

# Kitsap Natural Resource Asset Management Program (KNRAMP)

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**Kitsap County Department of Community Development**

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*Supported by:*



# Thank you to:



Washington  
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WILDLIFE**

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## Kitsap County Project Team:

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Parks:

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# Purpose & Vision

**Acknowledge** natural resources as shared community assets in the public trust to be stewarded by the local government

**Proactively manage**, inventory, assess, protect, and improve natural assets in Kitsap County

**Inform** County planning & decision-making frameworks across all departments that overlap with natural assets

**Collaborate** with partners (internal and external) to implement actions to protect and improve natural assets

## Vision:

Treat natural resources as assets in the public trust, to be stewarded by the local government. We aim to bring natural resources to the forefront of asset management decision-making across the County.





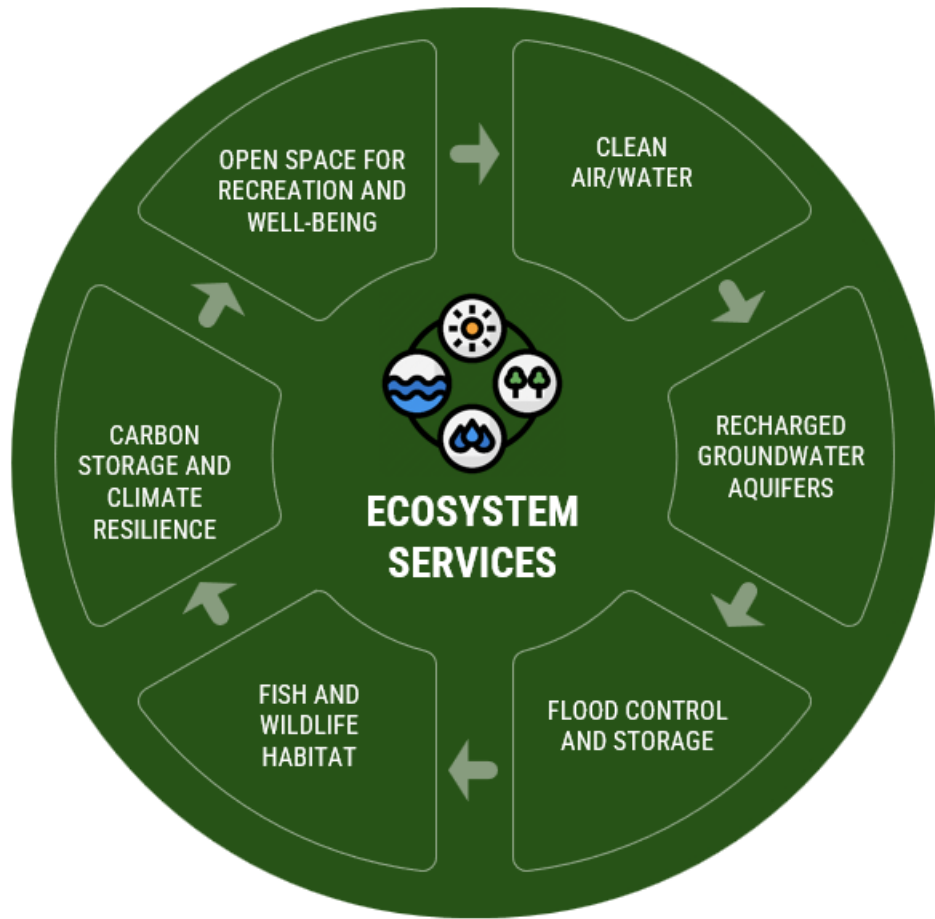
# Natural resources provide community services

human health  
slope stabilization  
fish & wildlife habitat  
economic  
drought mitigation  
erosion control  
clean air  
aquifer recharge  
carbon storage  
recreation  
nutrient cycling  
economic benefits  
flood reduction  
wildfire reduction





# Natural Asset Management



**Asset management** - treating the components of the public infrastructure system as assets within the public trust to be stewarded by the local government.



**Natural resources asset management** - treating natural resources as assets that should be managed with the same consideration to costs of services and investment priorities as built infrastructure.

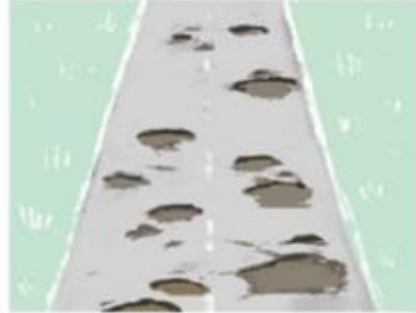


# Natural Asset Management

Road with  
**A rating**



Road with  
**F rating**



River with  
**A rating**



River with  
**F rating**



**Level of Service (LOS)** defines the condition of the asset and the types and amounts of service an asset is providing.

- Describes asset current condition
- Helps track changes in asset condition
- Helps set minimum standards/goals for asset conditions

**Desired Level of Service (DLOS)** describes the long-term goal for the condition and function of natural assets.

- KNRAMP defines DLOS for natural assets based on existing County/state/federal policies and long-term goals related to natural resources management and climate adaptation.



# Program Overview

The KNRAMP program is:

- Innovative tool for strategic planning
- Integrated into the Comprehensive Plan
- Implemented County-Wide
  - By the County and partners
- Map-Based
  - Uses publicly available data sources
  - Maintained in County databases
    - Cartegraph & GIS





# Program Overview

KNRAMP tracks 3 natural asset types.

- Each asset broken into smaller units.
- Each unit is scored based on contributing attributes.
- The condition score falls into the following Levels of Service:

Assets are assessed based on levels of service as:

	<b>Very High:</b> Exceptional level of service
	<b>High:</b> Meets desired level of service
	<b>Medium:</b> Slightly degraded level of service
	<b>Low:</b> Degraded level of service
	<b>Very Low:</b> Highly degraded level of service

## STREAMS

Riparian Vegetation (%)

B-IBI Score

Water Quality (tests)

Fish Passage Barriers

## FORESTS

Forest Cover (%)

Mature Forests (%)

## MARINE SHORELINES

Shoreline Armoring (%)

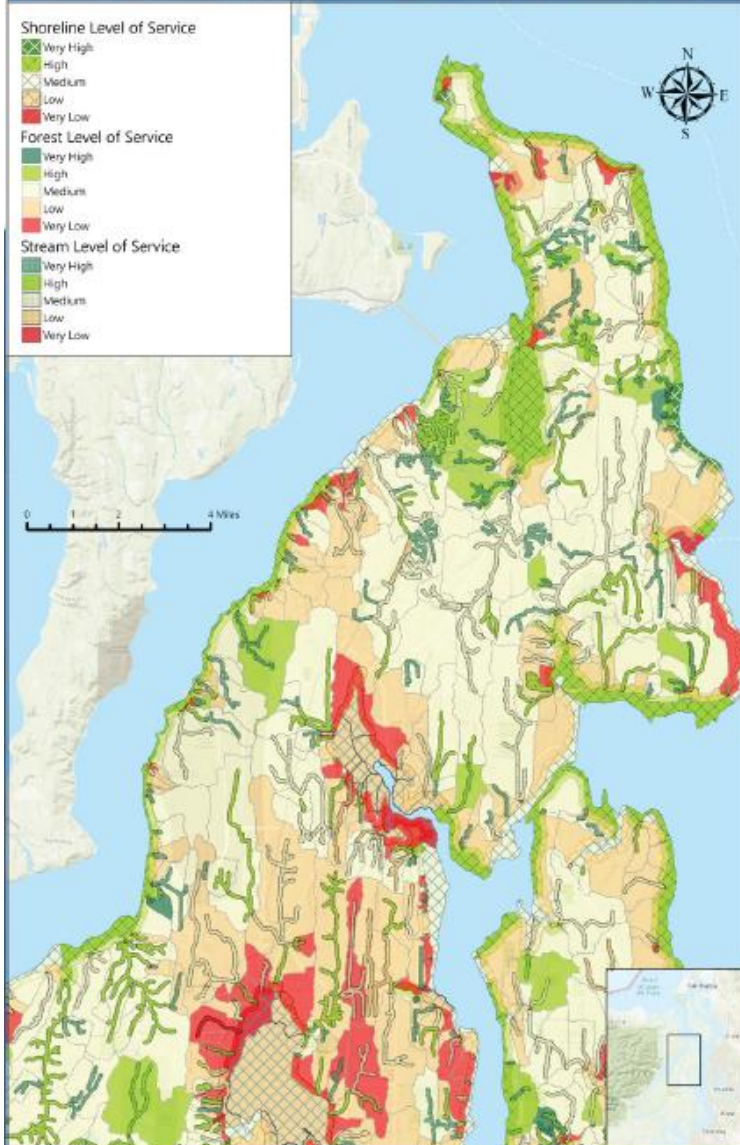
Shoreline Vegetation (%)

Shellfish Growing Areas (commercial classification)

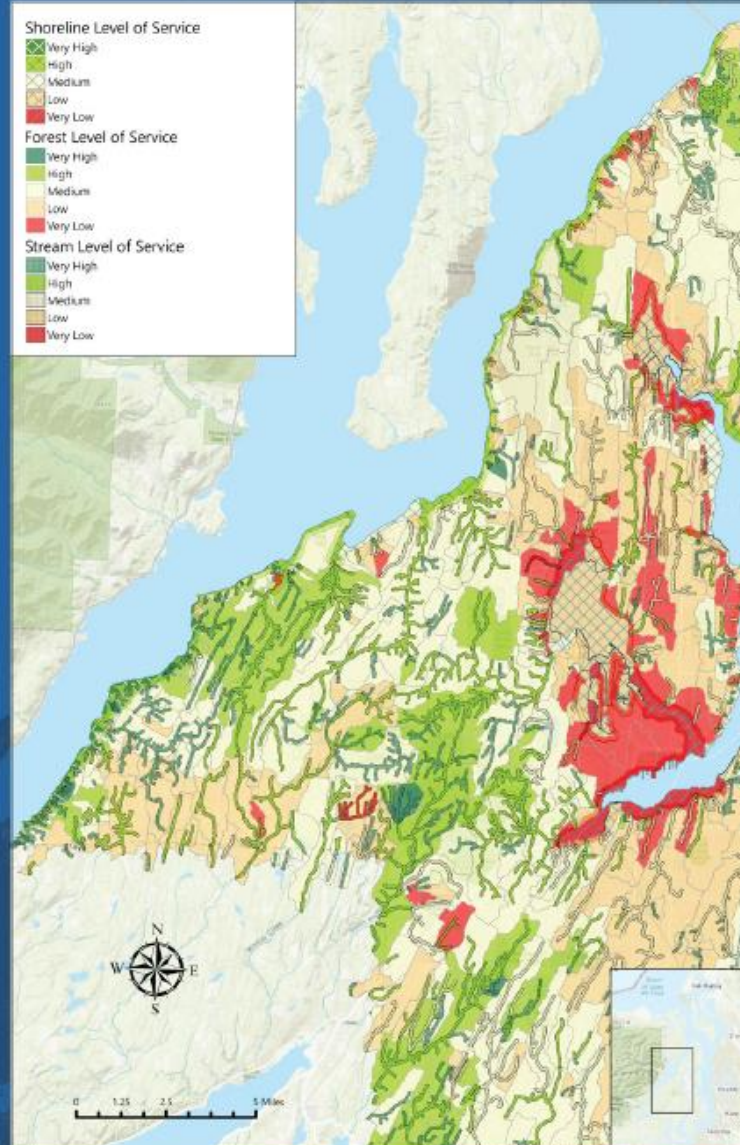


# Condition of Natural Assets Across County Regions

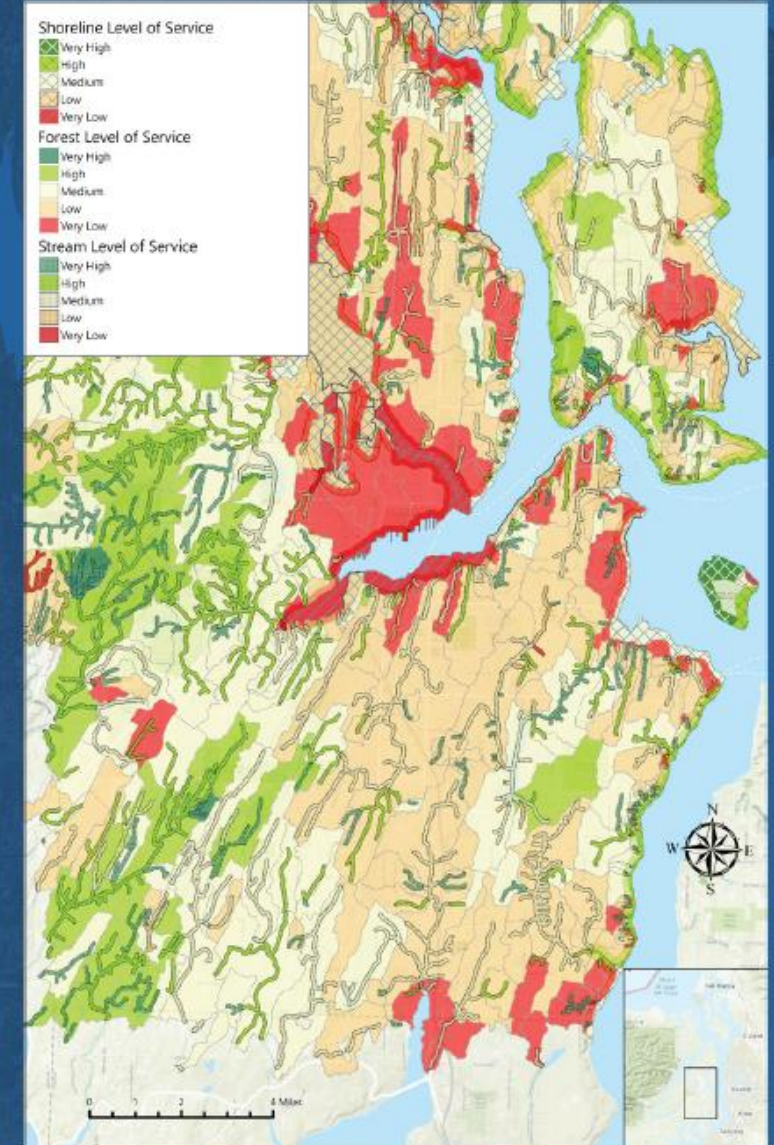
## NORTH



## CENTRAL



## SOUTH





# Asset Management Unit Scoring

Assets	Attributes	Condition Rating (Level of Service)				
		Very Low	Low	Medium	High	Very High
Forest	Forest Cover (%)	<40%	40%-55%	55%-70%	70%-85%	>85%
	Mature Forests (%)	<20%	20%-40%	40%-60%	60%-80%	>80%
Marine Shorelines	Shoreline Armoring (%)	>75%	50%-75%	25%-50%	1%-25%	<1%
	Shoreline Vegetation (%)	<40%	40%-55%	55%-70%	70%-85%	>85%
	Shellfish Growing Areas (SGA commercial classification)	Prohibited	Prohibited & Conditional/ Approved	Conditional	Conditional & Approved	Approved
Streams	Riparian Vegetation (%)	<40%	40%-55%	55%-70%	70%-85%	>85%
	B-IBI Score	0-20	20-40	40-60	60-80	80-100
	Water Quality (Water Quality tests)	Fails both	n/a	Passes 1 <sup>st</sup> , fails 2 <sup>nd</sup>	n/a	Passes both
	Fish Passage Barriers	5+ (presence of 0% passable barrier)	3-4 (presence of 0% passable barrier)	1-2 (no 0% passable barrier)	0 (with presence of 100% passable barrier)	0 (no 0% passable barrier)
Cartegraph Level Of Service Score		0-20	20-40	40-60	60-80	80-100

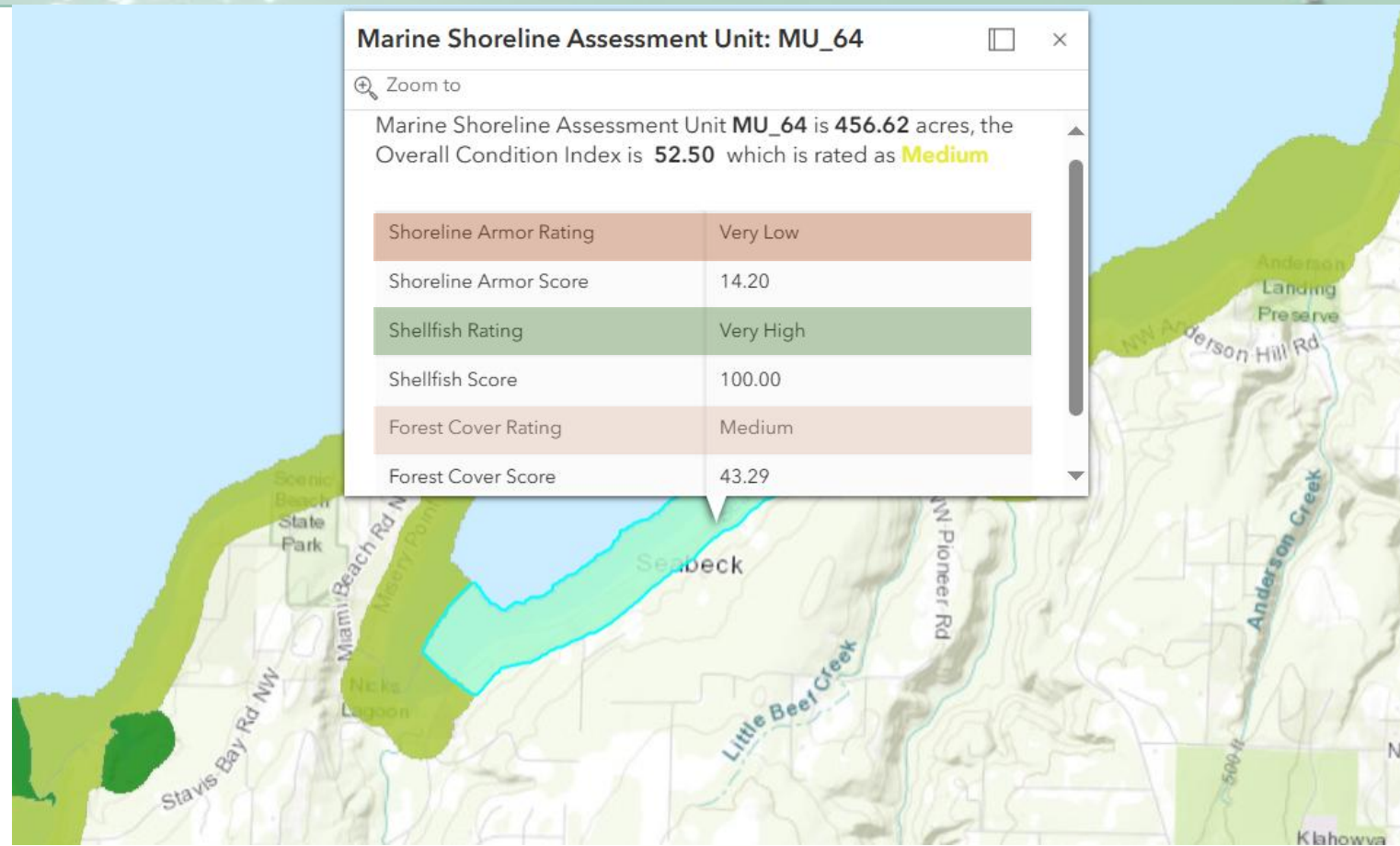
# Example: Big Beef Creek Shoreline

## Marine Shoreline Assessment Unit: MU\_64

Zoom to

Marine Shoreline Assessment Unit **MU\_64** is **456.62** acres, the Overall Condition Index is **52.50** which is rated as **Medium**

Shoreline Armor Rating	Very Low
Shoreline Armor Score	14.20
Shellfish Rating	Very High
Shellfish Score	100.00
Forest Cover Rating	Medium
Forest Cover Score	43.29







# Example: Big Beef Creek Shoreline

Shoreline Armor Rating	Very Low
Score	14.2
Percentage	82.25%
Action to Improve	Decrease shoreline armoring to 49%
Shellfish Growing Areas	Very High
Score	100
Data	Approved
Action to Improve	No action
Forest Cover	Medium
Score	43.29
Percentage	57.47%
Action to Improve	No action

53

Level of Service for MU 64

60

Desired Level of Service

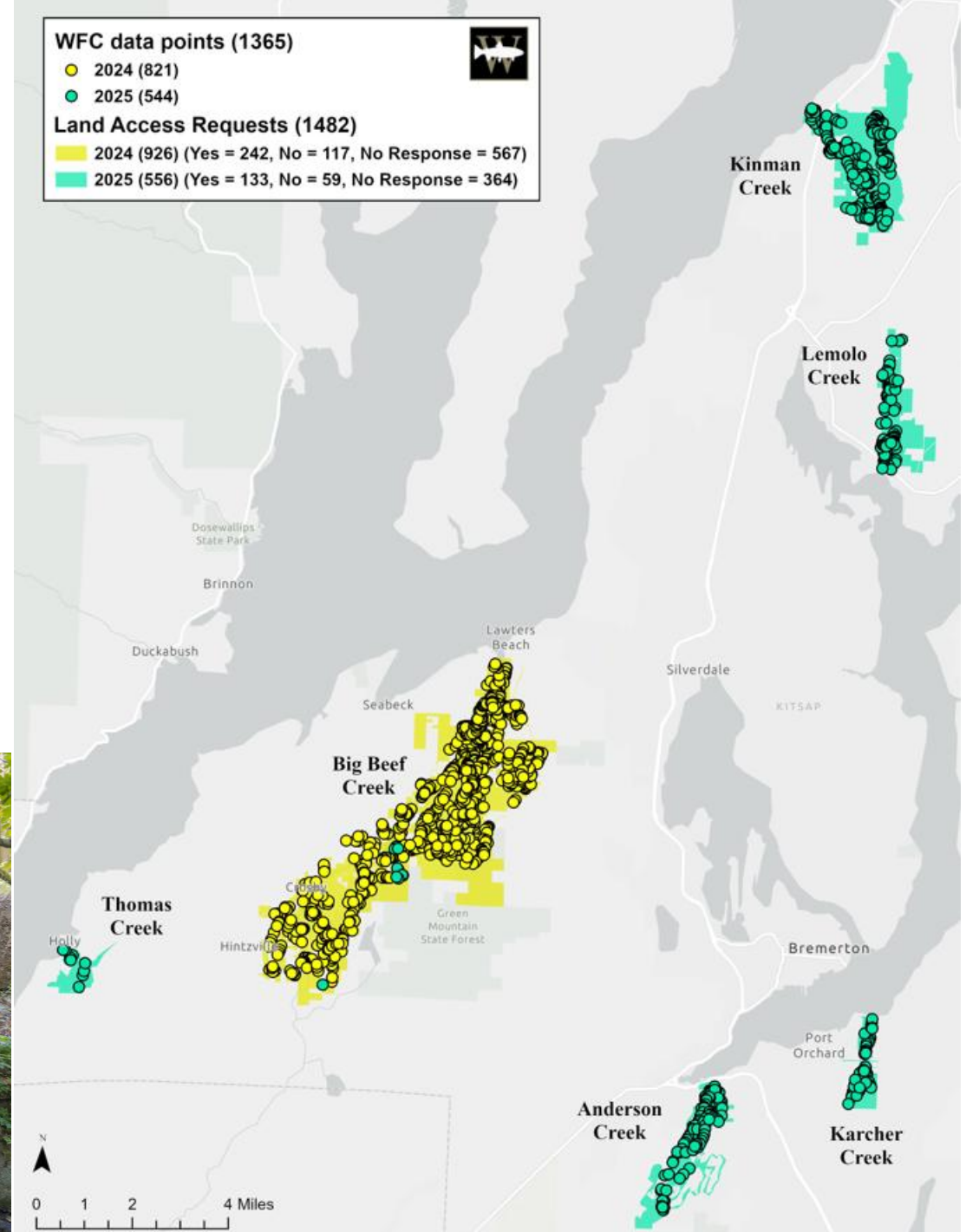
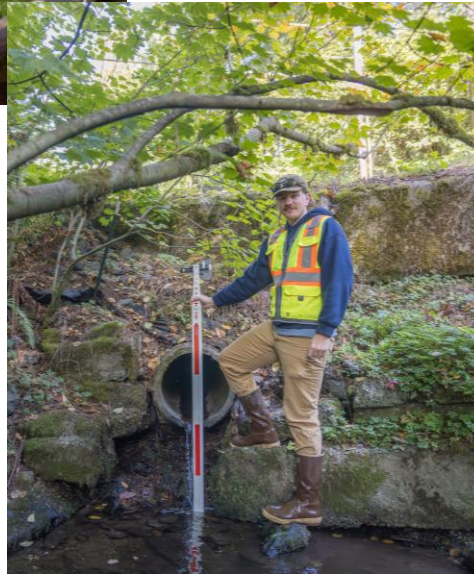
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Gap to reach Desired Level of Service

63

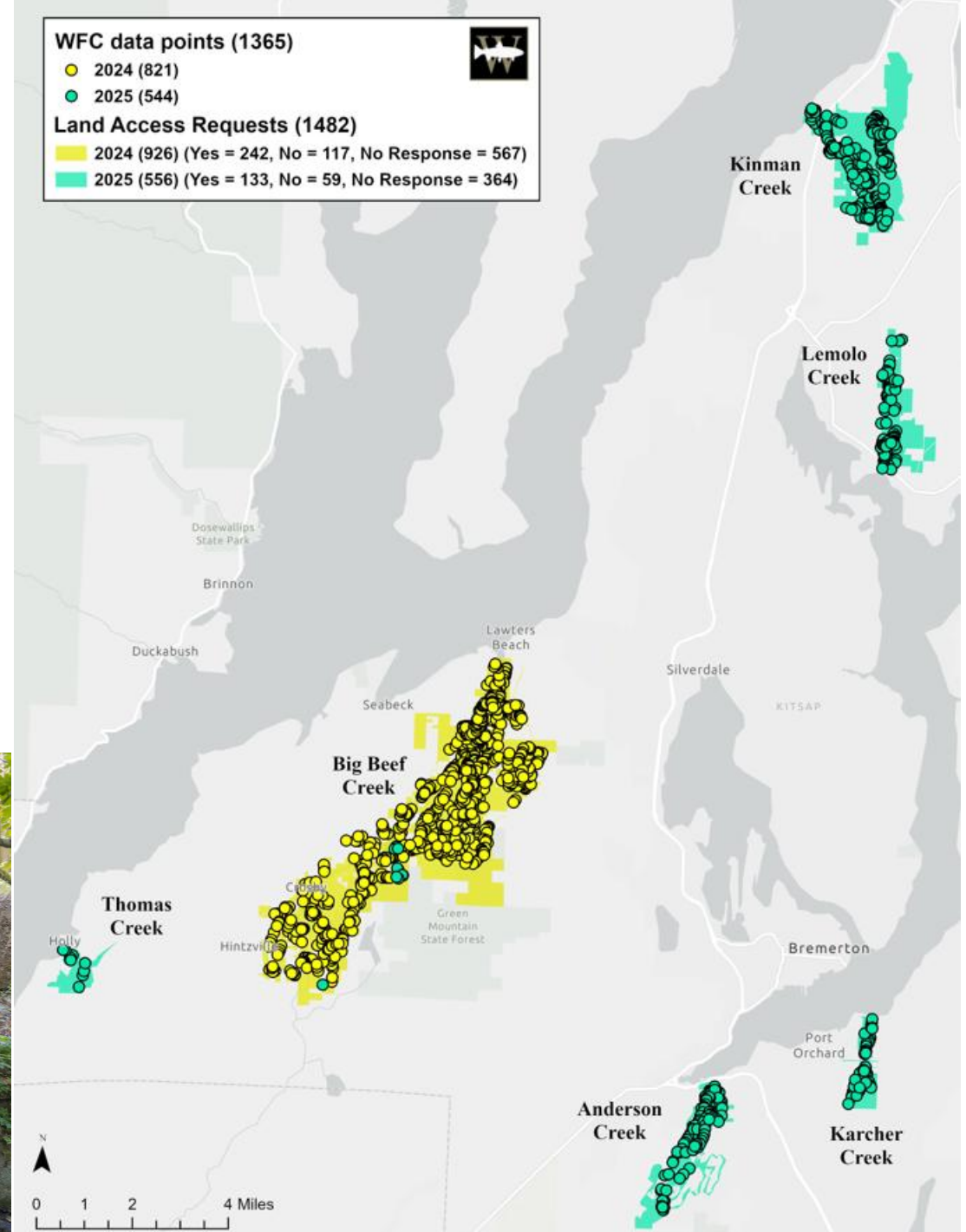
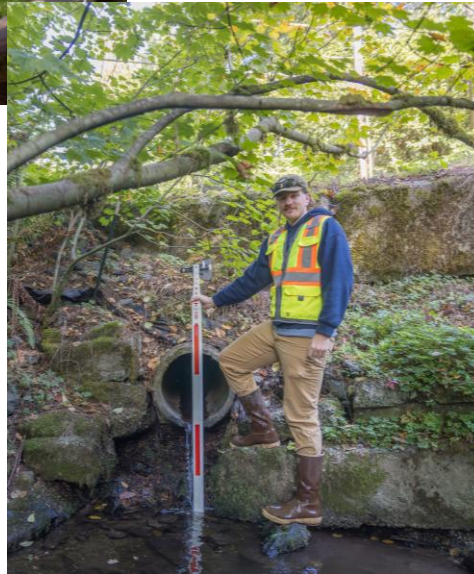
Resulting LOS Score if we decrease shoreline armoring to 49%

# Stream Map Updates





# Stream Map Updates



# Program Implementation

## Annual Process

### 1. LOS Status Assessment

Identify the current levels of service across the County and changes from the previous review period.

### 2. Advisory Group Discussion

Review the County-wide LOS status maps and identify areas and associated actions that KNRAMP will advance.

### 3. Partner Engagement

Share County-wide LOS data and actions for KNRAMP focus areas with County departments and other organizations to inform priorities.

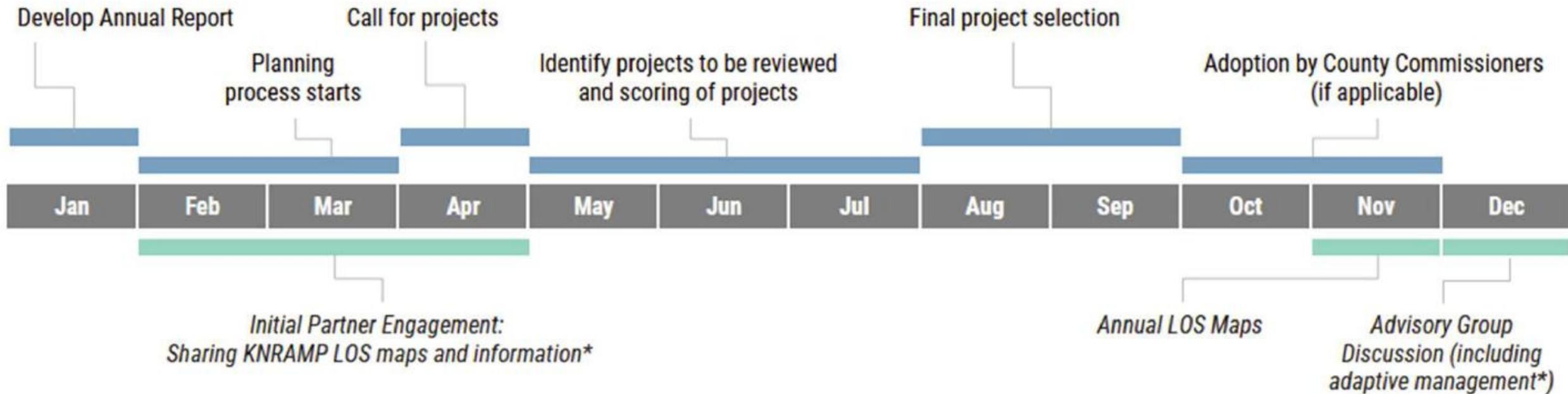
### 4. Adaptive Management

Continue to monitor LOS status and data sources in selected and non-selected geographies.

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# 2026 Comprehensive Planning



## Kitsap County Divisions' Annual Planning

- Kitsap County divisions' annual planning
- KNRAMP Process

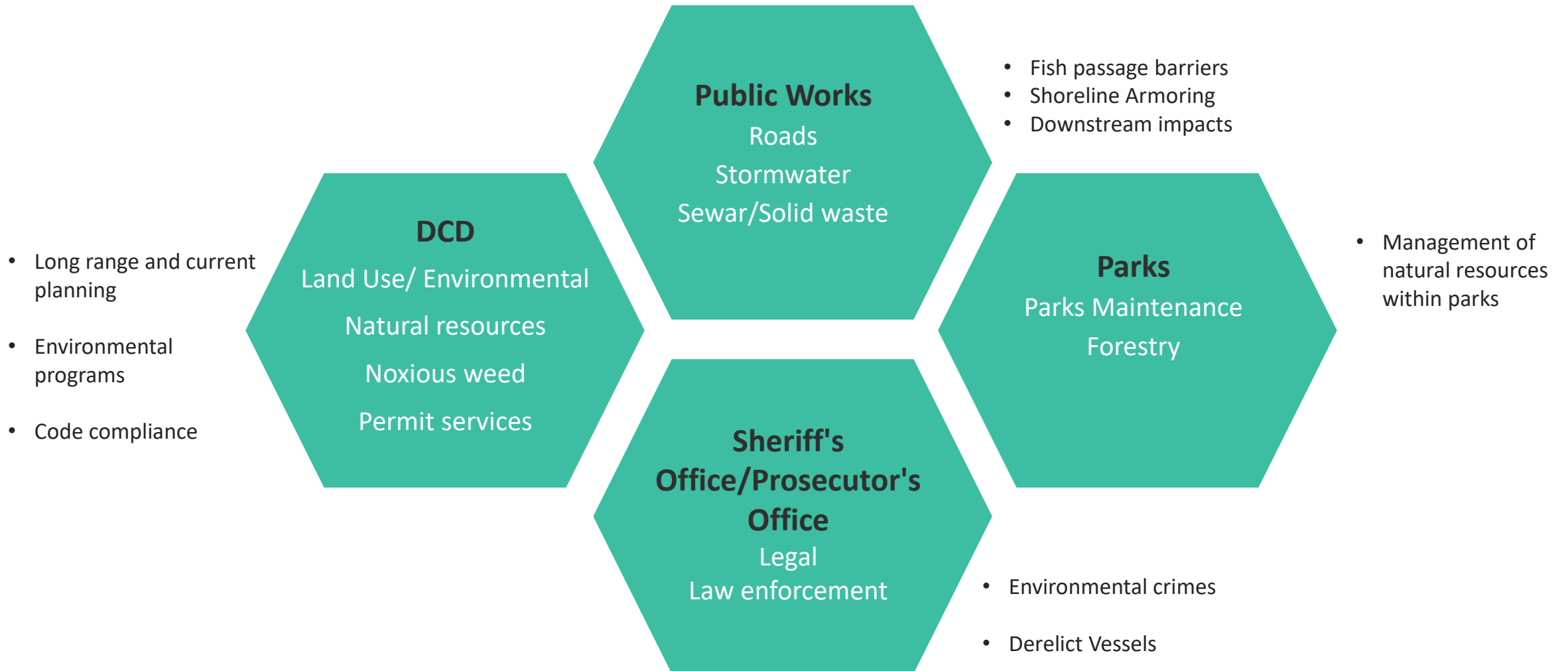
*\*Note: KNRAMP adaptive management and partner engagement will be ongoing throughout the year. The timeline reflects the start of these processes. The Advisory Group will have a dedicated discussion on adaptive management and partner engagement during their annual review of KNRAMP actions.*

# External Partners with Natural Asset Overlap - Examples





# County Roles in Stewarding Natural Assets - Examples



# What is the State of the Natural Assets Report?

Annual report to communicate:

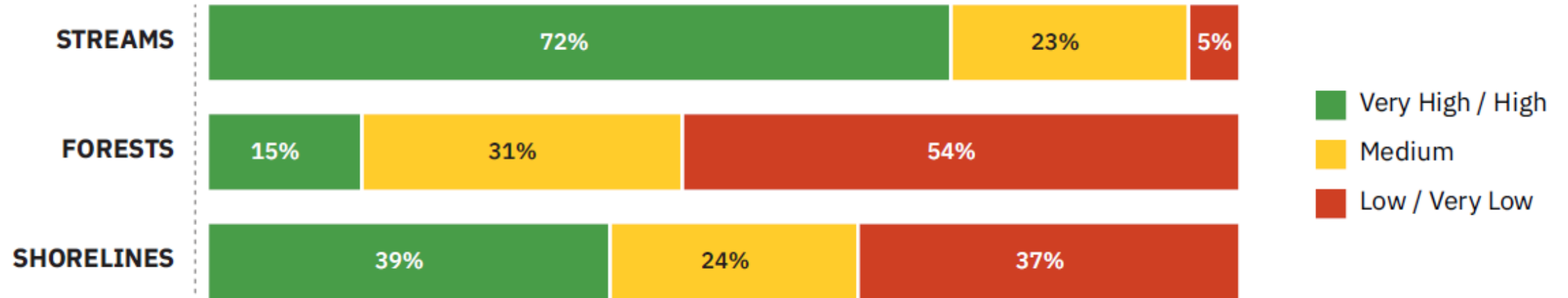
- Current conditions of natural assets
- Changes in asset level of service
- Priority geographic areas
- Priority actions & strategies





# State of the Natural Assets- 2025

## Condition of Natural Assets at a Glance



# 2026 Focus Areas

Chico Creek

Curley Creek

Big Beef Creek

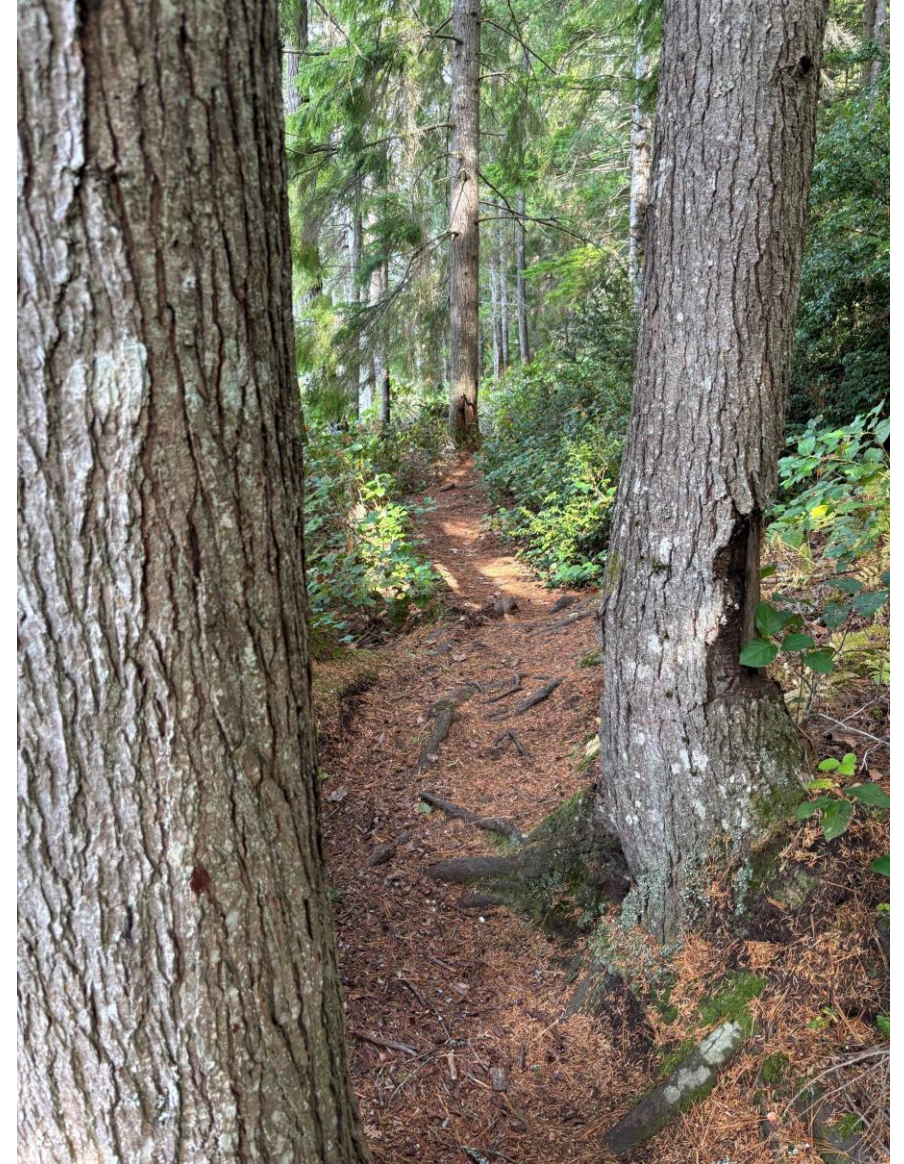
Kinman Creek





# What's next in 2026?

- GIS Storymap with interactive map
- Information sharing with County Commissioners
- Storymap and report will be published to webpage
- Sharing program at APWA WA conference in April
- Data updates to stream layer and others
- Integrating KNRAMP into Cartegraph County-wide
- Grant funding ends in December 2026
- KNRAMP fully operational
- Ongoing partnerships for implementation





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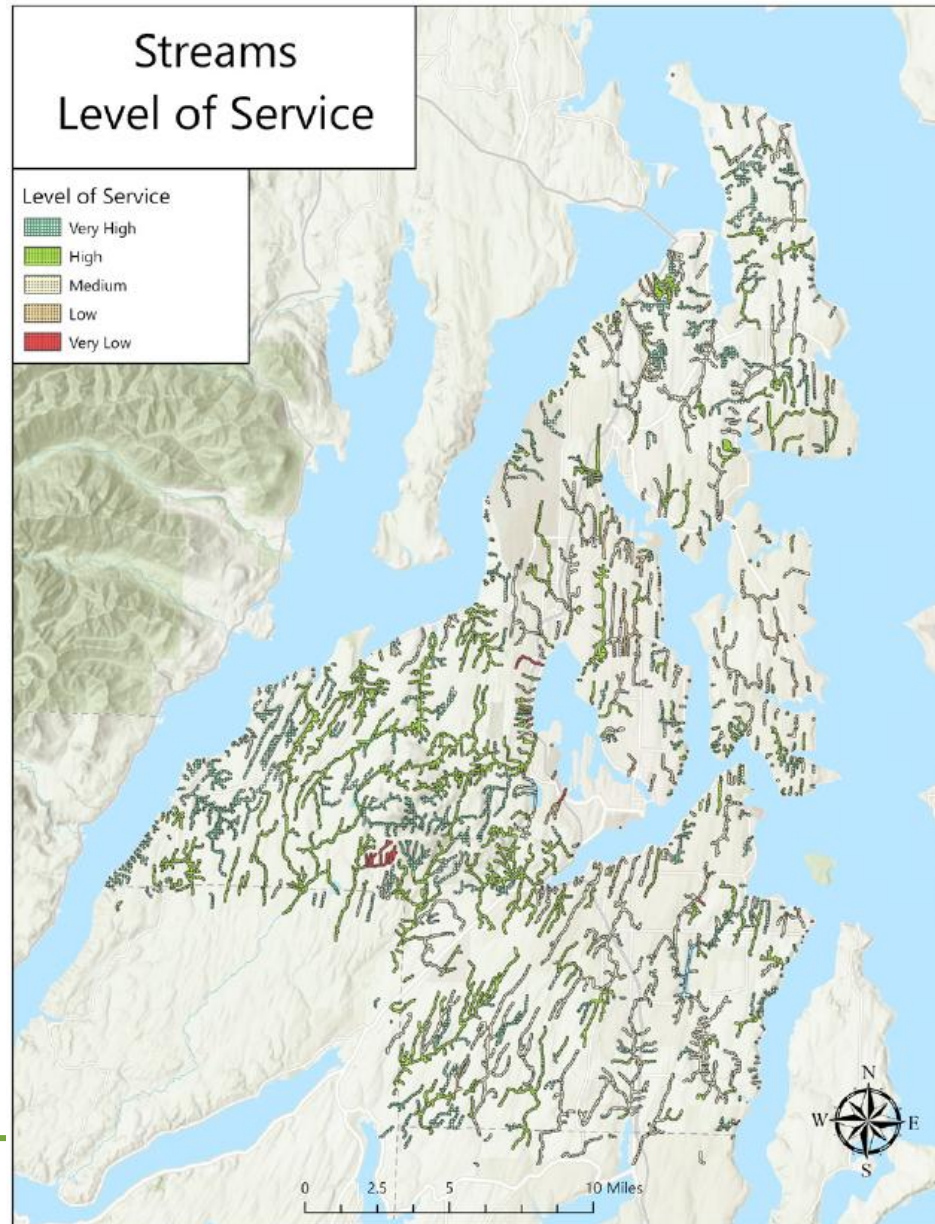


# Additional Slides

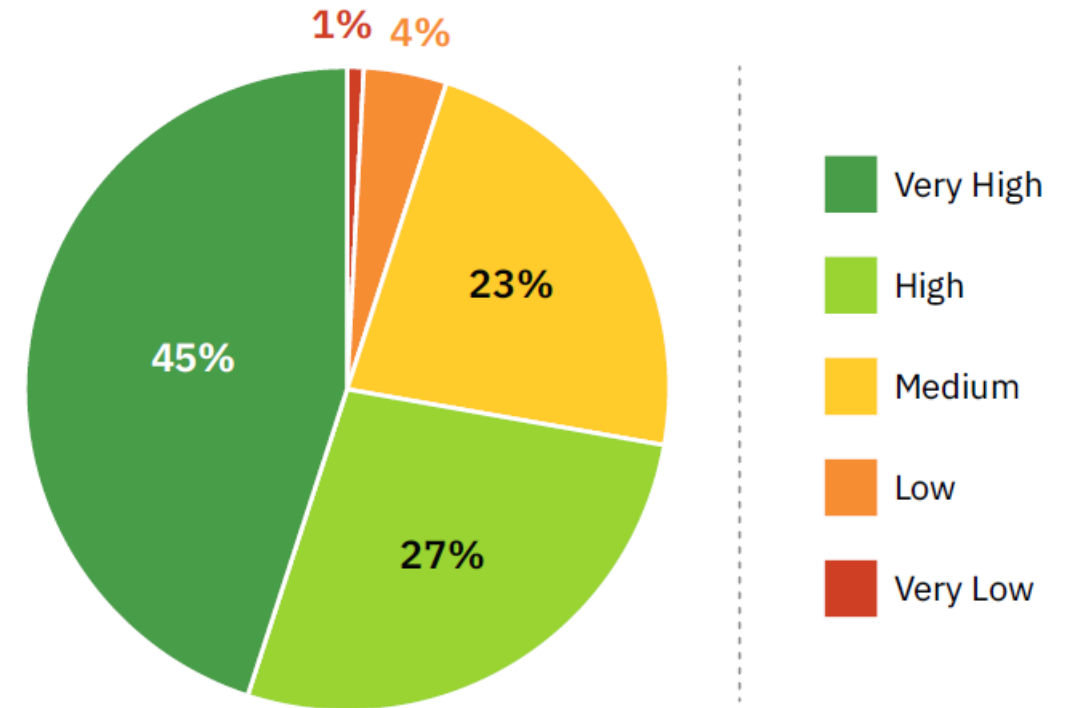




# State of Stream Assets



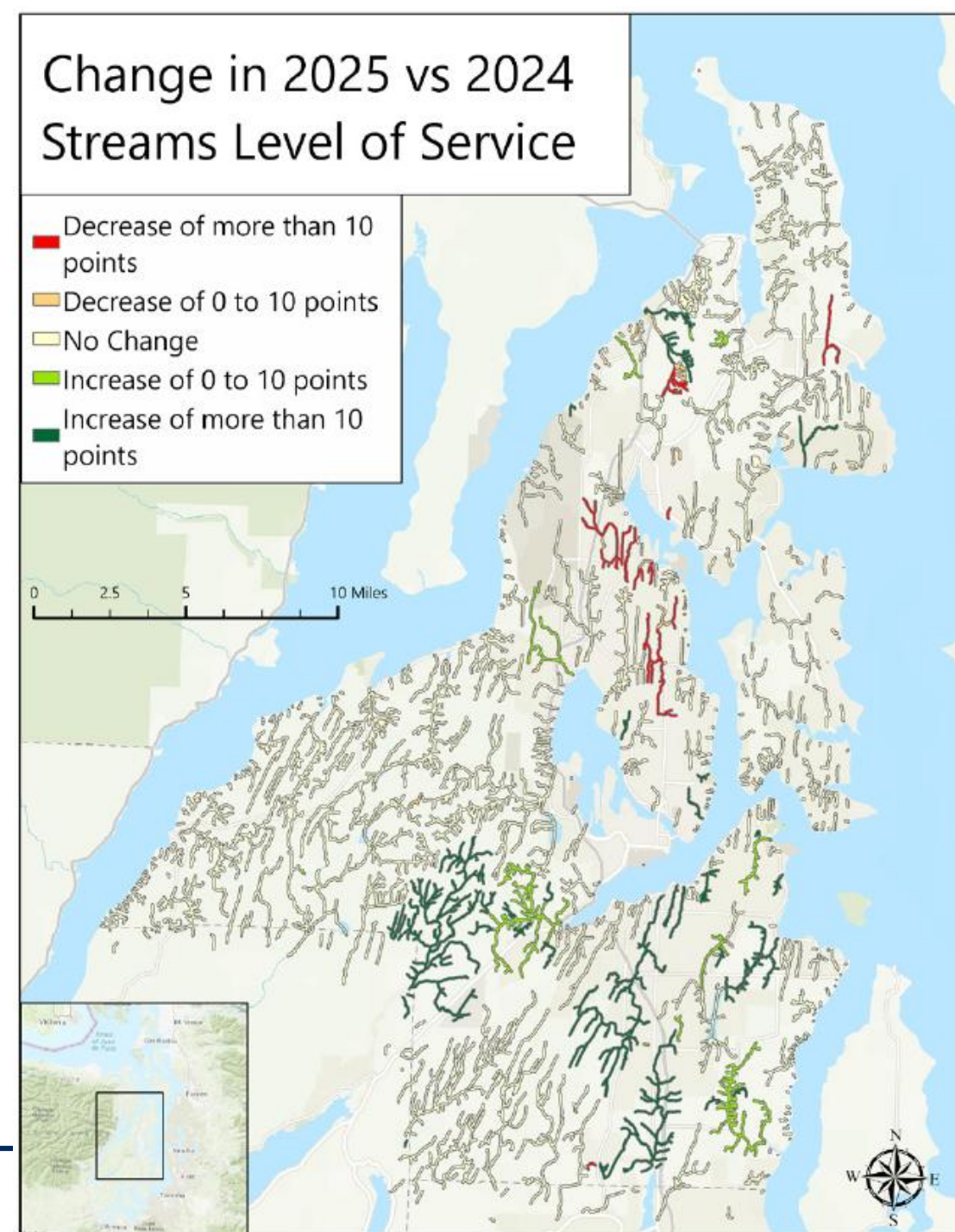
Level of Service for Streams





# State of Stream Assets

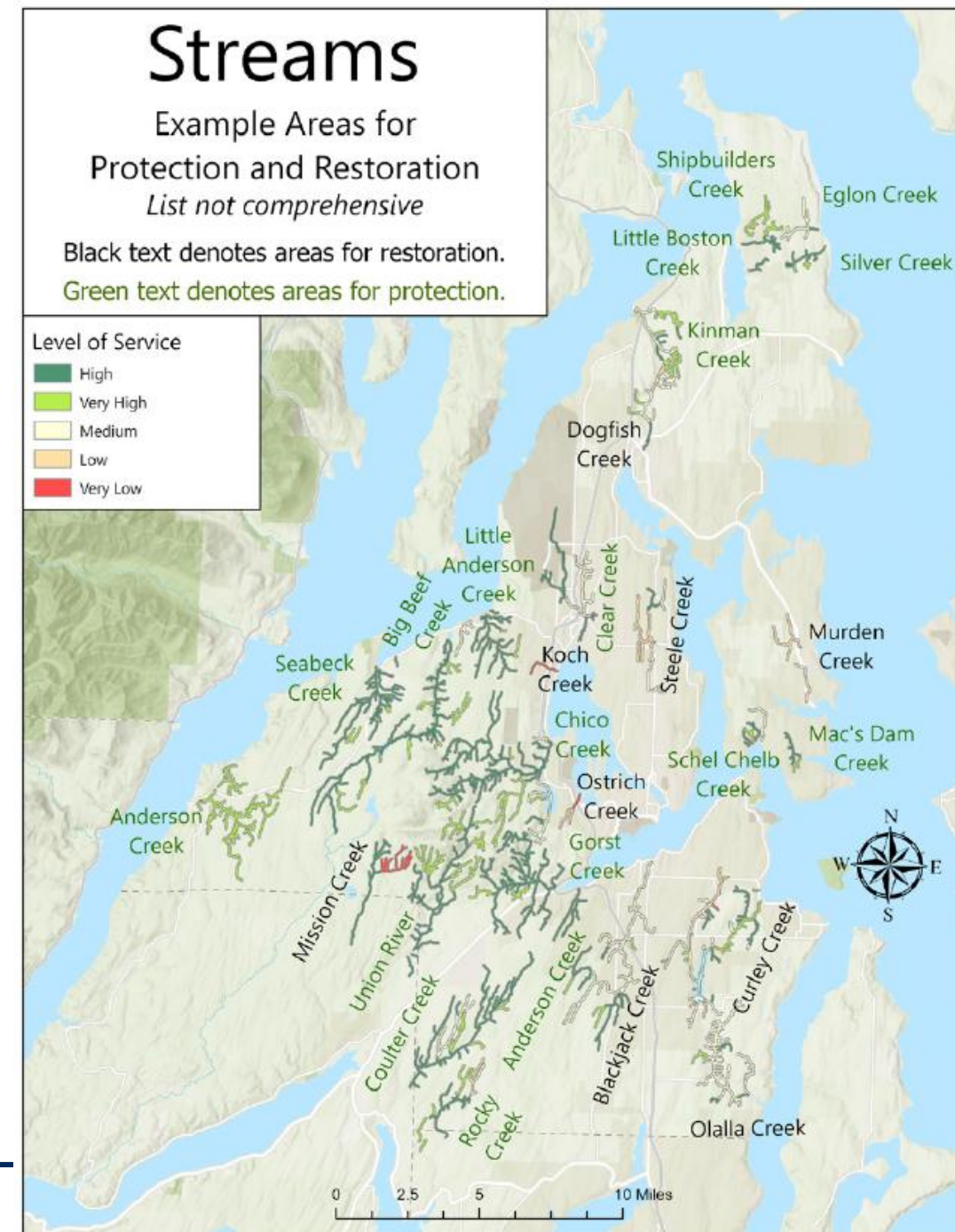
- 55 percent of surveyed streams meet Department of Ecology water quality standards
- There are approximately 231 documented impassable (0% passable) fish passage barriers across the County
- 54% of stream management units have at least one fish passage barrier
- 58% of Kitsap streams have high or very high biological function



# Stream Management

## Stream Management Approach:

- Protect high functioning stream units
- Target restoration on streams with medium to very low level of service
- Replace fish passage barriers
  - Consider quality of upstream habitat
- Protect and restore riparian vegetation
- Manage invasive riparian vegetation
- Reconnect floodplains, increase large wood and channel complexity



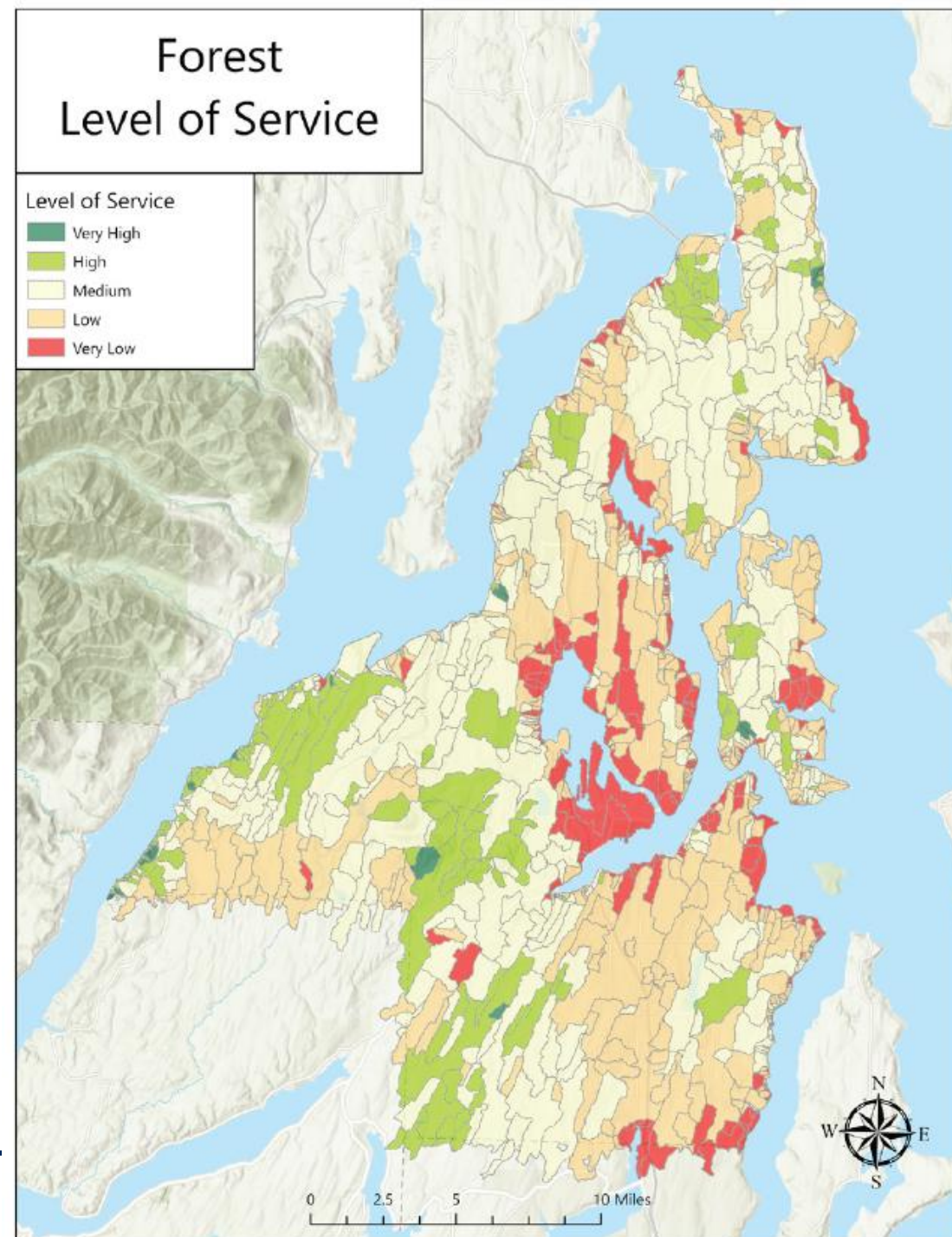
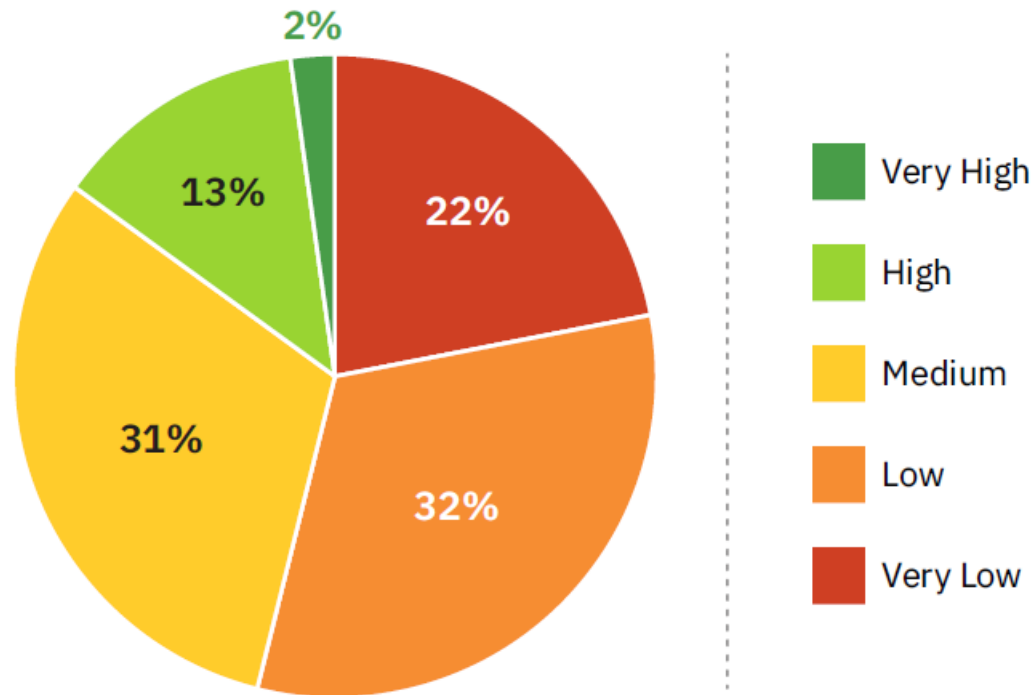






# State of Forest Assets

Level of Service for Forests

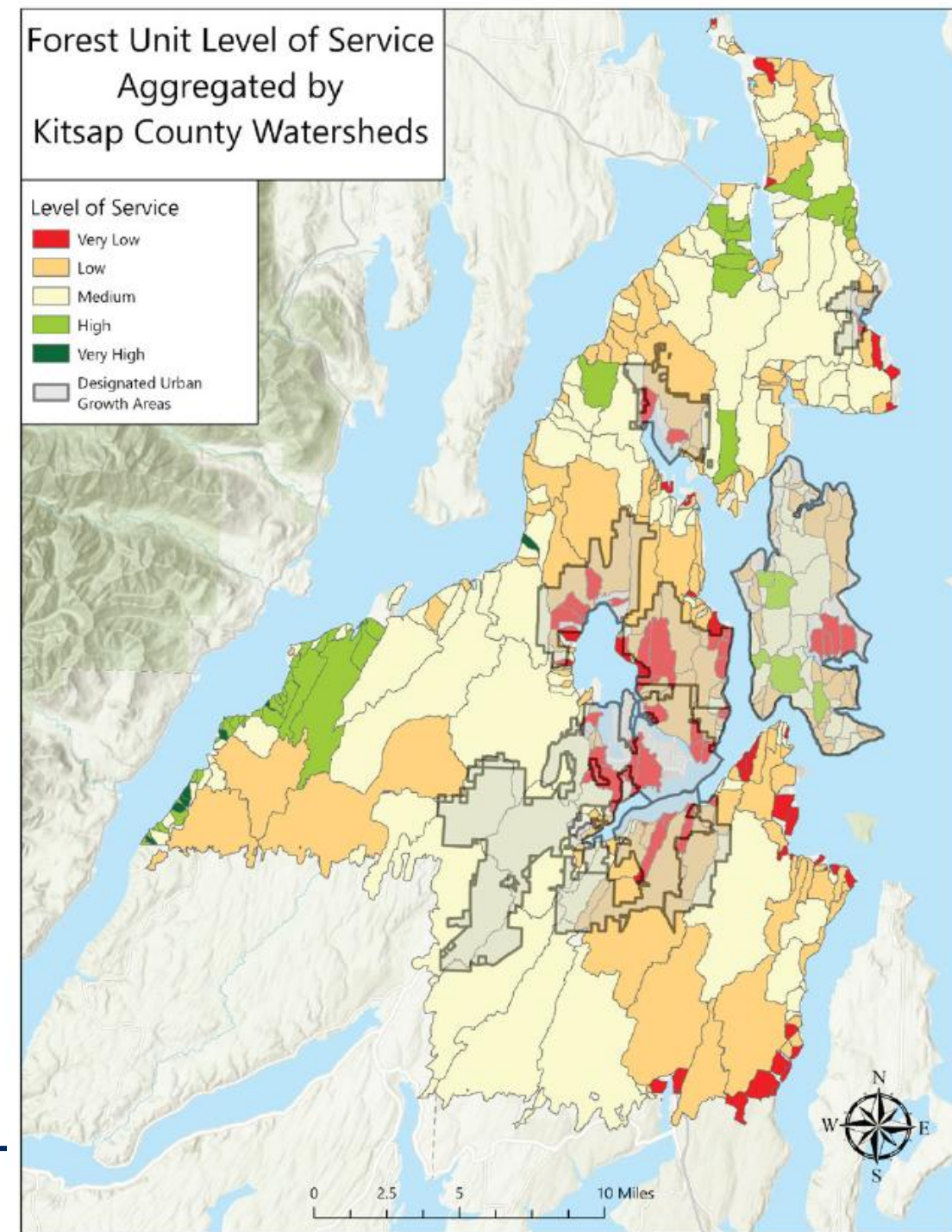




# Forest Management

## Forest Management Approach:

- Set forest LOS goals at watershed scale, not forest management unit scale
  - Decision by Core Team to accommodate GMA densities in urban growth areas
  - Forest scores outside UGAs must compensate for lower scores within UGAs



# Forest Management

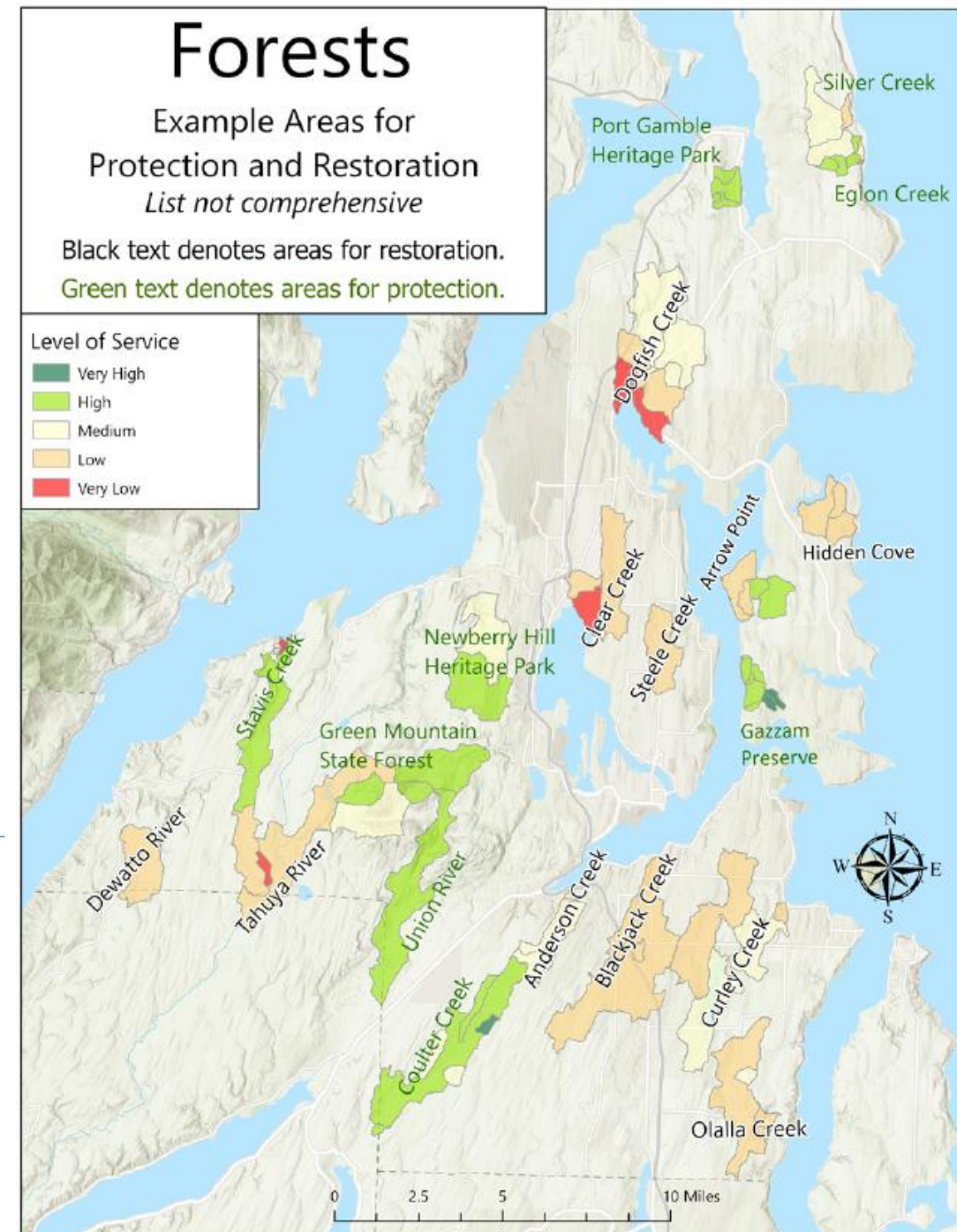
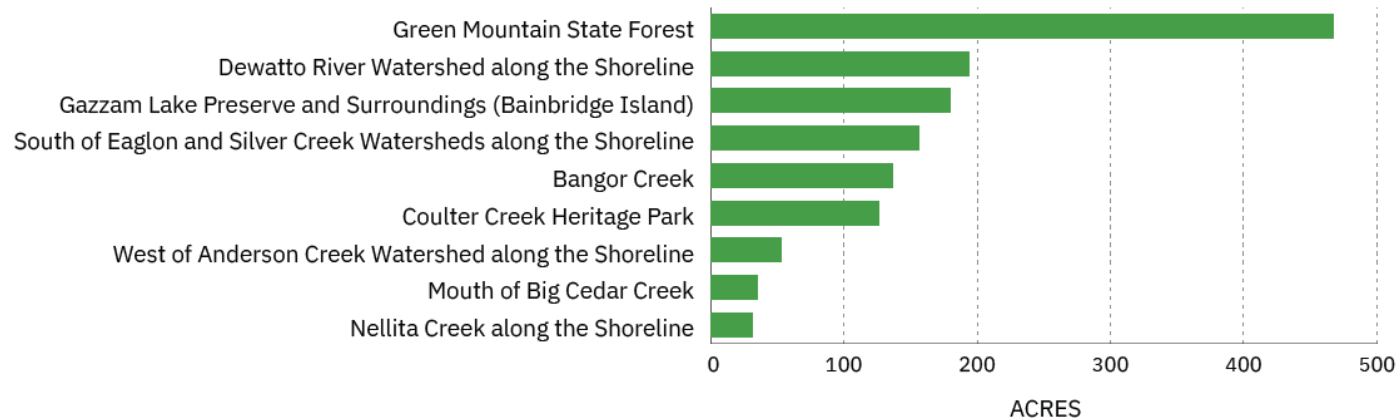
Restore forests by:

- Planting native trees to increase canopy cover and diversity
- Actively managing forests to improve tree age structure
- Actively controlling noxious weeds and invasive species

Protect forests by:

- Implementing and enforcing existing regulations
- Partnering to acquire and protect important forest units
- Partnering to protect forests on public lands
- Improving education and incentives for voluntary stewardship
- Partnering to find multi-benefit project opportunities

## Forests in very high condition

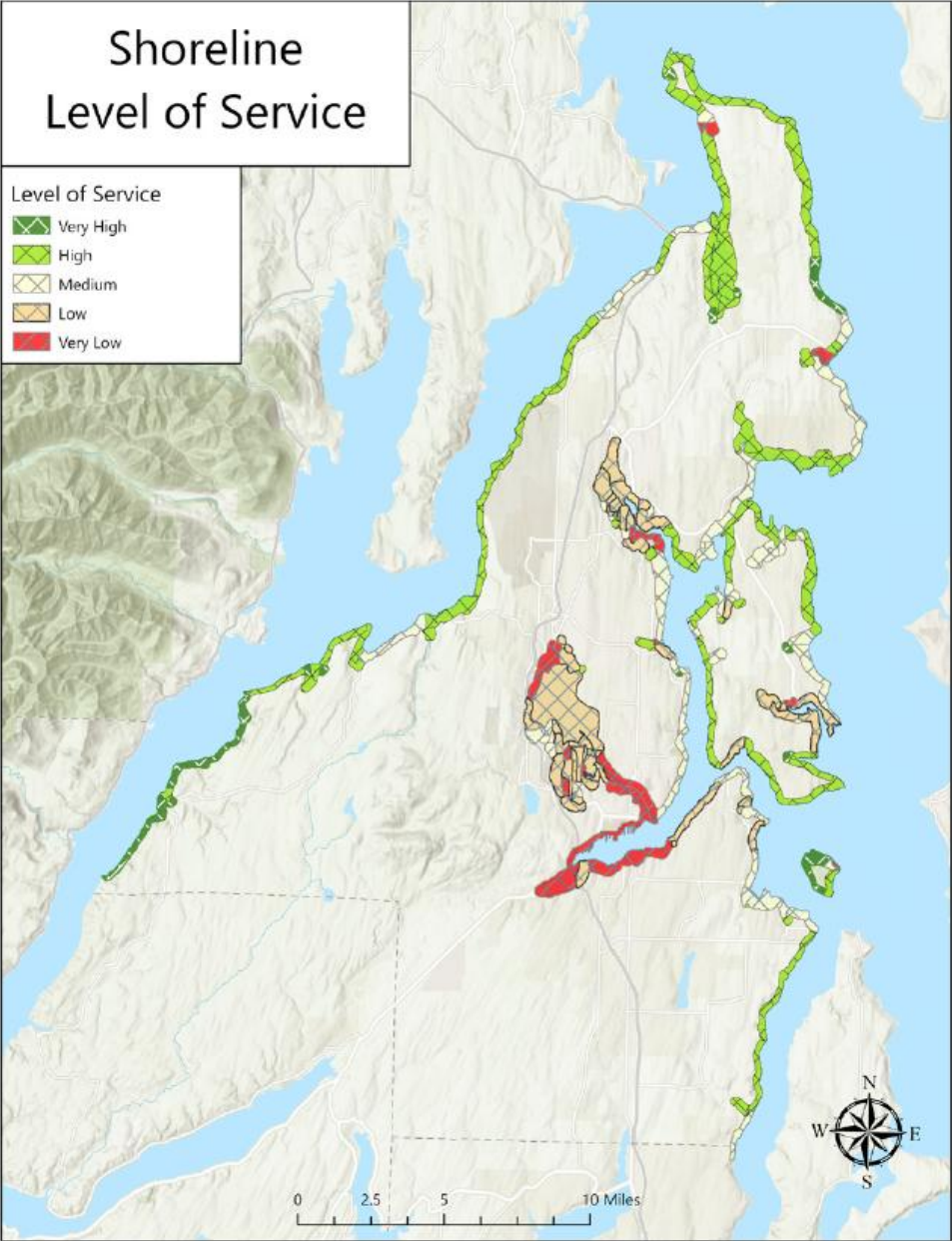




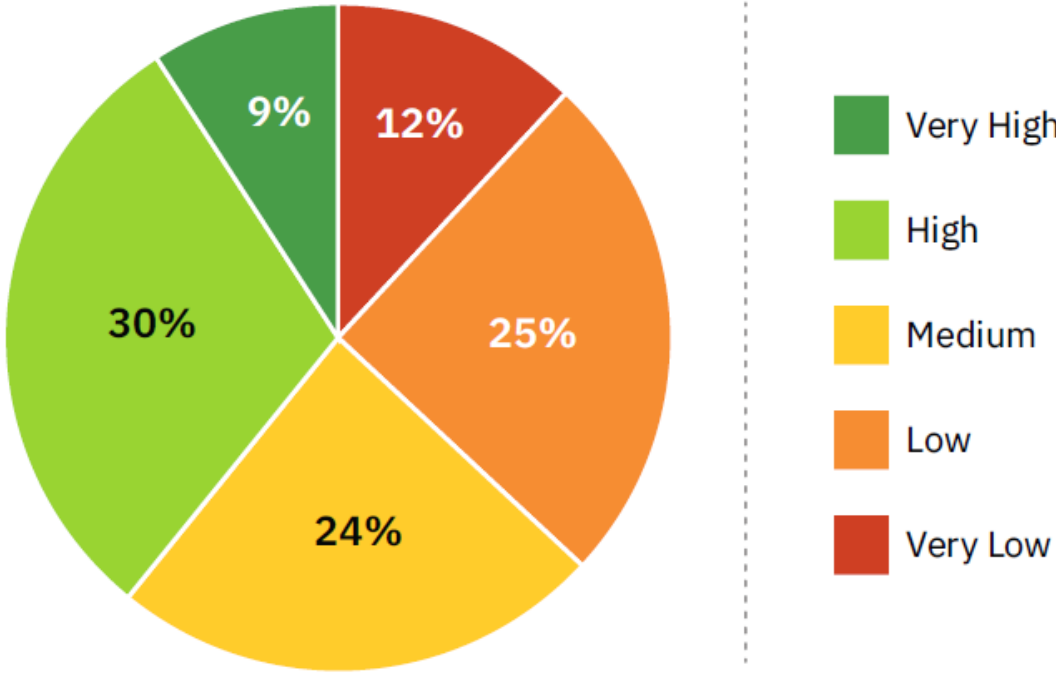




# State of Shoreline Assets



Level of Service for Marine Shorelines





# Shoreline Management

Restore medium to very low shoreline units by:

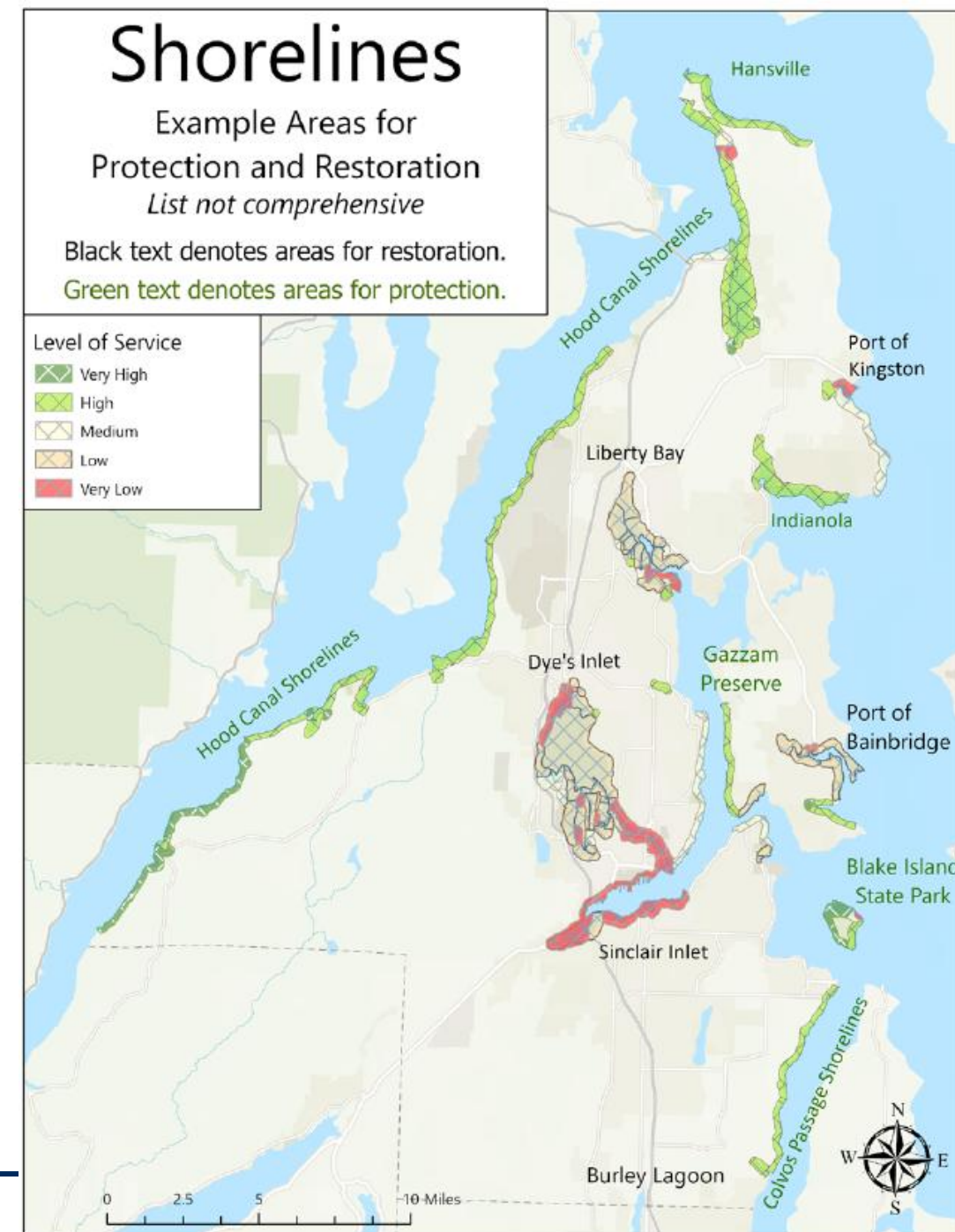
- Removing shoreline armoring
- Reducing & upgrading overwater structures
- Removing artificial fill
- Relocating structures, utilities, & roads away from shorelines
- Planting shoreline riparian vegetation
- Improving stormwater infrastructure
- Removing manmade debris & derelict vessels
- Removing undersized water crossings in intertidal areas
- Partnering for habitat restoration
- Improving education and incentives for voluntary stewardship



# Shoreline Management

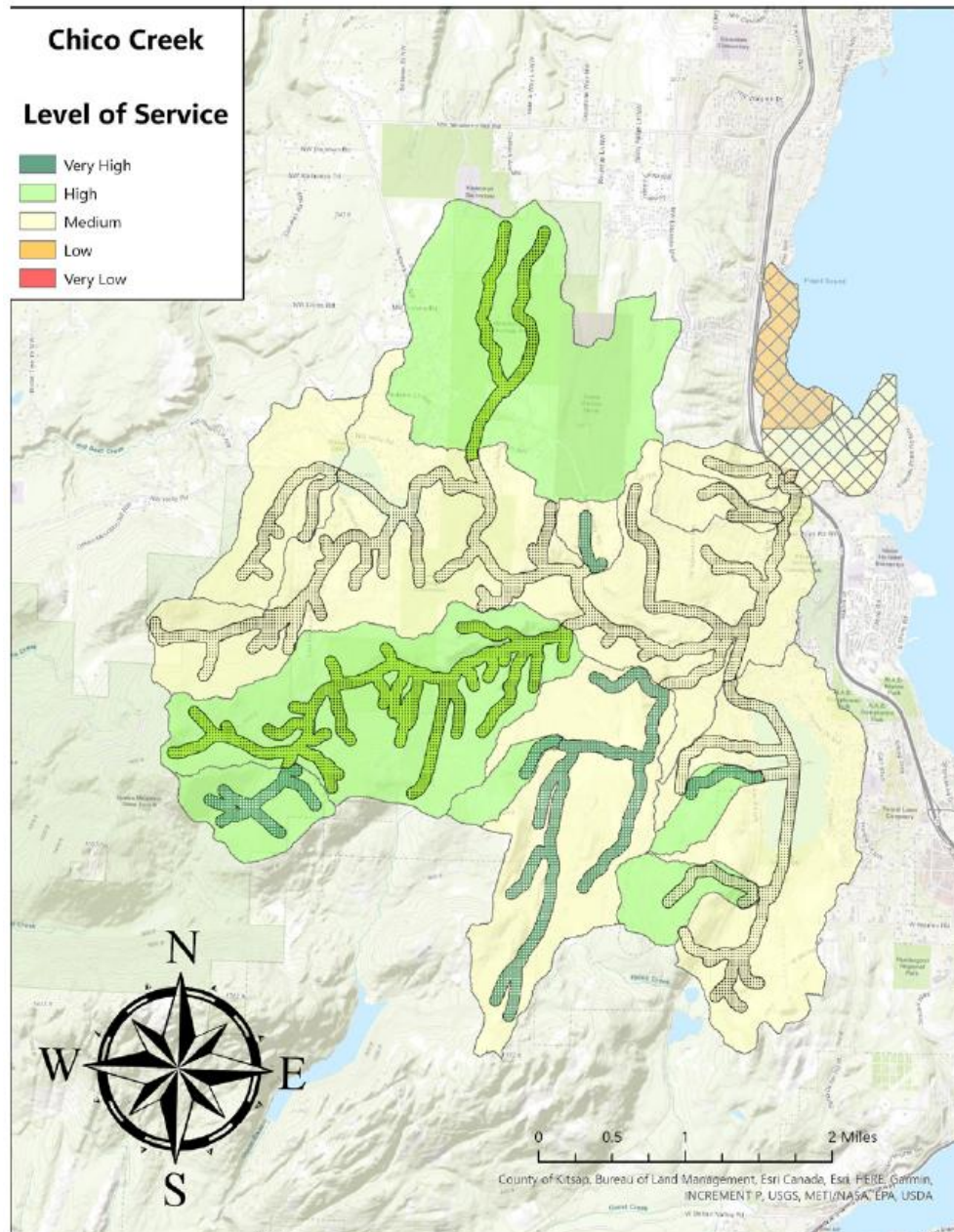
Protect high to very high shoreline units by:

- Implementing and enforcing shoreline regulations to prevent new shoreline armoring, removal of shoreline vegetation, and new development along shorelines
- Partnering acquire and protect high quality shoreline areas
- Improving education and incentives for voluntary stewardship





# Chico Creek



## Streams

### Improve stream connectivity

- Remove 6 fish passage barriers on tributaries of Chico Creek and Wildcat Creek (three of which are County-owned).

*Achievements: Four County-owned fish passage barriers are under consideration for correction in Dickerson Creek.*

### Increase riparian vegetation

- Restore 105.5 acres of riparian habitat along the main stem of Chico Creek and into Wildcat Lake.

## Forests

### Protect mature forests

- Protect 2,615 acres of mature forests (successional class).

### Increase forest cover

- Expand forest cover restoration by restoring 494 acres of forest.

## Marine Shorelines

### Improve marine shoreline water quality

- Improve water quality in Chico Bay and improve the status of the shellfish harvest growing area from "prohibited" to "approved".

*Achievements: The Kitsap Public Health District has been active in the Chico Bay area and recent water quality improvements may support reclassifying the shellfish growing area to "approved" in the near future.*

### Increase shoreline vegetation

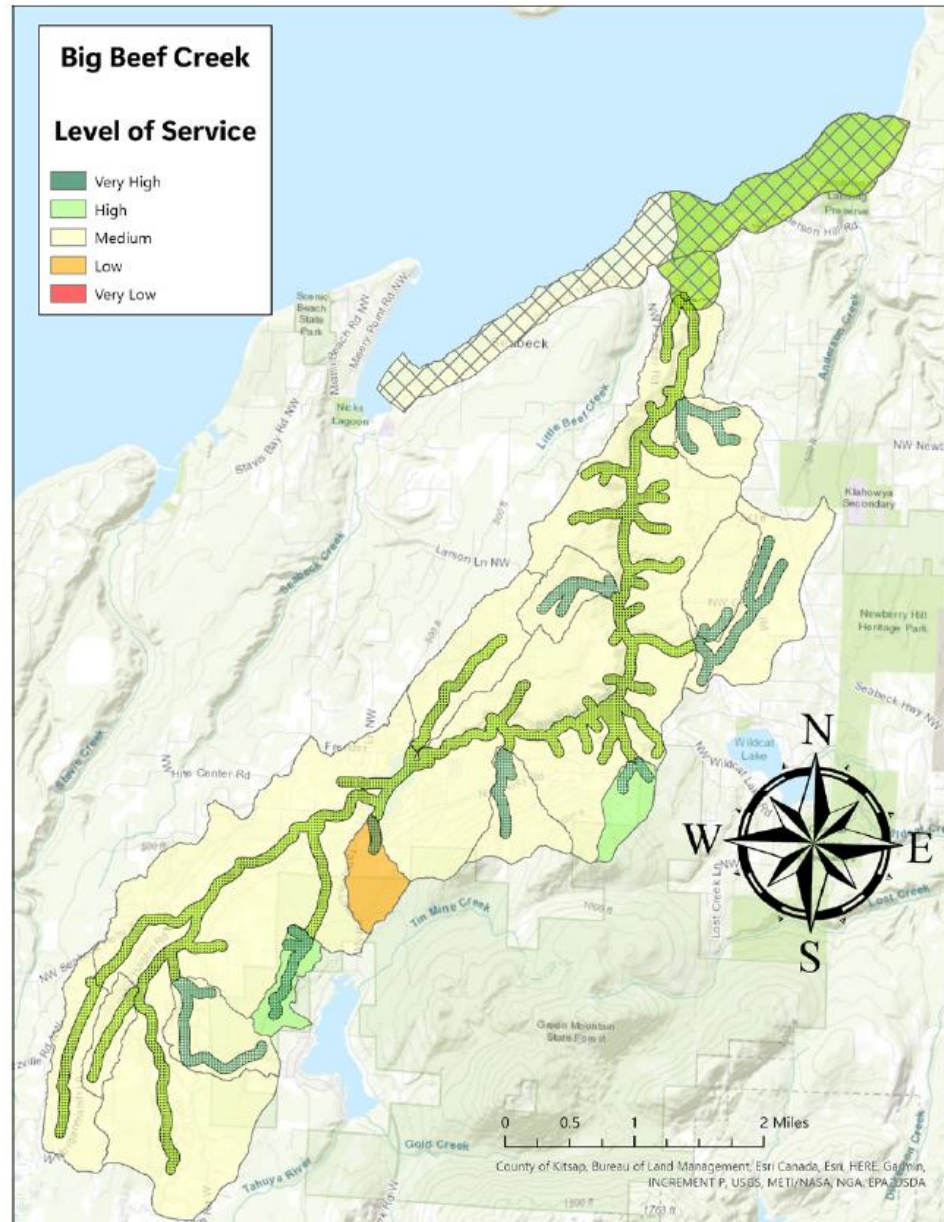
- Utilize the Pollution Identification Program (PIC) to identify and correct sources of pollution.
- Plant 2,937 feet of shoreline vegetation.

### Decrease shoreline armoring

- Focus outreach to remove 2,886 feet of shoreline armoring to improve shoreline ecological function, improve forage fish habitat, and the ability to harvest shellfish.

*Achievements: In partnership with the Suquamish Tribe, the County removed a wharf along the shoreline north of the Chico Creek outlet into Dyes Inlet.*

# Big Beef Creek



## Streams

### Improve stream connectivity

- Remove 2 full blockage fish passage barriers on tributaries to Big Beef Creek (none are County-owned). These barriers do not include the WDFW fish weir.

### Increase riparian vegetation

- Plant 70.3 acres of riparian habitat in a tributary off Lake Symington.

## Forests

### Protect mature forests

- Protect 1,491 acres of existing forest stands by acquiring land and working with partners.

*Achievements: WDFW added 451 acres transferred from DNR to the South Puget Sound Wildlife Area to protect forest cover as well as in-stream, floodplain, wetland, and riparian habitats.*

## Marine Shorelines

### Remove shoreline armoring

- Remove half of the shoreline armoring (4,021ft) by working with other Kitsap County departments and partners and conducting outreach to private landowners (partially owned by Kitsap County along Seabeck Highway).

*Achievements: KNRAMP has worked with Shore Friendly to conduct targeted outreach to shoreline homeowners with armoring along this stretch of Hood Canal.*

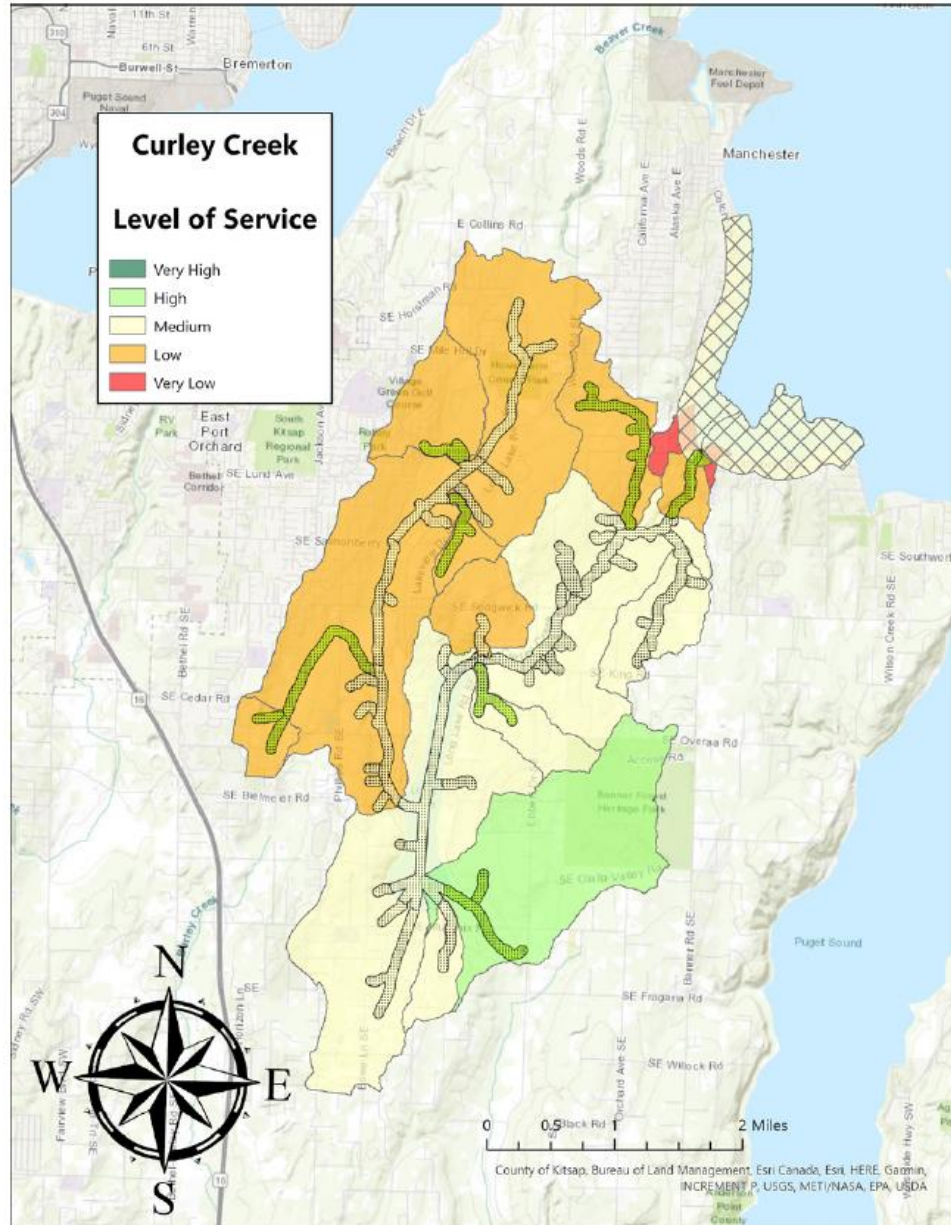
### Improve shoreline water quality status

- Plant shoreline vegetation in areas where shoreline armor is removed.
- Work with partners to ensure water quality standards reflect current data and determine if shellfish harvesting classification can be improved from "prohibited" to "conditional."
- If needed, utilize the Pollution Identification Program (PIC) to identify and remove pollution sources.

*Achievements: Engagement with the Washington State Department of Health (DOH) confirmed that Big Beef Bay is not monitored for shellfish harvest as there has not been a desire to harvest shellfish commercially in this bay. Hood Canal Salmon Enhancement Group (HCSEG) has a vested interest in updating Seabeck Highway to improve water access and cycling from hood canal into Big Beef Bay, which could open the bay for shellfish harvesting.*



# Curley Creek



## Streams

### Improve stream connectivity

- Remove 3 fish passage barriers in Salmonberry Creek (all three County-owned).

### Increase riparian vegetation

- Plant 6,400 feet of riparian vegetation over four management units in Salmonberry Creek.

## Forests

### Protect mature forests

- Protect 757 acres of mature forests around Salmonberry Creek.

### Increase forest cover

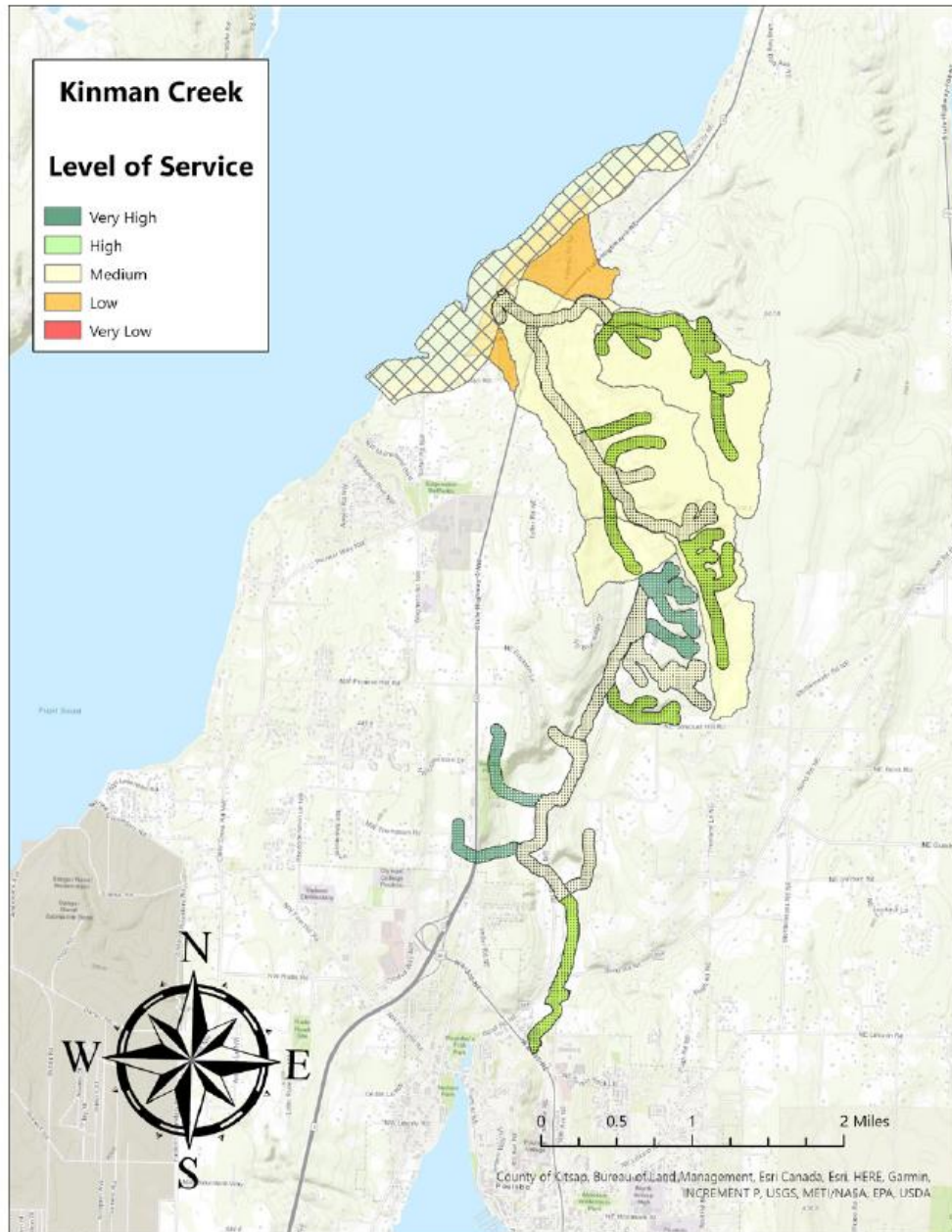
- Expand forest cover by 216 acres to increase habitat connectivity around Salmonberry Creek.

## Marine Shorelines

### Remove shoreline armoring

- Focus outreach to remove 10,200 feet of shoreline armoring across two management units by working with partners and incentivizing and educating landowners.

# Kinman Creek



## Streams

### Improve stream connectivity

- Remove 11 full blockage fish passage barriers across six management units in Kinman Creek and the headwaters of Dogfish Creek (three of which are County-owned).

## Forests

### Protect mature forests

- Protect and/or acquire 215 acres of forest land to improve mature forest cover.

### Increase forest cover

- Plant and/or protect 171 acres of forest land to increase overall forest cover and habitat connectivity.

## Marine Shorelines

### Remove shoreline armoring

- Focus outreach to remove 3,200 feet of shoreline armoring in one management unit by working with partners and incentivizing and educating landowners.