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BLUE COAST ENGINEERING

KITSAP COUNTY

Sea Level Rise Vulnerability and Risk Assessment

Planning Commission Meeting – June 17, 2025

formerly DCG/Watershed

Agenda

- **Vulnerability Assessment Results**
- **Draft Adaptation Strategies**
- **Recommended Next Steps**
- **Discussion**

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SLR Projections	90% Certainty	50% Certainty	1% Certainty
2050	0.5 ft	1 ft	1.5 ft
2100	1.5 ft	2.5 ft	5.0 ft

Location	50-yr Return Flood (90% Certainty		50-yr Return Flood (50% Certainty		50-yr Return Flood (1% Certainty)	
	2050	2100	2050	2100	2050	2100
Shorelines not in an inlet	3.5 ft	4.5 ft	4.0 ft	5.5 ft	4.5 ft	8.0 ft
Dyes Inlet	3.5 ft	4.5 ft	4.0 ft	5.5 ft	5.0 ft	8.5 ft
Sinclair Inlet	4.0ft	5.0 ft	4.5 ft	6.0 ft	5.0 ft	8.5 ft
Agate Pass	4.0 ft	5.0 ft	4.5 ft	6.0 ft	5.0 ft	8.5 ft
Port Gamble	4.0 ft	5.0 ft	4.5 ft	6.0 ft	5.0 ft	8.5 ft
Liberty	4.0 ft	5.0 ft	4.5 ft	6.0 ft	5.5 ft	9.0 ft

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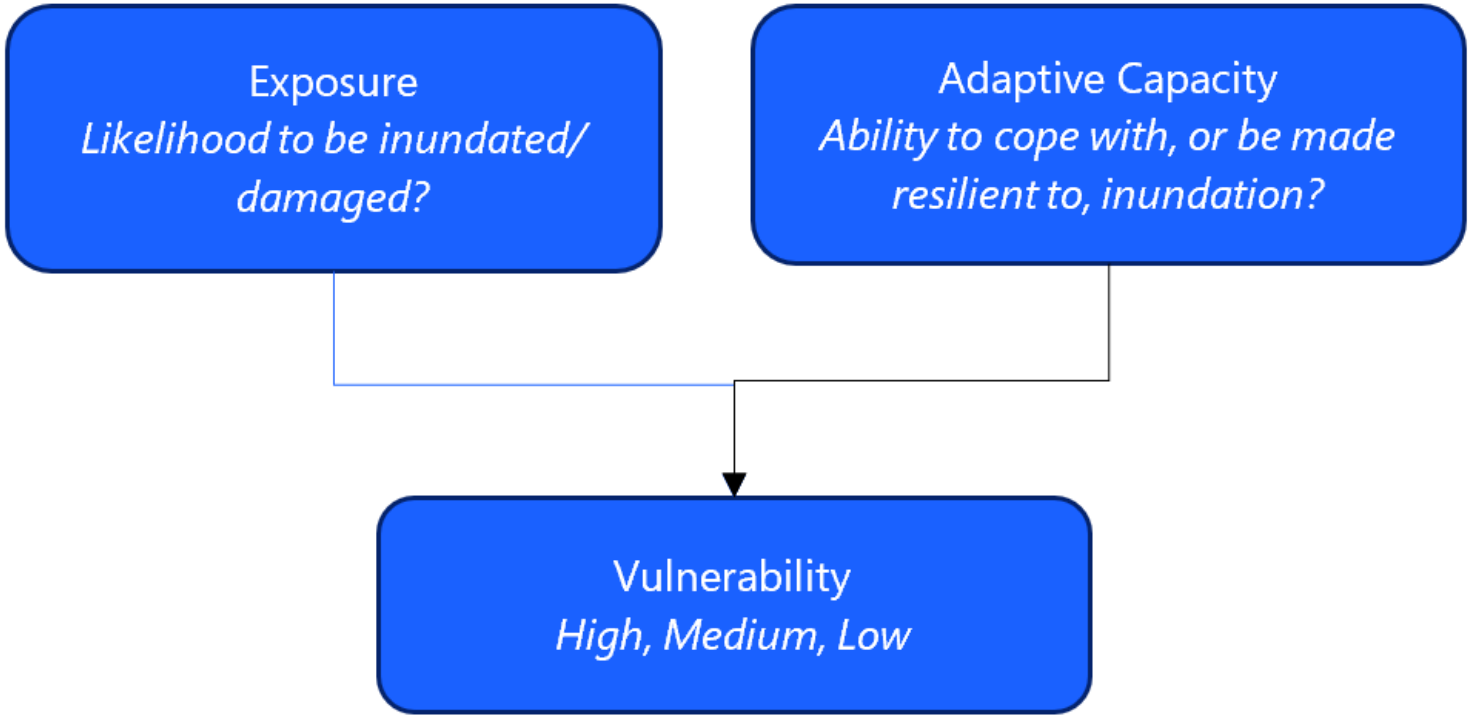
Assessment



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Exposure Criteria

Exposure Ranking	Description	
High *– likely to be exposed sooner*	Asset may be inundated by coastal flooding (SLR or 50-year return extreme flood) by 2050 with a 90% or 50% probability.	**+4.0-4.5 ft above MHHW**
Medium	Asset may be inundated by coastal flooding (SLR or 50-year return extreme flood) by 2050 with a 1% probability, or by 2100 with a 90% probability.	**+4.5-5.5 ft above MHHW**
Low *-less likely to be exposed*	Asset may be inundated by coastal flooding (SLR or 50-year return extreme flood) by 2100 with a 50% or 1% probability	**+8.0-9.0 ft above MHHW**

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Adaptive Capacity Criteria

Adaptive Capacity Ranking	Description
Low - Does *not easily* adapt, or is difficult to adapt, *to new conditions*	Impacts on assets may lead to significant operational disruptions or loss of functionality. Adaptative solutions may need to be innovative and require collaboration with agencies and representatives. High costs are likely associated and may require significant capital improvements to mitigate impacts
Medium	Impacts on assets may lead to temporary operational disruptions or loss of functionality. Impacts can be reduced or mitigated to some extent, but adaptive solutions may only be feasible for certain components of the assets. Some assets may face challenges regarding cost and implementation. .
High *-More easily adapted*	Assets can adapt to impacts with minimal difficulty. Adaptive solutions are highly feasible for most assets with affordable costs

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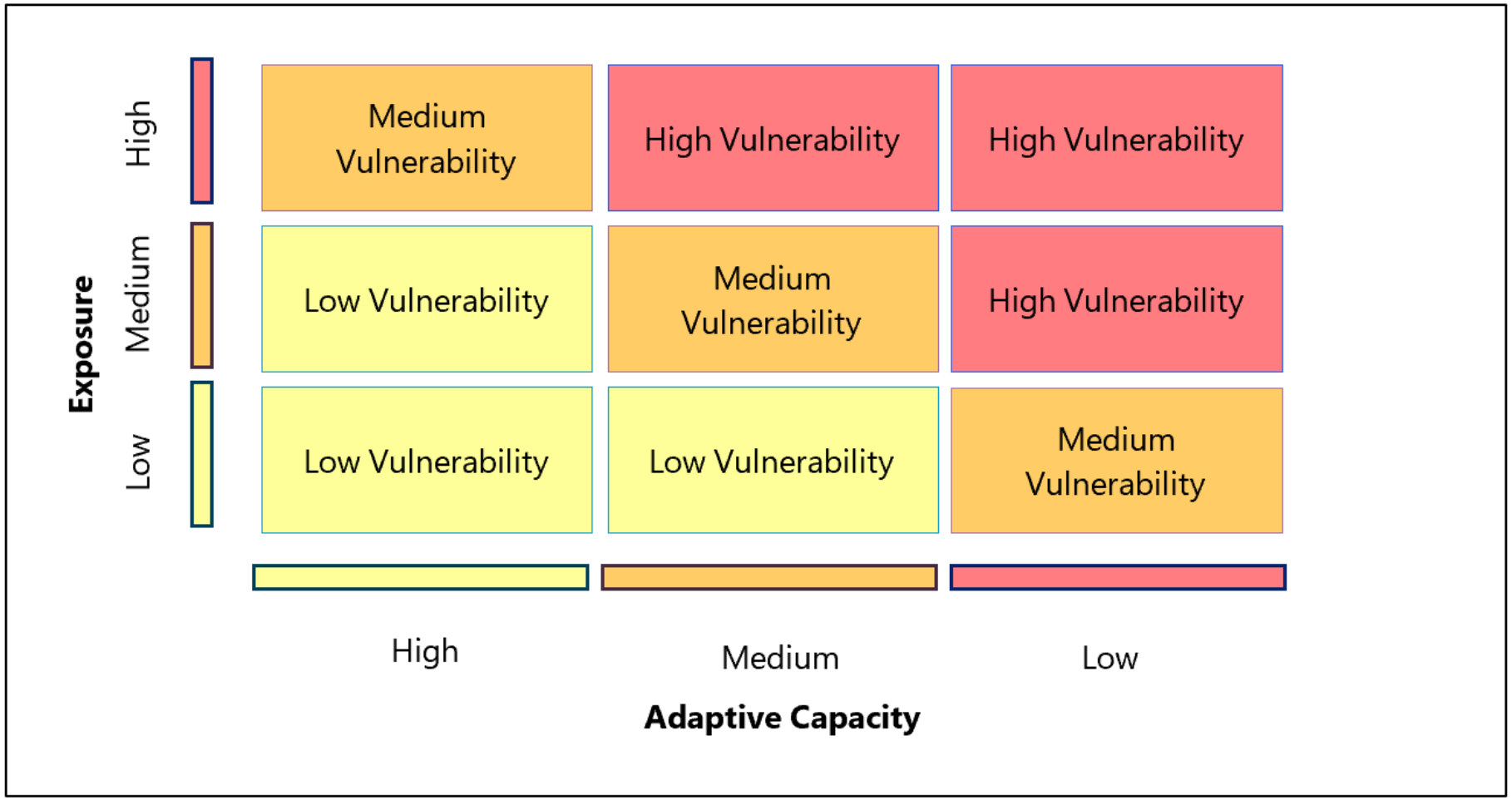
Vulnerability Matrix



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Wind-wave modeling

Site	Armored Shoreline ?	Site MHHW tidal datum (feet NAVD88)	Combined Storm Surge and SLR value (feet)[1]	Still water level (feet NAVD88)	Shoreline Crest Elevation (feet NAVD88	Wave Run-up R2% (feet)	Total Water Level (feet NAVD88)
Hansville		8.4	3.9	12.3	13.8	**4.0**	16.3
Port Gamble	Yes	8.2	3.9	12.1	13.8	**3.3**	15.4
Kingston		8.4	3.9	12.3	13.4	**1.3**	13.6
Seabeck		8.6	3.9	12.5	14.6	**3.2**	15.7
Silverdale	Yes	9.3	4.0	13.3	13.8	**1.9**	15.2
Manchester		8.9	3.9	12.8	20.9	**4.5**	17.3
Gorst		9.0	4.3	13.3	14.2 (inland crest elevation)	0.1	13.4

These results illustrate potential magnitude for planning considerations.

Very site-specific results and not applicable without information on surface and structural details of site

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Bluff Erosion

- Usually not a linear process and is more typically the result of **one larger scale "change event**" that occurs once every 15-25 years (MacLennan et al. 2018).
- Smaller scale sloughing of bluff material may also occur more frequently causing bluff recession of a **couple of inches per year**

- **Toe erosion** due to SLR and increased wave energy *may* increase erosion rates.
- **Bluff crest erosion** due to excess surface and shallow groundwater (rainfall) *may* increase erosion rates.

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List of Assets

Type of Asset				
Transportation	**Structures**	**Utilities Infrastructure**	**Environmental**	**Land Use**
Roads and Transportation	Coastal Buildings	Coastal On-Site Septic Systems[7]	Beaches	Agricultural Land/Farmland
Airports	Police Stations	Group A and B Water Systems	Marinas and Boat Ramps	Brownfield Sites/Landfills/Toxic Cleanup Sites
	Fire Stations	PSE Substations	Wetlands	Parks
	Historic and Cultural Sites	Sewer Districts/Water Treatment Plants		Shellfish/Seafood Industrial Facilities
	Hospitals	Stormwater Facilities		
	Libraries			
	Schools			

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Roads

Type of Asset	Exposure	Adaptive Capacity	Vulnerability
Roads	Approximately 7.0 miles of roadways within unincorporated Kitsap County likely to be inundated by a coastal flooding (SLR or 50-year return extreme flood) by 2050 with a 90% or 50% probability. **(Exposure = High)**	Temporary or permanent impacts due to flooding of transportation routes Impacts can be reduced or mitigated to a certain extent. However, the cost and implementation to retrofit, relocate or expand capacity of stormwater systems is a significant investment. Relocation opportunities are severely limited or non-existent. Certain roadways may need to be elevated or relocated to improve resilience to flood events. **(Adaptive Capacity = Low)**	**High**
	Approximately 1.5 miles of roadways are expected to be inundated by a coastal flooding (SLR or 50-year return extreme flood) by 2050 with a 1% probability, or by 2100 with a 90% probability. **(Exposure = Medium)**	*See above* **(Adaptive Capacity = Low)**	**High**
	Approximately 14.5 miles of roadway are expected to be inundated by a coastal flooding (SLR or 50-year return extreme flood) by 2100 with a 50% or 1% probability. **(Exposure = Low)**	Many roads are in areas where alternate routes exist. Temporary impacts due to flooding may impact the accessibility of residents. Impacts can be reduced or mitigated to a certain extent. Cost and implementation to retrofit, relocate or expand capacity of stormwater systems is a significant investment. However, roadways that are at a medium risk of exposure will likely not be impacted except temporarily during extreme weather events **(Adaptive Capacity = Medium)**	**Medium**

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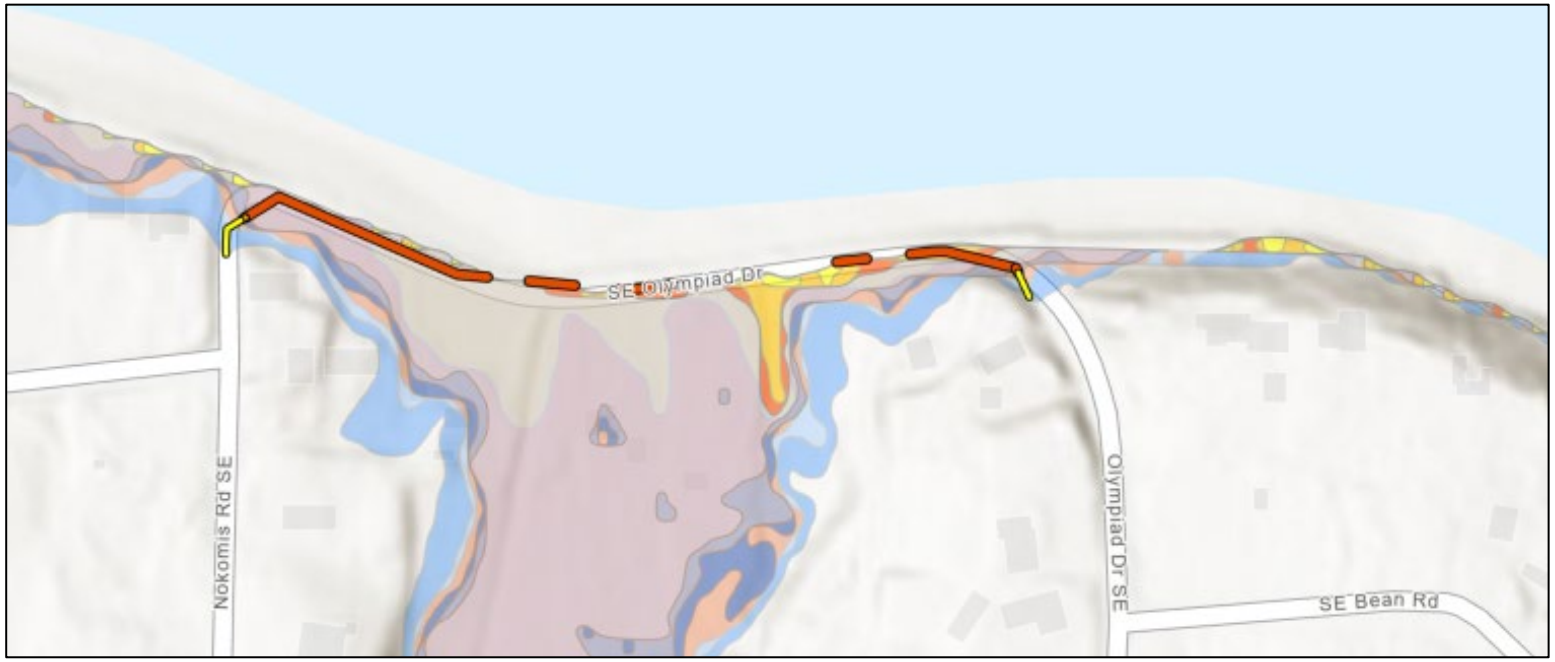
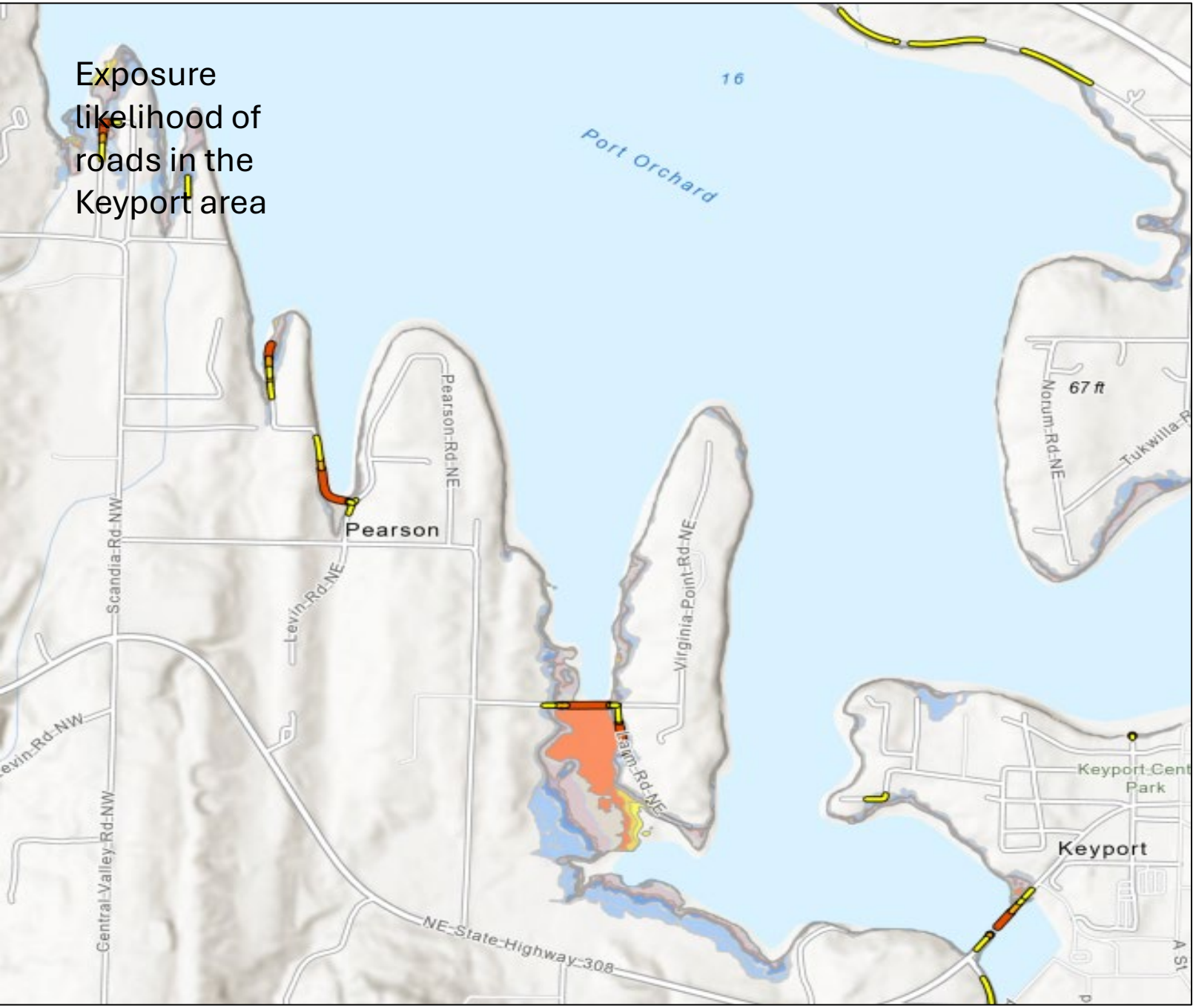
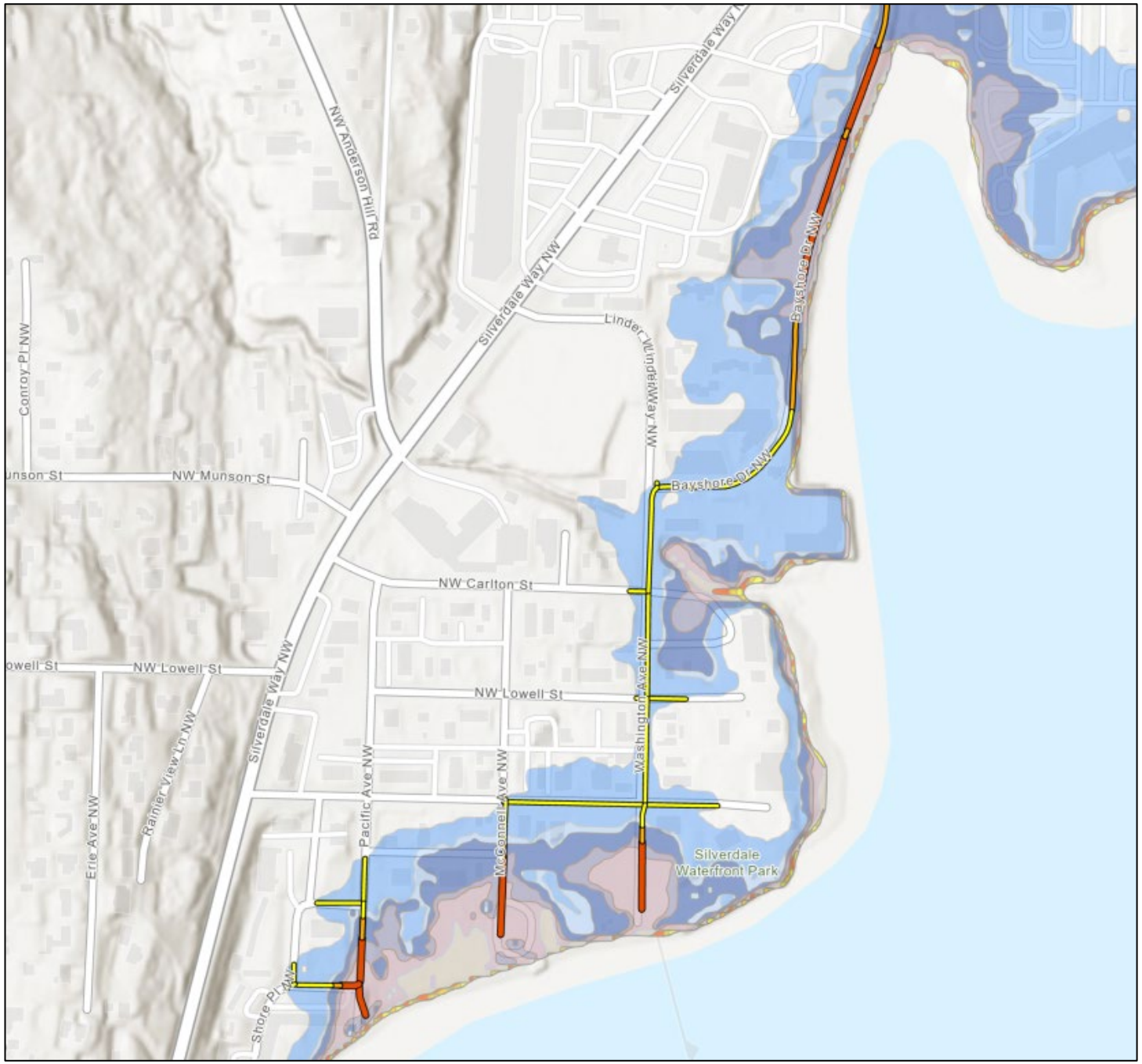


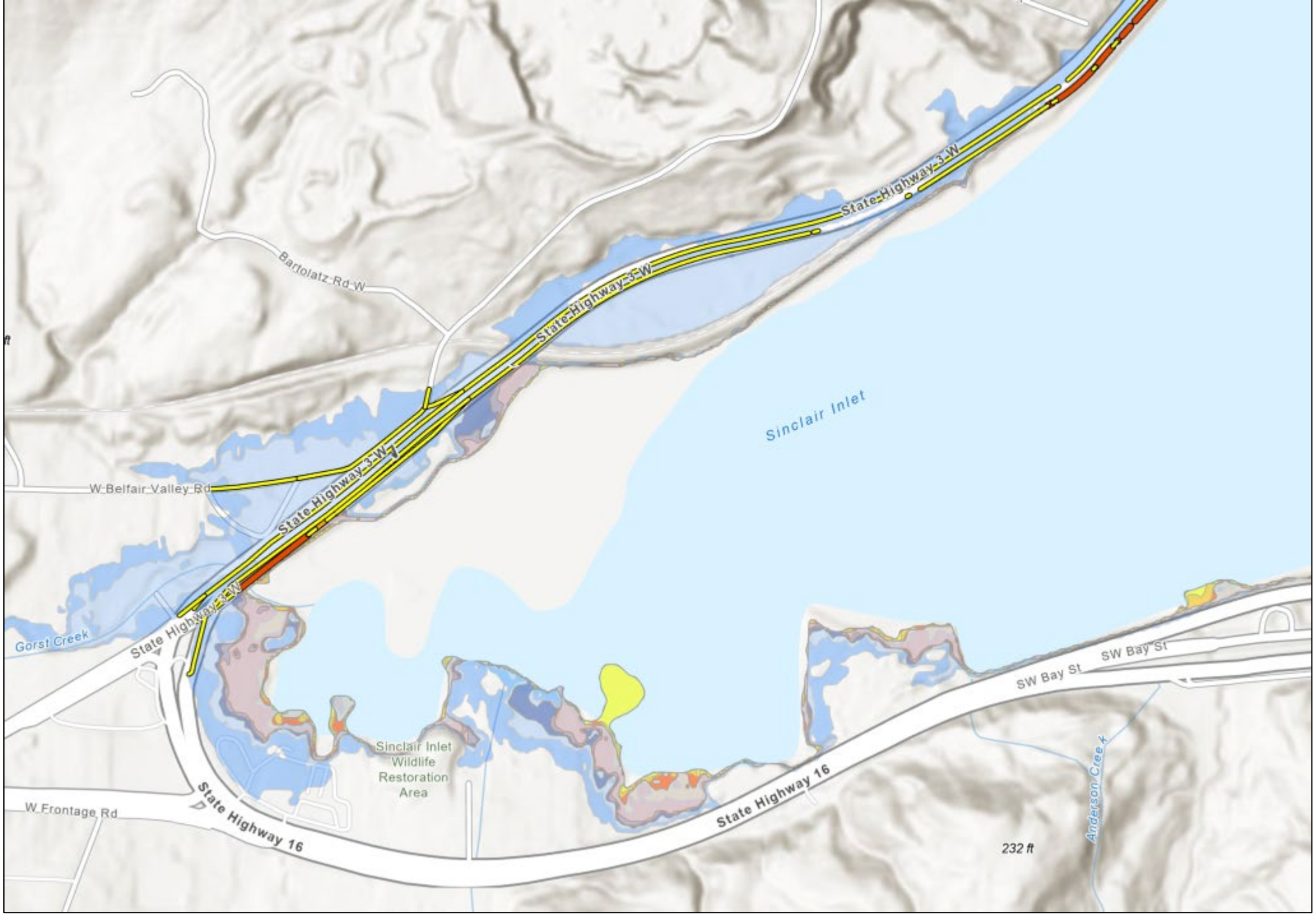
Exposure likelihood of roads in the Southworth area


Exposure likelihood of roads in the Keyport area
16
Port Orchard
67 ft
Norum Rd NE
Tukwilla
Pearson Rd NE
Pearson
Levin Rd NE
Scandia Rd NW
Virginia Point Rd NE
Fawn Rd NE
Keyport Cent
Park
Keyport
Central Valley Rd NW
NE State Highway 308

Exposure likelihood of roads in the Silverdale area



Exposure likelihood of roads in the Gorst area



Airports and Facilities

Type of Asset	Exposure	Adaptive Capacity	Vulnerability
Airports	Bremerton National Airport and Apex Aviation's airstrip are located upland and not at risk from SLR or coastal flooding based on the projections included in this assessment. The Poulsbo Seaplane Base is located within the City of Poulsbo and therefore is not included in this assessment.	N/A; assets are not likely to be exposed based on the projections included in this assessment.	**N/A**
Facilities: • **Schools** • **Law Enforcement** • **Fire Stations** • **Community Centers** • **Hospitals** • **Urgent Care Clinics** • **Museums** • **Libraries** • **County buildings and Fairground** • **Solid Waste Disposal Sites**	No schools, law enforcement, fire stations or community facilities listed in this table are expected to be located in areas at high, medium or low exposure risk to SLR or coastal flooding.	N/A; assets listed are not likely to be exposed based on the projections included in this assessment.	**N/A**

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Coastal Buildings

Type of Asset	Exposure	Adaptive Capacity	Vulnerability
Buildings	1,190 buildings are likely to be inundated by a coastal flooding (SLR or 50-year return extreme flood) by 2050 with a 90% or 50% probability. **(Exposure = High)**	Mitigation measures for buildings may require significant improvements to increase resilience from SLR and flooding impacts. Adaptations are possible, but cost is a challenge. **(Adaptive Capacity = Low)**	**High**
	260 buildings are expected to be inundated by a coastal flooding (SLR or 50-year return extreme flood) by 2050 with a 1% probability, or by 2100 with a 90% probability. **(Exposure = Medium)**	Mitigation measures for buildings may require improvements to increase resilience from temporary flooding impacts in the near term. Adaptations are possible, but cost is a challenge. Long-term planning efforts may be required as structures are redeveloped or replaced. **(Adaptive Capacity = Medium)**	**Medium**
	1,090 buildings are expected to be inundated by a coastal flooding (SLR or 50-year return extreme flood) by 2100 with a 50% or 1% probability. **(Exposure = Low)**	*See above* **(Adaptive Capacity = Medium)**	**Low**

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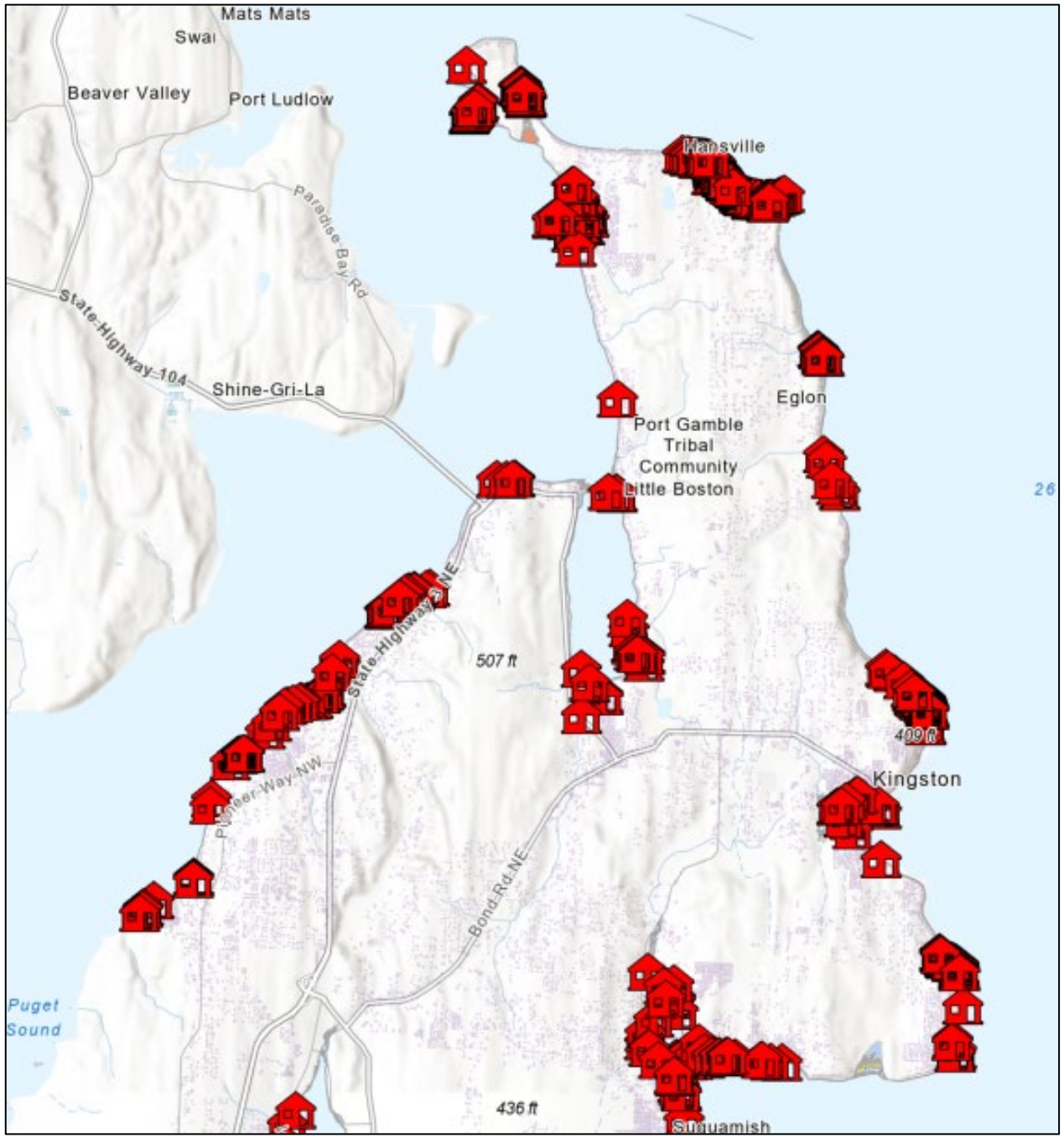
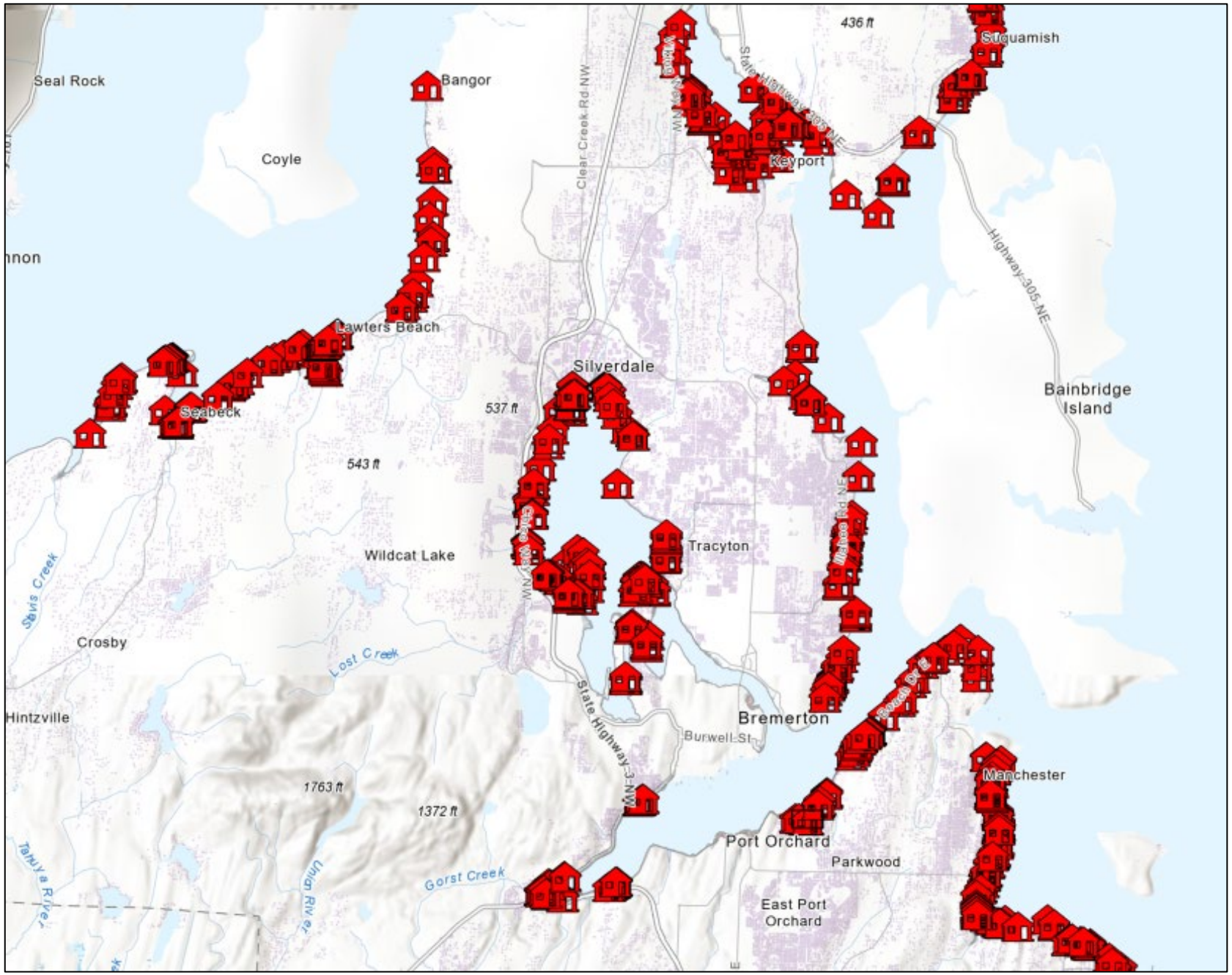


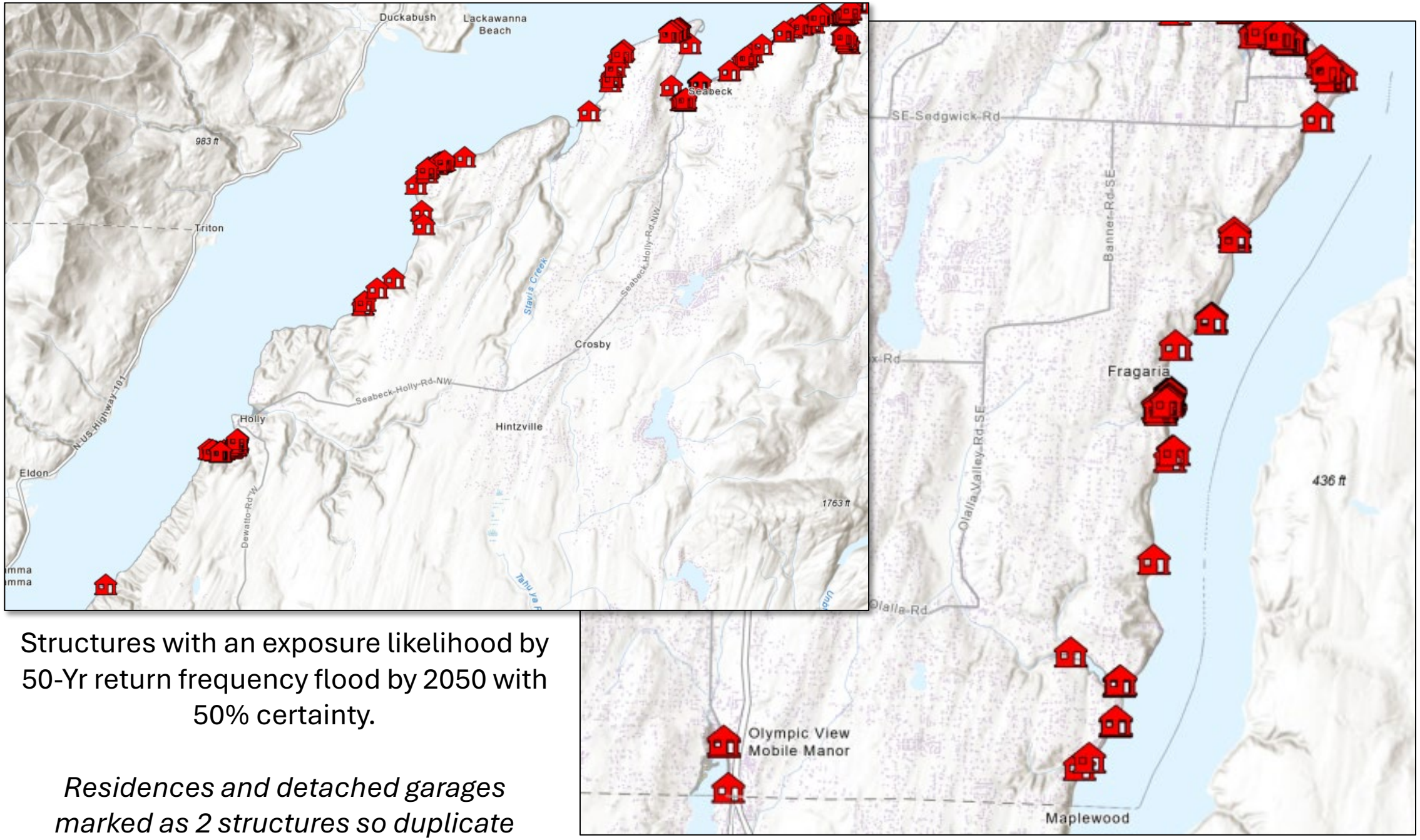
Structures with an exposure likelihood by 50-Yr return frequency flood by 2050 with 50% certainty.

Residences and detached garages marked as 2 structures so duplicate markers are likely.



Structures with an exposure likelihood by 50-Yr return frequency flood by 2050 with 50% certainty.

Residences and detached garages marked as 2 structures so duplicate markers are likely.



Structures with an exposure likelihood by 50-Yr return frequency flood by 2050 with 50% certainty.

Residences and detached garages marked as 2 structures so duplicate markers are likely.

Historic and Cultural Sites

Type of Asset	Exposure	Adaptive Capacity	Vulnerability
Historic and Cultural Sites	Three (3) historic structures and/or cultural sites are likely to be inundated by a coastal flooding (SLR or 50-year return extreme flood) by 2050 with a 90% or 50% probability, including • Doe-Kag-Wats, Indianola *(Estuary – Suquamish Tribal Reservation)* • Point No Point Light Station (*Historic Structure)* • Old Man House Site (*Cultural Site/Structure – Suquamish Tribe)* **(Exposure = High)**	Historic structures and cultural sites are expected to have limited options for adaptation. Preserving these sites in place can be costly, and their cultural and historical significance is not easily replicated. Relocation is generally not feasible without compromising their historic integrity. **(Adaptive Capacity = Low)**	**High**
	The Norwegian Point Park Boathouse (*historic structure)* in Hansville is expected to be inundated by a coastal flooding (SLR or 50-year return extreme flood) by 2100 with a 50% or 1% probability. **(Exposure = Low)**	*See above* **(Adaptive Capacity = Low)**	**Medium**

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PSE Substations and Structures

Type of Asset	Exposure	Adaptive Capacity	Vulnerability
Puget Sound Energy (PSE) Substations and Structures	Eighteen (18) electrical substations and two (2) electrical switch stations are located within the project area and none are in areas mapped as having an inundation likelihood under the chosen scenarios. **N/A**	N/A; assets listed are not likely to be exposed based on the projections included in this assessment.	**N/A**

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Water Systems

Type of Asset	Exposure	Adaptive Capacity	Vulnerability
Group B Water Systems	Six (6) Group B water systems are likely to be inundated by a coastal flooding (SLR or 50-year return extreme flood) by 2050 with a 90% or 50% probability, including the following: • Evanger (3 connections) • Misery Point HOA (7 connections) • President Point (4 connections) • Redman (4 connections) • Richardson Water (3 connections) • Scandia Court (5 connections) **(Exposure = High)**	The adaptive capacity of wells is considered low because of the significant cost for replacement and due to the fact, that once contaminated, repair can be costly and difficult. Interruption of operations has a significant impact on end users. **(Adaptive Capacity= Low)**	**High**
	Three (3) Group B water systems are expected to be inundated by a coastal flooding (SLR or 50-year return extreme flood) by 2100 with a 50% or 1% probability including: • Conifer Crest Water (4 connections) • Kristensen (2 connections) • Olalla Bay Market (2 connections) **(Exposure = Low)**	*See above* **(Adaptive Capacity= Low)**	**Medium**

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Stormwater Facilities

Type of Asset	Exposure	Adaptive Capacity	Vulnerability
Stormwater Facilities	11 catch basins , 86 raingardens, and 130 outfalls are likely to be inundated by a coastal flooding (SLR or 50-year return extreme flood) by 2050 with a 90% or 50% probability. **(Exposure = High)**	*See above* **(Adaptive Capacity = Low)**	**High**
	One (1) stormwater basin, two (2) raingardens and 25 outfalls are expected to be inundated by a coastal flooding (SLR or 50-year return extreme flood) by 2050 with a 1% probability, or by 2100 with a 90% probability. **(Exposure = Medium)**	Impacts on these facilities are unlikely to occur within the short-term planning horizon but are likely to occur by 2100. Infrastructure improvements could be prioritized under Capital Improvement planning as infrastructure is repaired or replaced over time. **(Adaptive Capacity = Medium)**	**Medium**
	Five (5) stormwater basins and nine (9) raingardens are expected to be inundated by a coastal flooding (SLR or 50-year return extreme flood) by 2100 with a 50% or 1% probability. **# of outfalls above 1.4 ft over MHHW were not quantified in HDR 2019* **(Exposure = Low)**	*See above* **(Adaptive Capacity = Medium)**	**Low**

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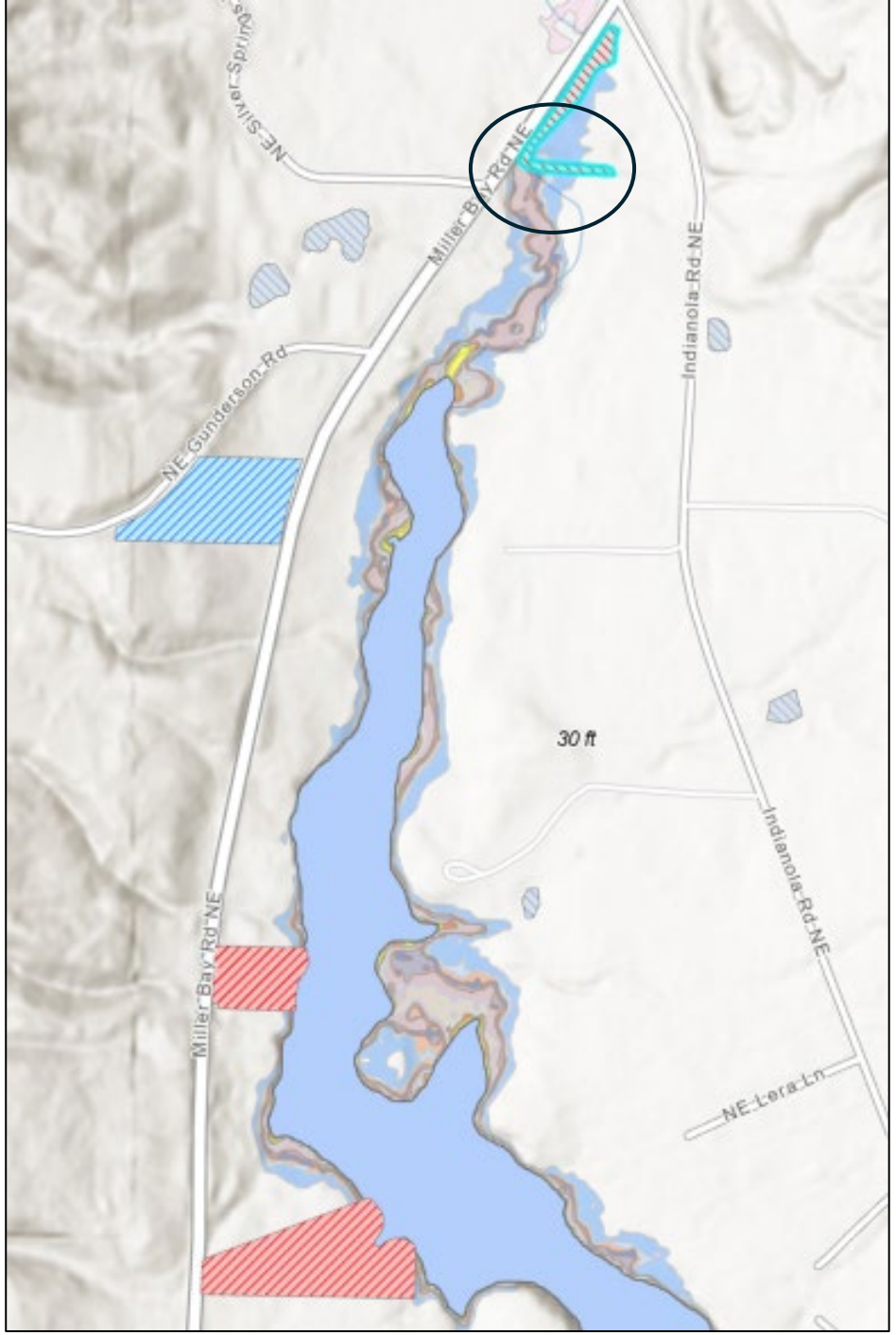

Raingardens and stormwater basins in Grover's Creek area, north end of Miller Bay

Sewer Facilities

Type of Asset	Exposure	Adaptive Capacity	Vulnerability
Sewer Facilities	Six (6) sewer facilities are likely to be inundated by a coastal flooding (SLR or 50-year return extreme flood) by 2050 with a 90% or 50% probability. **(Exposure = High)**	Buried infrastructure related to the municipal sewer service are likely to be resilient to periodic inundation. Material improvements may be required if infrastructure is permanently inundated in the future and should be monitored during temporary inundation events. Above-ground infrastructure improvements may be required for periodic or permanent inundation but could be planned for through Capital Improvement Funds. **(Adaptive Capacity = Medium)**	**High**
	One (1) sewer facility is expected to be inundated by a coastal flooding (SLR or 50-year return extreme flood) by 2050 with a 1% probability, or by 2100 with a 90% probability. **(Exposure = Medium)**	*See above* **(Adaptive Capacity = Medium)**	**Medium**
	One (1) sewer clean out is expected to be inundated by a coastal flooding (SLR or 50-year return extreme flood) by 2100 with a 50% or 1% probability. **(Exposure = Low)**	Sewer clean-outs are located above ground and may be at greater risk from impacts during temporary or permanent inundation. Adaptation strategies such as raising cleanouts above projected flood levels, or upgrading surrounding infrastructure may be required to increase resiliency. Mitigation measures are possible, but may be costly depending on the extent of infrastructure improvements required. **(Adaptive Capacity = Medium)**	**Low**

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Sewer Component Exposure

Type of Sewer Component	High	Medium	Low	Total
Sewer Cleanouts	0	0	1	1
Sewer Wet Wells	6	1	0	7
Gravity Mains[1] (Feet)	9,750 (1.75 miles)	2,350 (0.5 miles)	11,900 (2.25 miles)	4.5 miles
Force Mains[1] (Feet)	22,775 (4.25 miles)	6,642 (1.25 miles)	11,375 (2.25 miles)	7.75 miles

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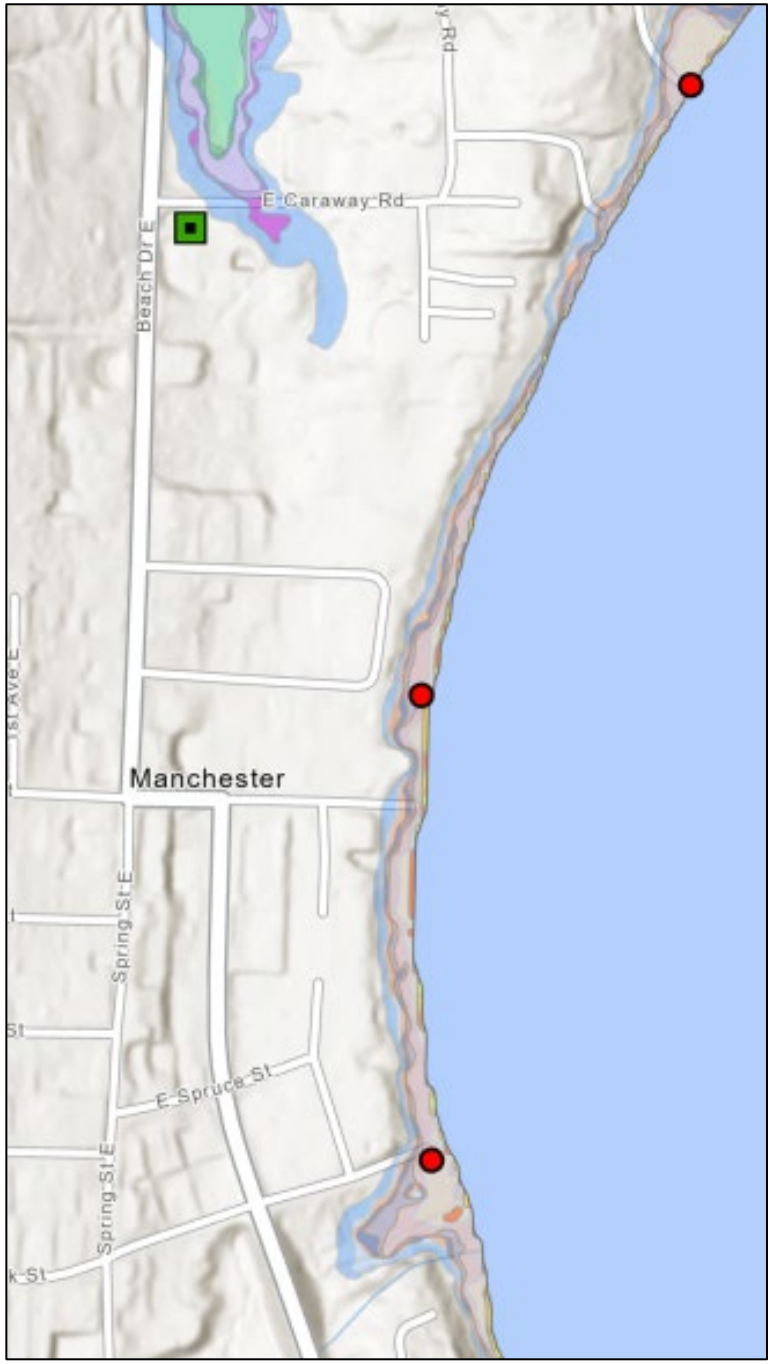

Sewer Components with an exposure likelihood in Manchester area.

Treatment Plant
Wet well,High
Wet well, Medium
Wet well, Not in
Meter

Wastewater and On-Site Septic Systems

Type of Asset	Exposure	Adaptive Capacity	Vulnerability
Wastewater Treatment Facilities	There are no wastewater treatment facilities within an area at risk of exposure. **N/A**	N/A; assets are not likely to be exposed based on the projections included in this assessment.	**N/A**
Coastal On-Site Septic Systems	Due to data limitations, the type and location of individual on-site septic systems were not available. As such, exposure ratings were not able to be applied.	If septic drainfields are inundated, impacts to on-site septic systems may temporarily disrupt operations until flood waters recede, and soils drain. Inundation during coastal flooding can also overwhelm systems, causing backups or overflows. Permanent inundation would necessitate adaptation strategies to be implemented such as raised systems, alternative treatment technologies, or eventual connection to sewer infrastructure, where possible. However, these adaptation measures may be costly and could result in public health risks if operational functions of the system are impacted. **(Adaptive Capacity = Low)**	**N/A**

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Wetlands

Type of Asset	Exposure	Adaptive Capacity	Vulnerability
Wetlands	Approximately 4,627 acres of wetlands are expected to be inundated by a coastal flooding (SLR or 50-year return extreme flood) by 2050 with a 90% or 50% probability, including: • 4,366 acres of estuarine and marine wetlands; • 163 acres of freshwater forested/shrub wetlands; • 60 acres of freshwater emergent wetlands; and • 38 acres of freshwater pond wetlands. **(Exposure = High)**	Wetland ecosystems generally have some adaptive capacity to water level changes, but ecosystems that have undergone significant alteration or degradation can show reduced resilience when facing deeper water conditions or changing salinity, like SLR and more frequent coastal storm flooding. In some cases, wetlands can naturally migrate toward higher elevations as sea levels increase. However, this natural adaptation process may be severely constrained throughout a lot of the County's shoreline due to the presence of shore hardening infrastructure and vertical bluffs which block wetland migration inland. **(Adaptive Capacity = Medium)**	**High**
	Approximately 4.0 acres of wetlands are expected to be inundated by a coastal flooding (SLR or 50-year return extreme flood) by 2050 with a 1% probability, or by 2100 with a 90% probability, including: • 1.0 acre of estuarine and marine wetlands; and • 3.0 acres of freshwater emergent wetlands. **(Exposure = Medium)**	*See above.* **(Adaptive Capacity = Medium)**	**Medium**
	Approximately 67 acres of wetlands are expected to be inundated by a coastal flooding (SLR or 50-year return extreme flood) by 2100 with a 50% or 1% probability, including: • 49 acres of freshwater forested/shrub wetlands; • 17 acres of freshwater emergent wetlands; and • 1.0 acre of freshwater pond wetlands. **(Exposure = Low)**	*See above.* **(Adaptive Capacity = Medium)**	**Low**

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Beaches

Type of Asset	Exposure	Adaptive Capacity	Vulnerability
Beaches	This assessment did not have data to quantify exposure. Data for most public access locations along beaches are included in Parks, Bays and Marinas. Beach access at the end of roads is documented within the Transportation section.	Beaches can adapt by moving inland provided there is space to do so, like wetlands, as described above. However, on beaches with hard structures or vertical restrictions, beach material cannot be pushed inland. Instead, the water becomes deeper, and wave energy more intensely, washing away sand and gravels. Salmon have no refuge or benthic prey, forage fish have no substrate to spawn in, and eelgrass can't root. This condition is called "coastal squeeze". **(Adaptive Capacity = Medium)**	**High**

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Bays and Marinas

Type of Asset	Exposure	Adaptive Capacity	Vulnerability
Bays and Marinas	Three (3) assets related to marinas and bays are expected to be inundated by a coastal flooding (SLR or 50-year return extreme flood) by 2050 with a 90% or 50% probability, including: • Port of Manchester Boat Ramp, Port Orchard • Eglon Boat Ramp, Kingston • Manchester Dock, Port Orchard **(Exposure = High)**	Boat ramps are generally expected to have greater adaptive capacity due to their design and intended function. Since they are built to accommodate some level of inundation for vessel launching, moderate increases in water levels may not significantly affect their operation. However, impacts may arise if water levels rise to the point that the ramp becomes non-functional if it is permanently submerged or structurally compromised. Substantial investments may be required to modify or relocate these facilities if functionality is lost. **(Adaptive Capacity = Medium)**	**High**
	The Chico Boat Ramp is expected to be inundated by a coastal flooding (SLR or 50-year return extreme flood) by 2050 with a 1% probability, or by 2100 with a 90% probability. **(Exposure = Medium)**	*See above* **(Adaptive Capacity = Medium)**	**Medium**
	Lawrence Memorial Boat Ramp is expected to be inundated by a coastal flooding (SLR or 50-year return extreme flood) by 2100 with a 50% or 1% probability. **(Exposure = Low)**	*See above* **(Adaptive Capacity = Medium)**	**Low**

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Seafood and Shellfish Facilities

Type of Asset	Exposure	Adaptive Capacity	Vulnerability
Seafood and Shellfish Industrial Facilities	Grovers Creek Hatchery is expected to be inundated by a coastal flooding (SLR or 50-year return extreme flood) by 2100 with a 50% or 1% probability **(Exposure = Low)**	Adaptive Capacity of hatcheries is dependent on whether critical facilities, buildings and electrical infrastructure can be raised. It also depends on capacity to handle excess water. Relocation is not possible due to natal stream requirements of salmon populations. **(Adaptive Capacity = Low)**	**Medium**

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Parks

Type of Asset	Exposure	Adaptive Capacity	Vulnerability
Parks	Six (6) parks are expected to be inundated by coastal flooding (SLR or 50-year return extreme flood) by 2050 with a 90% or 50% probability, including: • Silverdale Waterfront • Arness Roadside Park • Anderson Point • Keyport County Park • Salsbury Point Park • Point No Point Park **(Exposure = High)**	The adaptive capacity of parks is expected to vary by the type of assets present. As park facilities are not expected to provide critical functions to the community, the adaptive capacity may include conversion of open spaces to coastal wetlands or a receded shoreline. The infrastructure that serves the park may need to be relocated, retrofitted, or abandoned as inundation occurs. **(Adaptive Capacity = Medium)**	**High**
	Pat Carey Vista is expected to be inundated by coastal flooding (SLR or 50-year return extreme flood) by 2050 with a 1% probability, or by 2100 with a 90% probability. **(Exposure = Medium)**	*See above* **(Adaptive Capacity = Medium)**	**Medium**
	Three (3) parks are expected to be inundated by coastal flooding (SLR or 50-year return extreme flood) by 2100 with a 50% or 1% probability, including: • Kitsap Memorial State Park • Scenic Beach State Park • Manchester State Park **(Exposure = Low)**	*See above* **(Adaptive Capacity = Medium)**	**Low**

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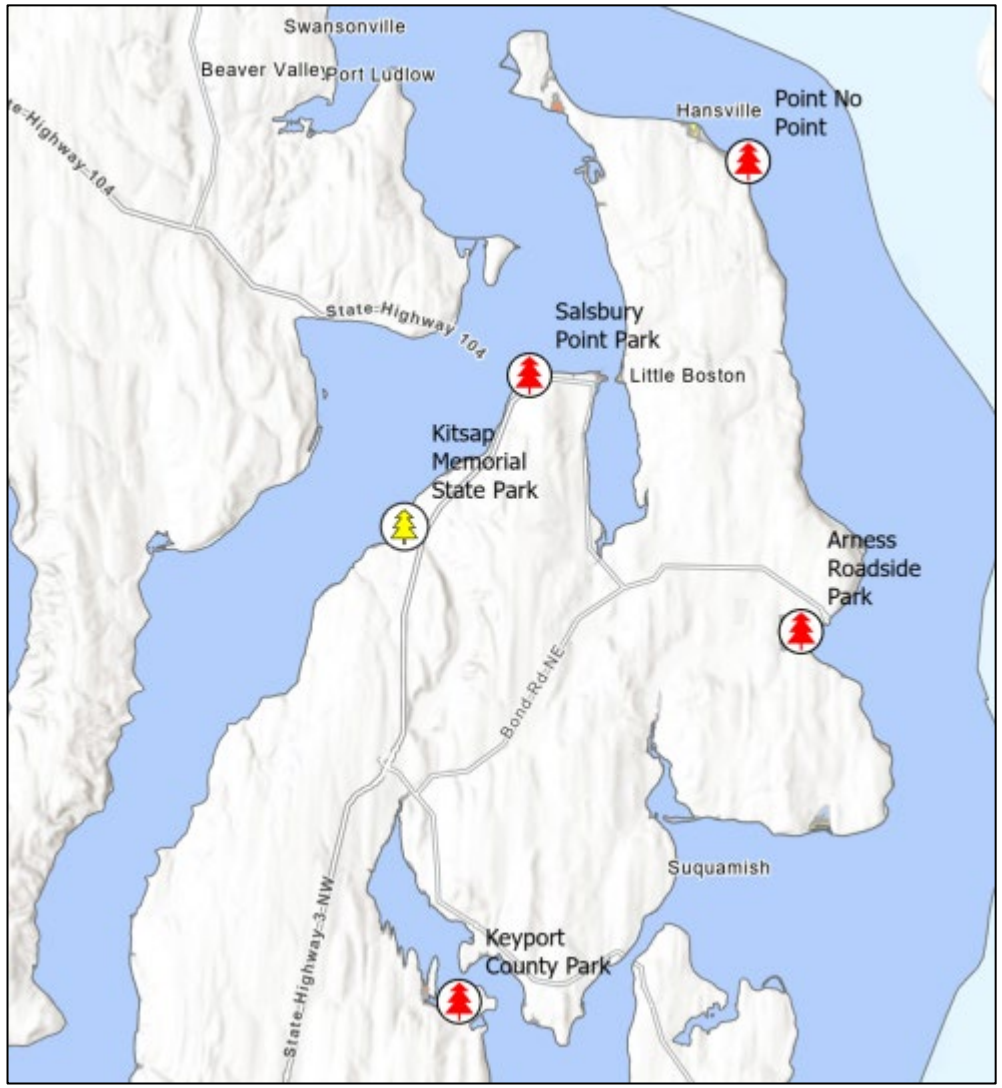
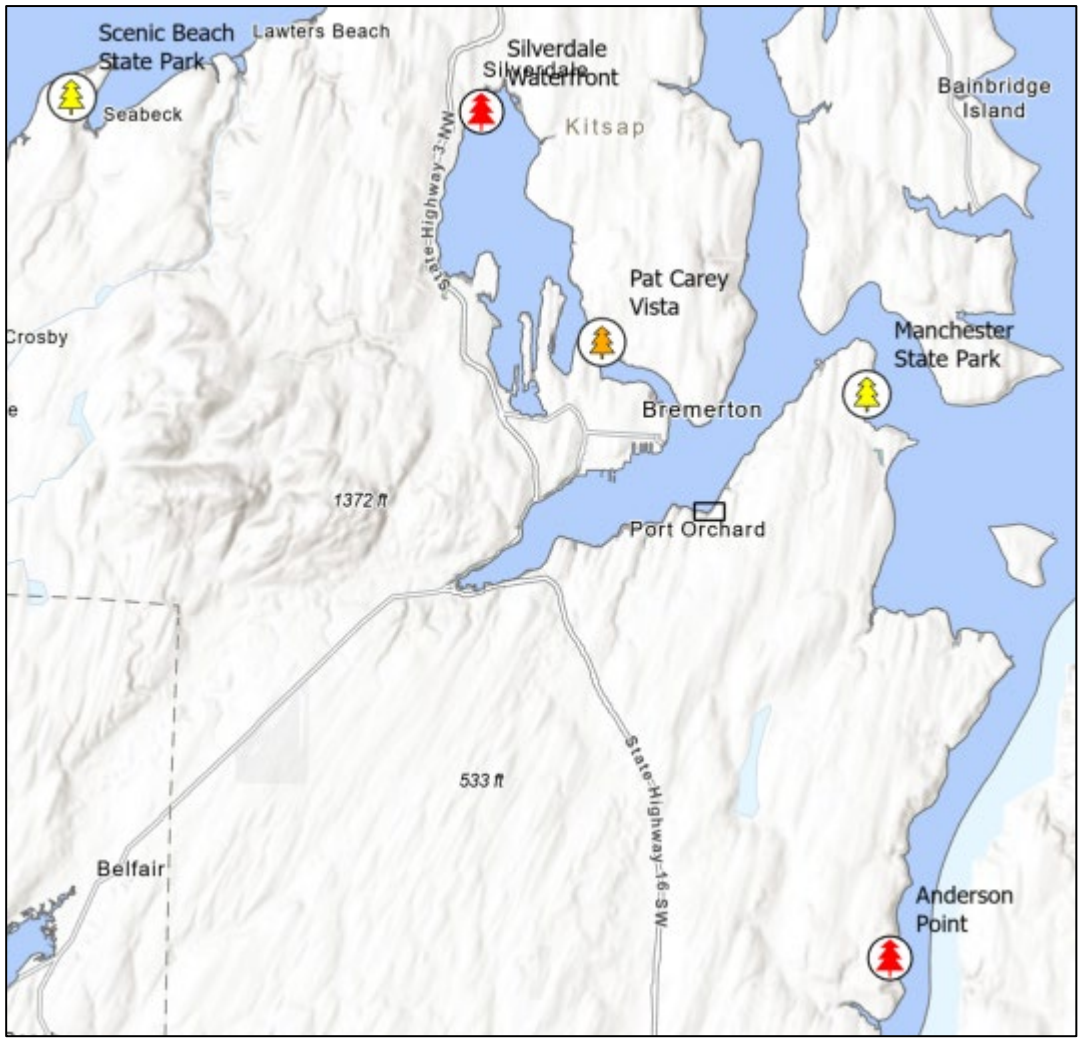
Parks with some exposure likelihood





Mapping Nuances when it involves parcels…

Agricultural Land

- Kitsap Conservation District “Windshield Survey”
- Parcels are forested or not inundated
- Saltwater intrusion is larger concern

Brownfield and Landfills

Type of Asset	Exposure	Adaptive Capacity	Vulnerability
Brownfield/Landfill	Four (4) sites are expected to be impacted by coastal flooding (SLR or 50-year return extreme flood) by 2050 with a 90% or 50% probability, including: • Hansville General Store • Captains Landing, Hansville • Seabeck Marina and Moorage • U.S.C.G. Point No Point Light Station **(Exposure = High)**	Landfills or brownfield sites are expected to contain contaminated soils, which could cause significant impacts if inundated. These facilities would require relocation, significant protection strategies and/or remediation to mitigate impacts. Operational impacts would be significant if active sites were to have interrupted functions. **(Adaptive Capacity = Low)**	**High**
	Two (2) sites are expected to be inundated by coastal flooding (SLR or 50-year return extreme flood) by 2050 with a 1% probability, or by 2100 with a 90% probability including: • Pioneer Landfill • Sinclair Inlet **(Exposure = Medium)**	*See above* **(Adaptive Capacity = Low)**	**High**
	Two (2) sites are expected to be inundated by coastal flooding (SLR or 50-year return extreme flood) by 2100 with a 50% or 1% probability, including: • Port Gamble Bay and Mill Site • Welding and Supply, Gorst **(Exposure = Low)**	*See above* **(Adaptive Capacity = Low)**	**Medium**

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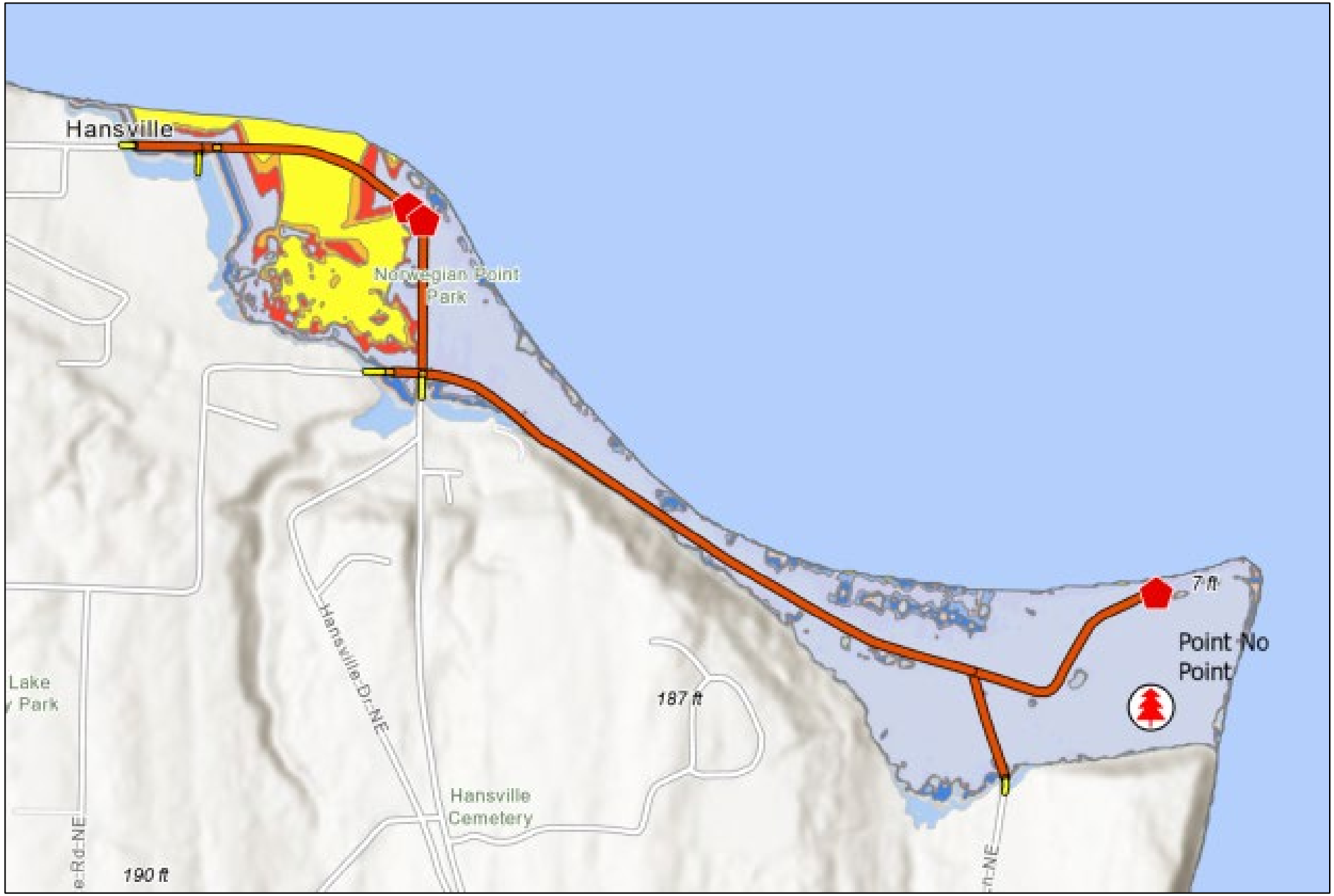

Hansville area exposure likelihood for:

- Roads
- Parks
- Contaminant sites (Ecology)

Adaptation Strategies

- Consider requiring assessments or reports to include sea-level rise projections for potentially impacted properties.
- Review development setbacks near geologically hazardous areas.
- Limit redevelopment or expansion of existing legal non-conforming structures in vulnerable locations.
- Require special considerations when permitting critical infrastructure and facilities.
- Develop and implement a repetitive loss program.
- Consider more detailed mapping of Channel Migration Zones.
- Consider the anticipated climate change impacts in the design of habitat restoration efforts.

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Adaptation Strategies

- Consider further evaluating the anticipated impacts to commercial water-dependent industries.
- Consider incentivizing passive management strategies.
- Encourage alternatives to hard shoreline stabilization measures.
- Provide support for education opportunities about raising vulnerable structures and identify incentives or funding opportunities, when available.
- Incentivize community flood control and adaptation strategies.
- Prioritize transportation connectivity and resiliency.
- Evaluate existing stormwater infrastructure and conduct maintenance, where needed.

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Recommended Next Steps

- Expand on the findings of these reports and begin implementing resiliency strategies to protect assets and infrastructure in the future.
- Consider seeking grant opportunities for financial support to replace the aging infrastructure, particularly in areas most vulnerable.
- Quantify exposure of forage fish beaches to see where possible beaches could experience possible coastal squeeze
- Consider revisions to plans or development regulations, such as those recommended in Section 6.0, to improve the resilience of new or redeveloped properties and reduce the risk of damage or loss.
- Identify areas where channel migration is a concern and apply a detailed CMZ delineation methodology to inform future hazards, integrated flood management, and restoration efforts.

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Recommended Next Steps

- Develop Community Plans for residential areas most at risk (e.g. Hansville).
- A future study could be conducted to identify areas most at risk of saltwater intrusion and evaluate the interactions of existing conditions with future sea level rise projections for targeted areas.
- Contact systems managers of Group B water systems that are identified as vulnerable to bring awareness of potential exposure hazards and plan for mitigation measures.
- Develop an informational tool that allows residents to conduct a high-level self-assessment of their vulnerability through a series of guided questions and prompts. The tool could link to the County's ArcGIS StoryMap to help users identify their level of exposure.
- Work with Washington State Department of Ecology to identify ways to streamline permitting for certain resiliency strategies and update codes respectively to allow for improved implementation.

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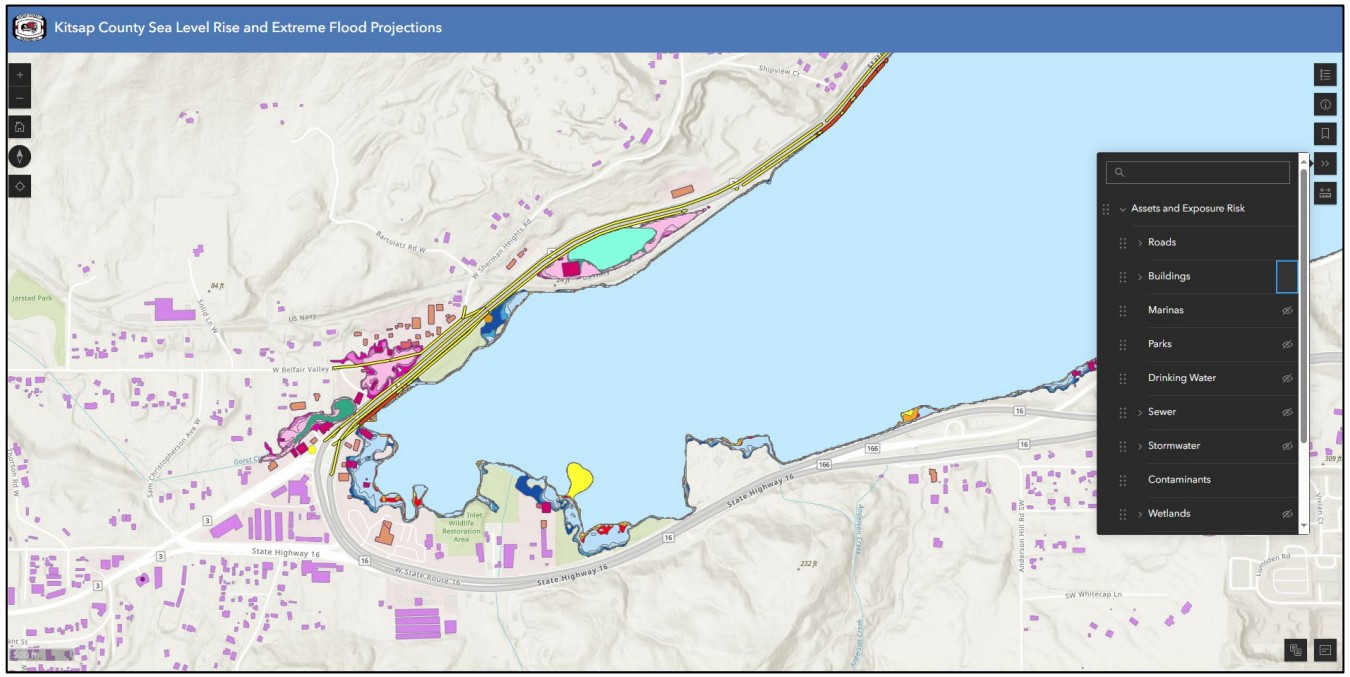
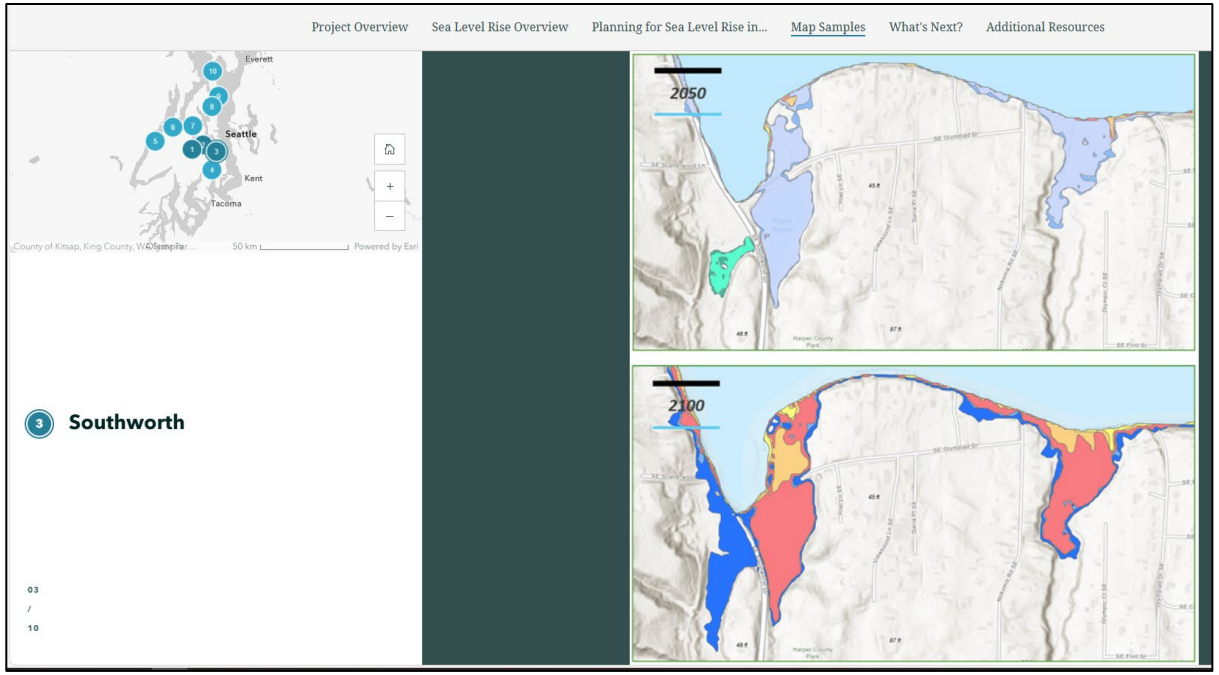
StoryMap

[County's Sea Level Rise Vulnerability and Risk Assessment](#) Website Hub





Discussion