 5) for the final value of C. Calculate: A + (B avg + C avg) Provide certainty score for estimates 1 = highly uncertain 3 = moderately certain 5 = certain

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Code	Ecological Function Indicator	Score	Guidance
15. LWD **Seaward of the Berm**	A) Percent of NAU that has drift logs above 0 MLLW 0 = no LWD observable 1 = <25 % 3 = 25-75 % 5 = >75 % B) Average width of drift log accumulation at three locations within NAU 1 = < 2 m 3 = 2 - 7 m 5 = > 7 m C) Composition of drift logs at three locations within NAU 1 = cut logs only 3 = mixed (cut logs, natural logs, root wads) 5 = natural logs D) Number of LWD pieces lying perpendicular to shore in NAU = _____ 1 = ?/100m shoreline 3 = ?/100m shoreline length of NAU _____ 5 = ?/100m shoreline Time: _____ Tide estimate (ft relative to MLLW): _____	A = ____ B1 = ____ B2 = ____ B3 = ____ B avg = ____ C1 = ____ C2 = ____ C3 = ____ C avg = ____ D = ____ score 2: certainty 2:	After walking the length of the NAU, estimate the percent of the length that has LWD present above 0 MLLW. At the same three locations as in 2B above, use distance range finder or meter tape to estimate the width of LWD accumulation (perpendicular to shore). Average the three values (1, 3, or 5) for the final value of B. At the same three locations as in B, determine the composition of the LWD. Average the three values (1, 3, or 5) for the final value of C. Calculation and scoring to be determined later…. Calculate: A + (B avg + C avg +D) Provide certainty score for estimates 1 = highly uncertain 3 = moderately certain 5 = certain

Pocket Estuary

Code	Ecological Function Indicator	Score	Guidance
16. Veg **Seaward of the Berm**	A) Percent of NAU that has vegetation in the backshore 0 = no vegetation within 75 meters of shoreline 1 = <25 % 3 = 25-75 % 5 = >75 % B) Adjacent or separated from the shoreline at three locations within NAU 1 = separated (>10m between OHW mark and start of vegetation) 5 = adjacent (<10m between OHW mark and start of vegetation) C) Composition of vegetation at three locations within NAU 0 = no vegetation within 75 meters of shoreline 1 = grass/landscaped 3 = immature trees/shrubs 5 = mature trees (may also include shrubs) D) Estimate distance overhanging the intertidal zone at three locations within NAU 0 = no overhanging veg 1 = < 2m 3 = 2 – 3m 5 = > 3m Time: _____ Tide estimate (ft relative to MLLW): _____	A = ____ B1 = ____ B2 = ____ B3 = ____ B avg = ____ C1 = ____ C2 = ____ C3 = ____ C avg = ____ D1 = ____ D2 = ____ D3 = ____ Davg = ____ score 3: certainty 3:	After walking the length of the NAU, estimate the percent of the length that has backshore veg above OHW mark. At the same three locations as in 2B above, use distance range finder or meter tape to estimate the distance from OHW to veg (perpendicular to shore). Average the three values (1, 3, or 5) for the final value of B. At the same three locations as in B, determine the composition of the veg. Average the three values (1, 3, or 5) for the final value of C. At the same three locations as in B, determine the amount that the veg hangs over the intertidal zone. Average the three values (1, 3, or 5) for the final value of C. Calculate: A + (Bavg + Cavg + Davg) Provide certainty score for estimates 1 = highly uncertain 3 = moderately certain 5 = certain

Pocket Estuary

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17. Eelgrass **Seaward of the Berm**	A) Percent of NAU that has eelgrass in the intertidal zone 0 = no eelgrass 1 = <25 % 3 = 25-75 % 5 = >75 %	A = ____	After walking the length of the NAU, estimate the percent of the length that has eegrass.
	B) Average width of eelgrass at three locations within NAU 1 = < 20 m 3 = 20- 50 m 5 = >50 m	B1 = ____ B2 = ____ B3 = ____ B avg = ____	At the same three locations as in 2B above, use distance range finder or meter tape to estimate the width of the eelgrass meadow (perpendicular to shore). Average the three values (1, 3, or 5) for the final value of B.
	C) Patchy or continuous eelgrass at three locations within NAU 1 = sparse 3 = patchy (>5m between patches) 5 = continuous (<5m between patches)	C1 = ____ C2 = ____ C3 = ____ C avg = ____	At the same three locations as in B, determine the distribution of the eelgrass within the meadow. Average the three values (1, 3, or 5) for the final value of C.
	D) Composition of eelgrass at three locations within NAU 0 = no eelgrass 3 = eelgrass and other macroalgae 5 = eelgrass only	D1 = ____ D2 = ____ D3 = ____ Davg = ____	At the same three locations as in B, determine the composition of the eelgrass meadow. Average the three values (1, 3, or 5) for the final value of D.
		score 4	Calculate: A + (Bavg + Cavg + Davg)
	Time: _____		Provide certainty score for estimates
	Tide estimate (ft relative to MLLW): _____	certainty 4:	1 = highly uncertain 3 = moderately certain 5 = certain

Pocket Estuary

Code	Ecological Function Indicator	Score	Guidance
18. Wrack **Seaward of the Berm**	A) Percent of NAU that has drift wrack above 0 MLLW 0 = no wrack observable 1 = <25 % 3 = 25-75 % 5 = >75 %	A = ____	After walking the length of the NAU, estimate the percent of the length that has wrack.
	B) Average width of wrack accumulation at three locations within NAU 1 = < 1 m 3 = 1-3 m 5 = > 3 m	B1 = ____ B2 = ____ B3 = ____ B avg = ____	At the same three locations as in 2B above, use meter tape to estimate the width of the wrack (perpendicular to shore). Average the three values (1, 3, or 5) for the final value of B.
	C) Composition of wrack at three locations within NAU 0 = none 1 = ulva 5 = mixed (macroalgae, marsh detritus, small wood)	C1 = ____ C2 = ____ C3 = ____ C avg = ____	At the same three locations as in B, determine the composition of the wrack. Average the three values (1, 3, or 5) for the final value of C.
	Time: _____ Tide estimate (ft relative to MLLW): _____	score 3:	Calculate: A + (Bavg + Cavg + Davg)
		certainty 3:	Provide certainty score for estimates 1 = highly uncertain 3 = moderately certain 5 = certain