

# Five-Year Implementation Update

## Olympia Sea Level Rise Response Plan

March 2025







# In Collaboration with



Washington State  
DEPARTMENT OF  
ENTERPRISE SERVICES





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# The Sea Level Rise Response Plan and Collaborative

In 2019, the City of Olympia (City), the Port of Olympia (Port) and the LOTT Clean Water Alliance (LOTT) developed the Olympia Sea Level Rise Response Plan (the Plan). The Plan provides sea level rise projections, adaptation strategies and a phased-implementation approach to reduce flood risks to downtown. Over the past five years, project partners have collaborated to implement near-term adaptation actions outlined in the Plan. This report summarizes the progress and achievements of the Olympia Sea Level Rise Response Collaborative (Collaborative) and outlines our future work.

In 2021, the City, Port and LOTT formalized the Collaborative to coordinate regional sea level rise response efforts. Washington State Department of Enterprise Services (DES), Thurston County and the Squaxin Island Tribe have also joined the Collaborative as non-voting, ex-officio participants.

The Sea Level Rise Response Plan provides a range of adaptation strategies to prepare for and reduce the risk of flooding in downtown Olympia. The Plan categorizes strategies into four areas: informational, physical, governance and operational (Figure 1). This multifaceted approach ensures comprehensive adaptation, as no single strategy can address all challenges alone.

**Figure 1. Types of Sea Level Rise Adaptation Strategies Pursued by the Collaborative.**

Informational	Physical	Governance	Operational
Address data and knowledge gaps in our understanding of flood vulnerabilities.	Address flood vulnerabilities through physical interventions such as raised berms, flood barriers, and other strategies to flood-proof assets.	Address flood vulnerabilities through policies, plans, coordination, guidelines and regulations.	Address flood vulnerabilities through operations and maintenance in response to changing conditions.

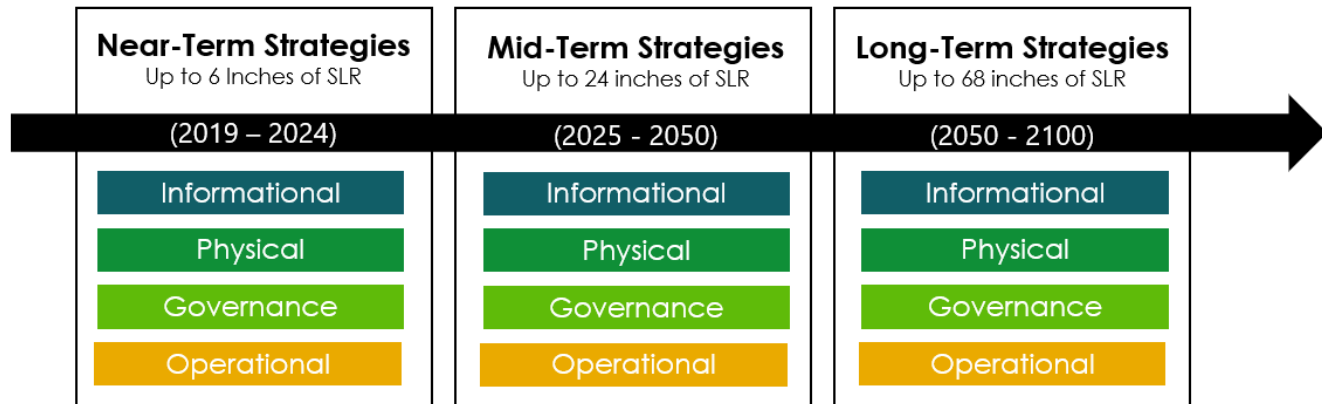
The plan structures adaptation actions across three-time frames (Figure 2):

- **Near-term (2019-2024):** Up to 6 inches of sea level rise
- **Mid-term (2025-2050):** Up to 24 inches of sea level rise
- **Long-term (2050-2100):** Up to 68 inches of sea level rise

Adaptation efforts align with scientific projections and asset exposure to flooding. High-priority actions, such as mitigating existing flood challenges, were implemented first. Longer-term adaptation for higher levels of sea level rise will occur in mid- to late-century to ensure strategic investment of limited resources and timely construction of physical infrastructure.



**Figure 2. Phased Approach and Time Periods for Sea Level Rise Adaptation.**



As of March 2025, the Collaborative partners have completed or are actively working on 32 of 37 (86%) near-term strategies, demonstrating strong coordination and execution. Our focus now shifts to planning and implementing mid-term strategies.

For more information, see the [Olympia Sea Level Rise Response Plan](#).

## Olympia's Flood Risk

Downtown Olympia faces significant flood risks due to rising sea levels. High-water levels in Capitol Lake and Budd Inlet's high tides can overtop the shoreline, flooding downtown streets and low-lying areas. Even minor sea level increases substantially increase risks to infrastructure and essential services. As sea levels rise and rainfall intensifies, flooding will become more frequent and severe.

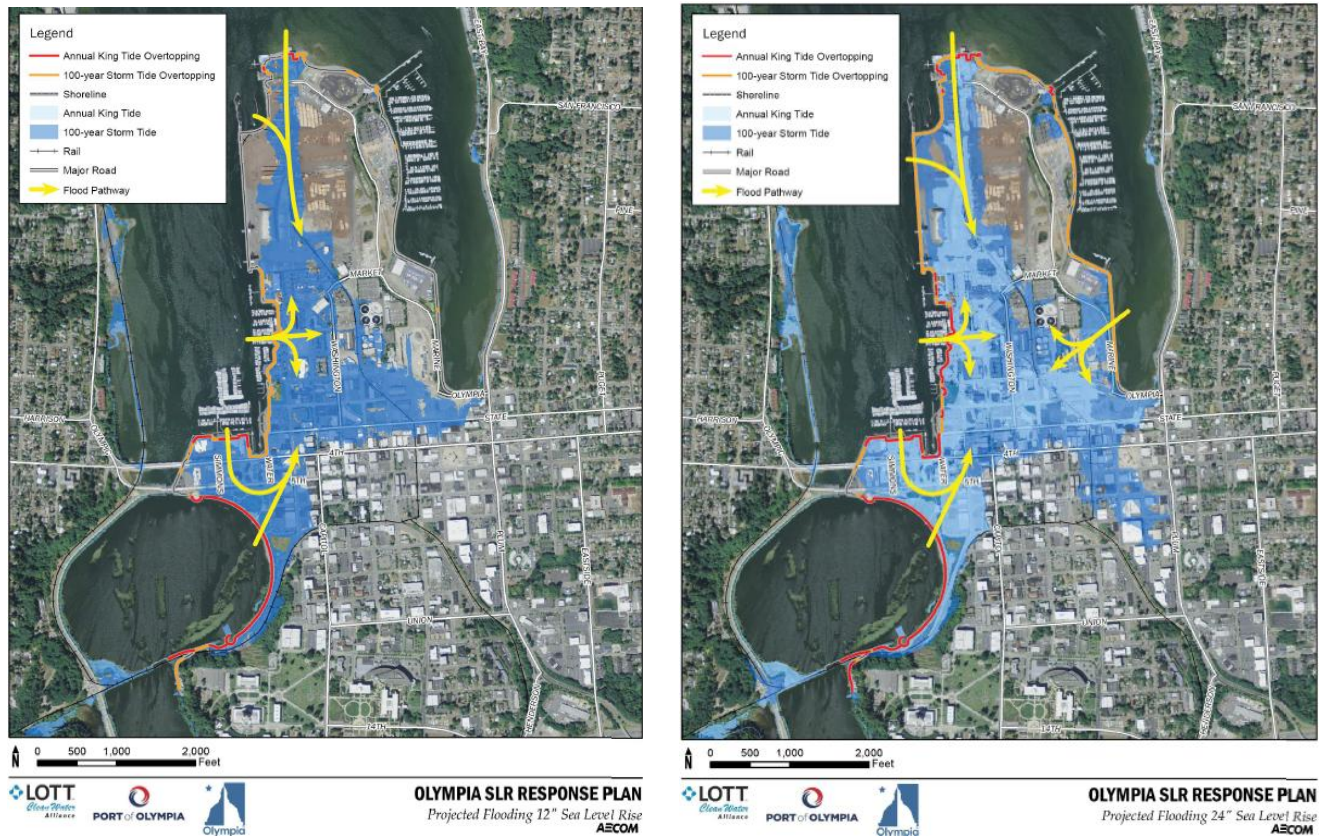
Although sea level rise is certain, precise predictions remain challenging. The most probable projections for Olympia estimate a one-foot rise by 2050 and a three-foot rise by 2100. A recent study<sup>1</sup> showed that while sea levels are rising in Washington, the levels are not accelerating as rapidly over the last decade as previously projected. The updated estimates show little change in the most-likely projections and only slightly decrease the most extreme scenario considered for 2100. To address the uncertainty associated with sea level rise projections, the Collaborative employs an adaptive management approach and is creating a strategy to monitor changes in sea level rise trends. This means that we implement strategies based on current data while remaining prepared for more aggressive action if necessary.

We are already seeing the impacts of sea level rise through more frequent tidal flooding. In 2022, Olympia experienced the highest tides recorded in the city. Downtown Olympia serves as the city's social, cultural, and economic hub and contains critical infrastructure, including City Hall, the Budd Inlet Treatment Plant, the Port's marine terminal, the Transit Center and emergency corridors. The Olympia Farmers Market, Heritage Park and Percival Landing are important cultural and recreational places to many in Olympia and the region. Our waterfront and its link to Puget Sound are highly valued by our community and need to be protected.

<sup>1</sup> Sweet et al., 2022. "Global and Regional Sea Level Rise Scenarios for the United States"

For a detailed analysis of flood risks and infrastructure impacts, refer to the [Olympia Sea Level Rise Response Plan](#).

**Figure 3. Sea Level Rise Projections in Downtown Olympia.**



Left map corresponds to 12 inches of sea level rise, the most likely estimate for sea level rise by 2050. Right map corresponds to 24 inches of sea level rise, the high range estimate for sea level rise by 2050.



## Five-Year Implementation Highlights

The Collaborative has implemented near-term actions over the past five years across all adaptation strategy types. Below are just a few examples of our work. The full list of adaptation progress is found in the Detailed Description of Near-Term Adaptation Actions section.

### PHYSICAL STRATEGIES

#### INSTALL BACKFLOW PREVENTION ON STORMWATER OUTFALLS AND OTHER KEY PIPES.

Since 2018, 24 tide gates have been installed by Olympia's Storm and Surface Water Utility and LOTT, including at the LOTT shared Fiddlehead outfall, with investments totaling more than \$100,000. The Port of Olympia installed backflow prevention at two key stormwater outfalls as well.





## OPERATIONAL STRATEGIES

COORDINATE WINTER FLOOD PREPAREDNESS AND RESPONSE ACTIVITIES TO MINIMIZE FLOODING OF THE COMBINED SEWER SYSTEM.

The City and LOTT invested in emergency preparedness strategies to reduce impacts to the sewer system from overland flooding. The City streamlined emergency response for deploying sandbags and pumps and sealing catch basins when high, seasonal tidal flooding is predicted. The City also established an emergency alert system and improved public outreach to business owners and residents in downtown.

New maps showing sandbag staging locations and areas of high flood risk inform residents about who should prepare and how to access resources. These operational procedures lead to more effective preparedness and fast response to minimize damage during king tide events.





## GOVERNANCE STRATEGIES

### FORMALIZE SEA LEVEL RISE COLLABORATION AND DEVELOP GOVERNANCE STRUCTURE.

The City, LOTT and the Port formed the Sea Level Rise Response Collaborative to implement the work set out in the Olympia Sea Level Rise Response Plan. Each of the Collaborative's partners contributes staff time and financial resources. Washington State Department of Enterprise Services, Thurston County and Squaxin Island Tribe are non-voting members of the Collaborative.

The staff team implement annual work plans, develop capacity within their own organizations for sea level rise adaptation and lead coordination between the partners.

### INCORPORATE SEA LEVEL RISE CONSIDERATIONS INTO PLANNING DOCUMENTS, INCLUDING PERMITTING AND CAPITAL DEVELOPMENT DESIGN GUIDELINES.

The updated Shoreline Master Program and Olympia 2045 Comprehensive Plan now incorporate sea level rise considerations. DES has included adaptive design features for sea level rise in their design and planning of the Deschutes Estuary restoration. LOTT and the Port will also be integrating sea level rise risks, projections and strategies into their ongoing master planning processes.



## INFORMATIONAL STRATEGIES

### INVESTIGATE AND IMPLEMENT LONG-TERM PUBLIC FINANCING MECHANISM.

The Collaborative completed a study on long-term financing options for sea level rise adaptation projects. The Collaborative will continue exploring the financing options and discuss options with the community in the coming years.

### PLAY A ROLE AS A REGIONAL SEA LEVEL RISE ADVISOR.

The City collaborates regularly with federal and state agencies, including the Washington State Department of Ecology, Washington Sea Grant and U.S. Geological Survey (USGS), to advance sea level rise research and response efforts. The City is an active member of the coastal hazard community and professional networks and has presented the Collaborative's work at professional panels, conferences and webinars.

## Case Study: December 2022 King Tide Event

On December 27, 2022, Olympia experienced a king tide event, providing a glimpse into future sea level rise impacts. A combination of heavy rainfall, low atmospheric pressure and an 18.4' Mean Lower Low Water tide—1.77' above projections—led to overtopping at three shoreline locations near Percival Landing and caused flooding in nearby streets.

Despite the severity of the event, sea level rise adaptation measures helped minimize the damage. City staff deployed pumps, installed magnetic storm drain covers, closed streets and distributed sandbags. The actions taken by all the partners avoided a sewer overflow and limited property damage. The installed tide gates prevented significantly worse flooding impacts in the streets and DES's management of the 5<sup>th</sup> Avenue Dam prevented flooding near Capitol Lake.

The event underscored the importance of continued adaptation efforts and progress. In response, the City launched a public resources [webpage](#), improved its tidal flooding alert system, and enhanced outreach to businesses and residents.





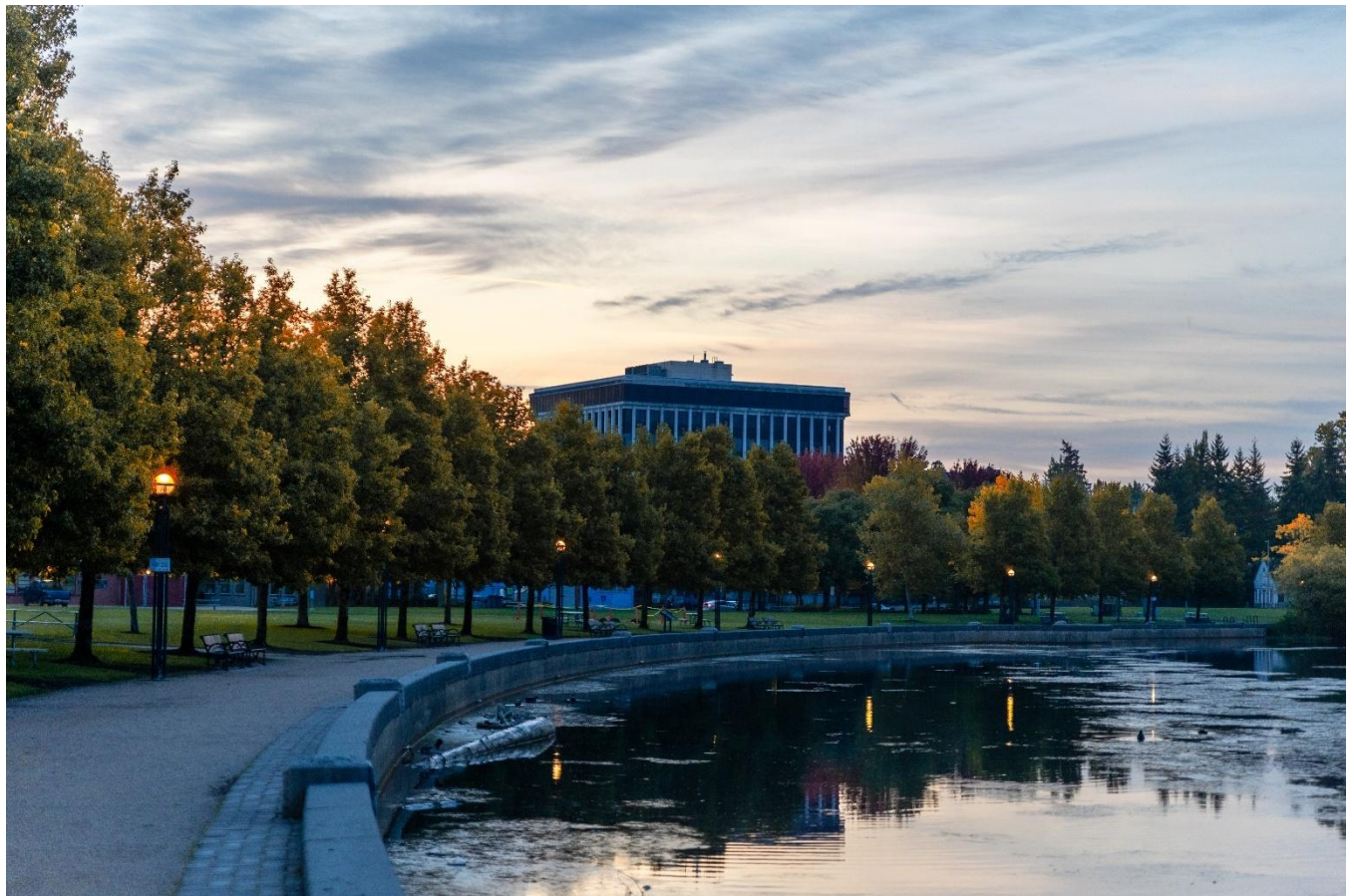
## Looking Ahead: Mid-Term Strategy Implementation

With near-term strategies largely completed, the focus now shifts to mid-term adaptation efforts. Over the next 25 years, the Collaborative will:

- Expand flood-protection infrastructure
- Continue integrating sea level rise considerations into planning and development
- Secure additional funding for large-scale adaptation projects
- Strengthen partnerships with regional and federal agencies

The Collaborative remains committed to proactive and adaptive sea level rise planning, ensuring Olympia's long-term resilience against climate change.

For more information, visit the [Olympia Sea Level Rise Response Plan website](#).



## Detailed Description of Near-Term Adaptation Actions

This section includes detailed descriptions of all near-term adaptation actions. Unless underlined, actions take place across the entire Project Area of the Olympia Sea Level Rise Response Plan. Actions with underlined locations only occur at the identified project focus area.

### PHYSICAL STRATEGIES

CAPITOL LAKE AND LOWER DESCHUTES WATERSHED AND PERCIVAL LANDING AND ISTHMUS: INSTALL BACKFLOW PREVENTION ON STORMWATER OUTFALLS AND OTHER KEY PIPES.

Since 2018, Olympia's Storm and Surface Water Utility has installed 24 tide gates to prevent backflow into the stormwater-collection system and prevent flooding in low-lying areas of downtown.

**Lead:** City of Olympia

**Status:** Completed

CAPITOL LAKE AND LOWER DESCHUTES WATERSHED: MINOR LANDSCAPING AT KEY LOCATIONS TO RAISE GROUND ELEVATIONS

DES will include near- and mid-term adaptation strategies along Capitol Lake and the lower Deschutes watershed as a part of the Deschutes Estuary Restoration plan. Minor modifications may be needed for consistency with the planned estuary restoration. Sea level rise considerations and adaptation strategies consistent with the SLR Plan were included in 30% design plans, published by DES in 2024.

**Lead:** Washington State Department of Enterprise Services

**Status:** Ongoing

BUDD INLET TREATMENT PLANT AND COMBINED SEWER SYSTEM: COORDINATE WITH THE CITY TO PRIORITIZE INSTALLATION OF BACKFLOW PREVENTION ON KEY PIPES AND OUTFALLS.

LOTT staff coordinated with the City to repair the tide gate on the shared Fiddlehead Outfall, which was completed in 2022.

**Lead:** LOTT

**Status:** Completed

PORT OF OLYMPIA PENINSULA: INSTALL BACKFLOW PREVENTION ON STORMWATER OUTFALLS "A" AND "J."

The Port installed backflow prevention on the stormwater outfalls.

**Lead:** Port of Olympia

**Status:** Completed

### OPERATIONAL STRATEGIES

EMERGENCY RESPONSE TO FLOOD EVENTS, INCLUDING SANDBAGS, PORTABLE PUMPS, SEALING CATCH BASINS.

LOTT, the City and DES met multiple times between 2019 and 2020 to develop a joint-response strategy for flood events. This included marking key combined system catch basins and covering them before potential flooding to prevent the introduction of floodwaters into the combined storm/sewer system.

In 2021, LOTT provided artwork for decals to mark key catch basins, which City staff installed on more than 100 catch basins in 2022. In 2022, the City also purchased magnetic catch basin covers, developed a deployment plan, and established a notification system to notify LOTT and DES of predicted flooding. This notification



system is used to initiate joint action to cover catch basins ahead of likely flood events.

The City also established sandbagging locations for private property owners to access sandbags and prepare for projected flooding emergencies.

**Lead:** City of Olympia

**Mechanism:** Emergency Standard Operating Procedures

**Status:** Completed and Ongoing

#### ANNUAL FUNDING FOR ONGOING SEA LEVEL RISE ADAPTATION PLANNING EFFORTS

The City of Olympia Stormwater Utility contributes \$125,000 annually for downtown flood mitigation projects.

The Port and LOTT also contribute funding to support implementation of near-term actions and fund a staff liaison position to help administer and facilitate the Collaborative.

**Lead:** City of Olympia

**Mechanism:** Staff Time, Budget Allocation

**Status:** Completed and Ongoing

## GOVERNANCE STRATEGIES

### Collaboration Strategies

#### FORMALIZE SEA LEVEL RISE COLLABORATION

The Olympia Sea Level Rise Response Collaborative was established through an interlocal agreement between the Port, LOTT and the City in 2021 to coordinate regional sea level rise adaptation in downtown Olympia. The Interlocal Agreement outlines a cost-sharing arrangement between partners as well as shared expectations for ongoing monitoring, research and collaboration to implement the SLR Plan.

Washington State Department of Enterprise Services, Thurston County and the Squaxin Island

Tribe have also joined the Collaborative as non-voting, ex-officio participants.

**Lead:** City of Olympia, Port of Olympia, LOTT DES

**Mechanism:** Interlocal Agreement

**Status:** Completed

#### DEVELOP GOVERNANCE STRUCTURE AND ORGANIZATION

The interlocal agreement establishing the Olympia Sea Level Rise Response Collaborative outlined a governance structure and organization to coordinate Olympia's sea level rise response. The structure includes an Executive Committee, comprised of elected representatives from each of the partner organizations. The role of the Executive Committee is to review and approve implementation of the sea level rise response actions.

The Collaborative also established a technical workgroup to support the Executive Committee and the Collaborative. The workgroup is comprised of staff from each partner organization and is responsible for tracking science, monitoring sea level rise, facilitating the implementation of adaptation strategies and pursuing funding opportunities.

**Lead:** City of Olympia, Port of Olympia, LOTT

**Mechanism:** Interlocal Agreement

**Status:** Completed

#### CONTINUE REGIONAL EFFORTS TO DEVELOP AN OVERARCHING CLIMATE CHANGE POLICY

The [Thurston Climate Mitigation Collaborative](#) (TCMC) was established in 2023 and is now responsible for developing regional overarching climate policy. The TCMC largely focuses on emissions reduction, not sea level rise adaptation; however, the City is an active partner in the TCMC.

**Lead:** Thurston Regional Planning Council  
**Mechanism:** Interlocal Agreement, Regional Climate Mitigation Plan  
**Status:** Ongoing

BUDD INLET TREATMENT PLANT AND COMBINED SEWER SYSTEM: COORDINATE WINTER PREPAREDNESS AND EMERGENCY RESPONSE EFFORTS

The City, the Port and LOTT coordinate winter preparedness and emergency response efforts on an ongoing basis. For more information, see Operational Strategies described above.

The City has also developed a flood communication plan to guide communications and outreach to inform community members of local flood risks and response strategies. The City has established an emergency alert system and initiated outreach about winter storm preparedness to business owners and residents in downtown. New maps showing sandbag locations and areas of high flood risk inform residents about who should prepare and how to access the necessary resources.

**Lead:** City of Olympia, Port of Olympia, LOTT  
**Mechanism:** Emergency Standard Operating Procedures; Community outreach  
**Status:** Completed and Ongoing

BUDD INLET TREATMENT PLANT AND COMBINED SEWER SYSTEM: COLLABORATE WITH PSE TO PROTECT THURSTON SUBSTATION

LOTT and Puget Sound Energy (PSE) staff met in 2020 and 2023 to discuss vulnerability of the Thurston Substation. PSE has indicated that station equipment is elevated and at low risk from sea level rise to three feet of flooding. Continued coordination is planned to reassess risk over time.

**Lead:** LOTT  
**Partners:** PSE

**Mechanism:** Coordination with PSE  
**Status:** Completed and Ongoing

COORDINATE WITH USACE TO DETERMINE THEIR INVOLVEMENT IN FLOOD PROTECTION PROJECTS

The strategy proposes to coordinate with the United States Army Corps of Engineers (USACE) to understand the USACE's role in review, planning, design and/or construction of flood protection projects and with the USACE and the Coast Guard on shoreline projects near the navigation channel. This work has not been started.

**Lead:** City of Olympia  
**Partners:** Port of Olympia, LOTT  
**Mechanism:** Coordination with USACE and Coast Guard  
**Status:** Not Completed

Policy Strategies

UPDATE SHORELINE MASTER PROGRAM

Updated Shoreline Master Program published in 2023 and incorporated guidelines for shoreline development and consideration of sea level rise. Washington State Department of Ecology is currently working to further integrate sea level rise within shoreline master programs.

**Lead:** City of Olympia  
**Partner:** State of Washington Department of Ecology  
**Mechanism:** Shoreline Master Program  
**Status:** Completed



## UPDATE SEA LEVEL RISE FLOOD DAMAGE REDUCTION ORDINANCE

No additional work has been completed to update the sea level rise flood damage reduction ordinance (OMC 16.80). The 2016 ordinance is still in place and active.

**Lead:** City of Olympia

**Mechanism:** Olympia Municipal Code

**Status:** Not Completed

## INCORPORATE SEA LEVEL RISE INTO OTHER PLANNING DOCUMENTS

**City:** Sea level rise will be addressed across several chapters of the forthcoming Comprehensive Plan (Olympia 2045), including Capital Facilities, Public Utilities, Land Use and Urban Design, Natural Environment, and Public Safety. Sea level rise was evaluated and included as a high priority action in the City's Annex to the Thurston Hazard Mitigation Plan.

**DES:** DES is incorporating adaptive sea level rise preparedness actions as part of the Deschutes Estuary Restoration project design development.

**Port:** Sea level rise will be integrated into the forthcoming Master Plan and Destination Waterfront Plan (Swantown Marina and East Bay) in 2025. The plans include an economic development strategy, where to build on the peninsula, what will be built, and if and how dredge from the Port cleanup can be used on the peninsula for future development and to mitigate for sea level rise (e.g., berms).

**LOTT:** Climate change and sea level rise considerations were incorporated into development of the 2050 System Plan, which led to identification of several future capital projects to adapt to increasing peak flows from sea level rise and storm events.

**Lead:** City of Olympia

**Partners:** Port of Olympia, LOTT

**Mechanism:** Comprehensive Plans, LOTT Master Plan, Port Strategic Plan

**Status:** Completed and Ongoing

## INCORPORATE SEA LEVEL RISE CONSIDERATIONS INTO CAPITAL PLANNING

The Sea Level Rise Collaborative is creating design guidelines for capital facility planning in 2025.

**Lead:** City of Olympia, LOTT, Port of Olympia

**Mechanism:** Capital Facilities Plans

**Status:** Ongoing

## DESIGN STANDARDS/GUIDELINES UPDATES

**LOTT:** This work is initially complete and ongoing over time to update design standards and front-end specifications to account for sea level rise and systematically improve plant resilience over time. To date, it includes:

- Build critical equipment on raised concrete pads
- Provide waterproof and watertight electrical panels
- Provide watertight terminal boxes and local hand-operated panels
- Provide watertight enclosures for substations

LOTT has already implemented these guidelines on its electrical switchgear. The switchgear facility's most recent renovation included an elevated pad to prevent flooding.

The City and the Port have not yet completed this work.

**Lead:** City of Olympia, LOTT (Complete), Port of Olympia

**Mechanism:** Drainage Design and Erosion Control Manual, Capital Facilities Plans, Engineering Design and Development Standards

**Status:** Not Completed

### REQUIRE BACKFLOW VALVES ON NEW CONSTRUCTION AND SUBSTANTIAL IMPROVEMENTS

The City of Olympia's engineering and design standards adopt by reference the uniform plumbing code. The 2021 uniform plumbing code requires backflow protection as envisioned in this strategy. Backflow valves are designed to allow water or sewage to flow only one way (out of a building). If streets flood, water would not be able to back up into buildings.

**Lead:** City of Olympia

**Mechanism:** Engineering Design and Development Standards

**Status:** Completed

### BUDD INLET TREATMENT PLANT AND COMBINED SEWER SYSTEM: REFINE BITP'S HIGH FLOW STANDARD OPERATING PROCEDURES

Plant staff have a robust operating procedure which includes a written plan, ongoing operations training and 24-hour staffing during high-flow events. The standard operating procedure is reviewed on an ongoing basis to account for infrastructure changes.

With completion of the Biological Process Improvements project at the plant, tank storage capacity was repurposed, increasing LOTT's total equalization storage capacity by more than 1 million gallons. This increased the portion of incoming peak flows LOTT can divert for temporary storage during high flow events. These flows are held until the peak flow conditions subside and then are metered back into the plant process for treatment.

**Lead:** LOTT

**Mechanism:** Standard Operating Procedures

**Status:** Completed

## Finance Strategies

### UNDERSTAND FINANCING AND FUNDING MECHANISMS FOR FUTURE ADAPTATION

The Collaborative led a study on options and alternatives for funding or financing sea level rise adaptation. The study was conducted by CohnReznick LLP and was completed in 2024. Ongoing work will continue to explore mechanisms to generate local funding for sea level rise adaptation strategy implementation.

**Lead:** City of Olympia

**Mechanism:** Legislation, Regional Partners

**Status:** Completed and Ongoing

### CREATE SPECIAL DISTRICT TO FINANCE RESILIENCE IMPROVEMENTS

The strategy "Understand Financing and Funding Mechanisms for Future Adaptation" identified and evaluated the feasibility and suitability of certain special-purpose districts for resiliency improvements.

**Lead:** City of Olympia

**Mechanism:** Legislation, Regional Partners

**Status:** Completed and Ongoing

### PURSUE STATE AND FEDERAL FUNDING / LOBBY LEGISLATURE

Collaborative partners have applied for and continue to apply to federal and State grant funding to support sea level rise planning and strategy implementation.

**Lead:** City of Olympia

**Partners:** Port of Olympia, LOTT

**Mechanism:** Grant Applications, Lobbying

**Status:** Completed and Ongoing



## Education and Outreach Strategies

### MAINTAIN AN UP-TO-DATE SEA LEVEL RISE PLANNING WEBSITE

The [webpage](#) was updated and refreshed with new resources in 2025.

**Lead:** City of Olympia

**Mechanism:** City of Olympia Website

**Status:** Completed and Ongoing

### DEVELOP AND IMPLEMENT A SEA LEVEL RISE COMMUNITY AND STAKEHOLDER EDUCATION AND ENGAGEMENT STRATEGY

The City has developed an emergency notification alert system and preparedness resources for winter tidal flooding. See strategies, “Coordinate Winter Preparedness” and “Maintain Sea Level Rise Planning Website” for more details on previous work. Additional community engagement activities are planned for 2025 and included within specific projects.

**Lead:** City of Olympia

**Partners:** Port of Olympia, LOTT

**Mechanism:** Partner Coordination

**Status:** Completed and Ongoing

### INCORPORATE SEA LEVEL RISE IN THE DISCUSSIONS FOR PLANNING PURPOSES

See strategies, “Design Standards/Guidelines Updates,” “Incorporate Sea Level Rise into Capital Planning” and “Incorporate Sea level Rise into Other Planning Documents” for more details on this work.

**Lead:** City of Olympia

**Mechanism:** Stakeholder Outreach

**Status:** Completed and Ongoing

## CONTINUE EDUCATION WORK WITH SCHOOLS

No work has been completed to date. Work to engage students at different levels in schools throughout Olympia to promote understanding and awareness of sea level rise issues will be incorporated into future work plans.

**Lead:** City of Olympia, LOTT, Port of Olympia

**Mechanism:** Olympia School District

**Status:** Not Completed

### PLAY A ROLE AS A REGIONAL SEA LEVEL RISE ADVISOR

The Collaborative has maintained and deepened collaboration and relationship building with Department of Ecology, Washington Emergency Management Division and Washington Sea Grant. The partners have been active participants in professional networks and conferences, including Washington Department of Fish and Wildlife’s Habitat Strategic Initiative Lead, A Healthy South Sound LIO, Coastal Hazard Research Network (CHRN), and American Public Works Association.

**Lead:** City of Olympia, LOTT, Port of Olympia

**Mechanism:** Regional Collaboration, Conferences, Meetings

**Status:** Completed and Ongoing

### CONDUCT COMMUNITY WORKSHOPS TO BRAINSTORM FOCUS AREA STRATEGIES

Community engagement and participation will be addressed on a project-by-project basis as the partners move towards implementation.

**Lead:** City of Olympia

**Mechanism:** Community Workshops

**Status:** Ongoing

## OUTREACH TO DOWNTOWN BUSINESS OWNERS AND PORT TENANTS

In 2023, City staff held a briefing with downtown business owners regarding flooding preparedness which included information about expected increases in downtown flooding due to sea level rise. In 2024, the City sent flyers to all downtown businesses and residents about tidal flooding and winter storms, with resources for sandbags and signing up for alerts.

The Port also meets quarterly with the business owners on the peninsula around relevant topics. Previous meetings have included discussions of SLR.

**Lead:** City of Olympia, Port of Olympia

**Mechanism:** Community Outreach

**Status:** Completed and Ongoing

## INFORMATIONAL STRATEGIES

### REFINE SEA LEVEL RISE AND FLOOD MONITORING STRATEGY

A comprehensive sea level rise and flood monitoring strategy will be developed by the Collaborative in 2025-2026. The flood monitoring strategy will provide a basis for adaptive management, implementation, and timing of capital projects and funding needs. This work will also include the development of trigger points for future actions, based on observed changes in local conditions.

Currently, the City's Water Resources Division and the National Weather Service monitor conditions around king tides. The City also installed a tide gauge at Percival Landing for more precise monitoring of local conditions; the Stormwater Utility conducts routine maintenance and troubleshoots as necessary.

**Lead:** City of Olympia, Port of Olympia

**Mechanism:** Tacoma Tide Gauge, NASA, USGS, University of Washington Climate Impacts Group, and Others

**Status:** Ongoing

### MONITOR LAND SUBSIDENCE

The Collaborative partners will assess available data sources and incorporate this into the long-term monitoring strategy (see "Refine Sea Level Rise and Flood Monitoring Strategy") to be developed during 2025.

**Lead:** City of Olympia

**Mechanism:** Collaborating with Researchers

**Status:** Not Completed

### INITIATE GROUNDWATER STUDY

PIONEER Technologies Corporation completed a groundwater study on behalf of the Collaborative in 2024. The groundwater study began in 2023 and is comprised of three phases that are now completed. The Phase 3 report was submitted in early 2025. The study quantified the impacts of sea level rise on future groundwater elevations and ponding. The possibility of surface water ponding across Olympia's downtown commercial core increases as SLR exceeds 36 inches. Significant areas of the downtown core may experience surface water ponding at 60 inches of SLR, with substantial coverage at 68 inches of SLR.

The study recommends future surveys to determine the location and depth of the stormwater lines and their outfalls, and to determine where groundwater is infiltrating the stormwater lines. These recommendations could be incorporated into long-term planning actions.

**Lead:** LOTT

**Mechanism:** Consultant Study

**Status:** Completed



#### UNDERSTAND FUTURE PRECIPITATION PROJECTIONS

The Olympia Climate Conditions Report, published in 2023, and Mapping for a Climate Resilient Washington from Climate Impacts Group provide estimates on future precipitation projections. The Collaborative will continue to stay up to date with the latest climate data and trend forecasts.

**Lead:** City of Olympia

**Mechanism:** Collaboration with Researchers

**Status:** Complete and Ongoing

#### UNDERSTAND LIQUEFACTION

Data sources identified areas of increased liquefaction risk. Groundwater plays a significant role in seismic vulnerability as soil saturation increases liquefaction risk. As sea levels rise, groundwater is expected to rise concurrently, increasing seismic vulnerability. The groundwater study provides the initial understanding of how sea level rise interacts with groundwater levels. Additional research is necessary to understand the interactions so that sea level rise adaptation projects are resilient to seismic events.

**Lead:** City of Olympia

**Mechanism:** Collaboration with Researchers

**Status:** Ongoing

#### UNDERSTAND THE IMPLICATIONS OF FEMA ACCREDITATION

Initial research and discussions were initiated in 2024 and will continue through 2025.

**Lead:** City of Olympia

**Mechanism:** Informational Conversations, Research

**Status:** Ongoing

#### MODEL FLOW RATES FOR INDIVIDUAL STORMWATER OUTFALLS AND COMBINED SEWER SYSTEM

The City received stormwater resiliency grant funding in 2025 to develop a flow-rate model for individual outfalls and the combined sewer system. This work will be completed in 2025-2026.

**Lead:** City of Olympia, LOTT

**Mechanism:** To be Determined

**Status:** Ongoing

#### SURVEY FINISHED FLOOR ELEVATIONS ON PORT PROPERTIES

An initial survey of buildings was conducted as part of the Sea Level Rise Response Plan. A more formal and refined survey will be determined on a project-by-project basis.

**Lead:** Port of Olympia

**Mechanism:** Survey

**Status:** Completed

#### MONITOR ONGOING SHORELINE EROSION ALONG EAST BAY

Port staff currently monitor the East Bay shoreline in conjunction with maintaining the Billy Frank Jr. Trail. Monitoring is limited to a visual inspection currently. However, a formal survey-grade monitoring program may be considered in the future.

**Lead:** Port of Olympia

**Partner:** City of Olympia

**Mechanism:** Monitoring Program

**Status:** Completed and Ongoing

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