AGENDA ITEM SUMMARY
(Must be submitted NLT 3PM Wednesday for next week agenda)

Department: Community Development (DCD)

WORK SESSION ☑ Meeting Date: August 20, 2018

REGULAR AGENDA ☐ Meeting Date:

Required Originals Approved and Attached? ☑

Will be provided on:

Item Summary:*  ☑ Call for Hearing
☐ Resolution
☐ Draft Ordinance
☐ Contract/Agreement/MOU**
☐ Proclamation
☐ Final Ordinance
☐ Budget #
☐ Budget Item
☒ Other: Shoreline Master Program (SMP)

Update Work Session

Documents exempt from public disclosure attached: ☐

Executive Summary: The County Planning Commission (PC) recommended a Shoreline Master Program (SMP) to the Board of County Commissioners to update and replace: (1) the existing 1976 SMP (last amended 1992) and (2) the SMP administrative procedures in Chapter 35.01, Shoreline Management, Clallam County Code (CCC) under Title 35 CCC, Shorelines. The PC’s recommendation is represented by the Draft SMP (September 2017). The Board held a public hearing on the PC’s recommended Draft SMP on December 12, 2017. The proposed Draft SMP (September 2017), supporting documents, existing 1976 SMP, and other information are available on the County’s SMP Update Webpage at: http://www.clallam.net/LandUse/SMP.html

Since the December 12 public hearing, the Board has held 12 work sessions in 2018 on the Draft SMP (Sept. 2017) and public comments received. Prior work sessions, addressed SMP issues such as aquaculture, channel migration zones, and buffers that were significant public interest items as well as comments received by the BOCC specific to Chapters 1 – 11 of the Draft SMP.

The upcoming work session will address remaining public comments and related issues areas received on the Draft SMP (Sept. 2017) between September 20 thru December 12, 2017 (close of the public hearing on Draft SMP). Staff will also present a compilation of revisions, or areas of revision, identified by the BOCC to date if time permits.

Budgetary Impact: *(Is there a monetary impact? If so, are funds for this already allocated or is a budget change necessary? If this is a contract and a budget change is necessary, the budget change form must be submitted with the item at work session and for the regular agenda) If a budget Action is required, has it been submitted and a copy attached? ☐

Not Applicable.

Recommended Action: *(Does the Board need to act? If so, what is the department’s recommendation?)*

Review the attached staff report summary of the remaining other public comments received by the BOCC and the staff response to these comments related to: climate change and sea level rise, shoreline restoration plan, cumulative impact analysis/no net loss report, oppose adoption of Draft SMP, and other comments areas.

County Official Signature: ________________________________

Date Submitted: 8-17-18

* Submit original and 5 copies
** Submit 3 originals and 5 copies

Questions? Call Loni Gores, Clerk of the Board, ext 2233

BOCCAgenda(8-20-18) Revised: 2013
Date:     August 17, 2018  
To:       Board of Clallam County Commissioners  
From:     Steve Gray, Planning Manager  
Re:       Other Areas of Public Comment on Draft SMP and Supporting Documents

The County Planning Commission (PC) recommended a Shoreline Master Program (SMP) to the Board of County Commissioners (BOCC) to update and replace: (1) the existing 1976 SMP (last amended 1992) and (2) the SMP administrative procedures in Chapter 35.01, Shoreline Management, Clallam County Code (CCC) under Title 35 CCC, Shorelines. The PC’s recommendation is represented by the Draft SMP (September 2017).

The BOCC held a public hearing on the PC’s recommended Draft SMP on December 12, 2017. Since the December 12 public hearing, the Board has held 12 work sessions in 2018 on the Draft SMP (Sept. 2017) and public comments received. Prior work sessions, addressed SMP issues such as aquaculture, channel migration zones, and buffers that were significant public interest items as well as comments received by the BOCC on Chapters 1 – 11 of the Draft SMP.

This staff report summarizes and addresses other public comments received on the Draft SMP (Sept. 2017) between September 20 thru December 12, 2017 (close of the public hearing on Draft SMP) that the Board received on the Draft SMP and SMP supporting documents in the following areas:

1. Climate Change and Sea Level Rise
2. 2016 Countywide Shoreline Restoration Plan
5. Other Public Comments

CLIMATE CHANGE AND SEA LEVEL RISE

A summary of public comments and related to addressing climate change and sea level rise received by the BOCC on the Draft SMP (Sept. 2017) and staff response to these comments follows. These comments do not include climate change and sea level rise comments previously addressed in regards to shoreline buffers (Chapter 6).
<table>
<thead>
<tr>
<th>Commenter</th>
<th>Summary of Comment</th>
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</table>
| Quileute Tribe (A-1) | "Effective shoreline management requires the evaluation of changing conditions and the modification of policies and regulations to address identified trends and new information. WAC 173.26.201(2)(b). Climate change is a changing condition which should be addressed throughout the SMP. The impacts of climate change in the Pacific Northwest and Clallam County are likely to include changes in annual and seasonal precipitation, declining snowpack, higher storm frequency, alteration to streamflows and flood risk (including extreme low summer flows that disrupt spawning activity, scour spawning beds, and alter stream morphology, side channel habitat, and other refugia), increasing freshwater and marine water temperatures, sea level rise, and ocean acidification. SMP policies and regulations, and individual permit decisions, need to anticipate and address these changes in order to achieve the goals of the SMP. Various passages of the SMP acknowledge climate change and sea level rise. For example, Section 1.4, the "SMP Update Vision", acknowledges that the effects of climate change and sea level rise are likely to intensify the threats of erosion and landslides. However, except for policies that the implications of climate change be accounted for in restoration efforts (Section 3.9.1.6) and the location and design of new transportation uses and developments (Section 3.11.1.8) the draft SMP does not appear to include any meaningful response to climate change. The Tribe notes that it is somewhat ironic that the draft SMP recommends that restoration efforts should take into account of climate change, but only establishes a parallel policy for one or the many other uses and development activities addressed." The Tribe has two recommendations as to how to address the implications of climate change in the SMP: 1. SMP Chapters 3, 4 and 5 should each include a generally applicable policy statement that parallels the language in Sections 3.9.1(6) and 3.11.1(8), for example: "Each use and development addressed in this chapter should take into account the implications of climate change to ensure the resiliency and sustainable of the use or development and its ability to achieve no net loss of ecological functions and other aspects of this Program." 2. The Tribe recommends that each SMP regulation that requires a geotechnical report to be prepared, or allows a technical report or professional judgement to be used, to establish or contest a geological hazard, channel migration zone, or flood way determination, bluff or streambank erosion and armoring, and other such issues should require that the report/professional address the potential impacts of climate change. So, by the way of one example, Regulation 7.13.4 (see below) should be amended so that the geotechnical report required be to establish a "stable life" of at least 75 years for a new development in a geologically hazardous area to address potential impacts of climate change and sea level rise, not merely existing conditions. "...d. A geotechnical report prepared by a qualified professional indicates that the development site will be stable for the life of the development, assumed to be at least seventy-five (75) years, even if the buffer is reduced;..." [SMP Section 7.13.4(d)] Olympic Climate Action (I-5) | "...Believe one goal of the SMP should be to inform Clallam County residents of potential climate change impacts. In a prior draft, Goal #13 was "To protect people and property from adverse impacts related to climate change and to promote resiliency in responding to climate change impacts." We note with concern that this goal has been removed from the current draft, and we would like a clearly-stated reason why." "FEMA recently acknowledged that the current floodplain insurance rate mapping project is not utilizing recent research findings related to storm surge..." "Any coherent long-range plan for management of our shorelines would necessarily want to acknowledge increasingly-likely impacts from sea level rise and storm surge, and to forewarn current and future residents of the potential for property damage. The potential for impacts to the environment from property damage is also a concern for many of us."
In Clallam County, sea level rise is expected to rise by over half a foot within 30 years and could rise more than 4 feet by 2100, with slight differences depending on which end of the County you’re talking about. Specific details about these projections are available in the Climate Preparedness Plan for the North Olympic Peninsula, originally published in 2015 by a consortium of local governments, NGOs, businesses, and citizens, including Clallam County, and more recently updated for the sea-level rise maps.

Given the existence of good studies focused on local shoreline sensitivities and impacts from global warming, the County’s SMP could be considered negligent if current projections aren’t integrated, or at the very least, acknowledged as a concern.....hard shoreline armoring such as rip rap and sea walls, even if mitigated, will impact the neighboring properties, coastal sedimentation system, and nearshore ecology, and these risks need to be acknowledged in the SMP. At the Clallam County Planning Commission meeting of 6/21/17, the consultant for Clallam County on the SMP mentioned that there are approximately 83 parcels in the 3 Crabs and Diamond Point areas that could be permitted to install hard armoring to protect their properties."

Futurewise, SCNOG, & WEC (C-2)

The SMP should avoid development in shorelines highly vulnerable areas to sea level rise and the higher storm surges resulting from sea level rise. See full letter that contends extended comments on issues related to sea level rise and the SMP. For example, it contains a reference to a 2017 article that estimated 8,017 people in Clallam County will be risk of adverse impacts from sea level rise in 2100.

Recommend adding the following regulations:
- New lots shall be designed and located so that the buildable area is outside the area likely to be inundated by sea level rise in 2100 and outside of the area in which wetlands will likely migrate during that time.
- Where lots are large enough, new structures and buildings shall be located so that they are outside the area likely to be inundated by sea level rise in 2100 and outside of the area in which wetlands and aquatic vegetation will likely migrate during that time.

D-1 thru D-9

The SMP should include regulations that require new lots and new houses to be outside the area likely to be inundated by sea level rise in the next 100 years.

Bowlby (I-1)

Member of Olympic Climate Action (OCA) group. Concern that previous recommendations by OCA not been fully addressed related to climate change, sea level rise, and storm surge in the current Draft SMP.

Dziadek (I-2a,b)

"The SMP fails to address climate change, which is real. The SMP needs to fully consider the impacts of climate change on our shoreline."

"The SMP needs to inform County residents of potential sea level rise with climate change to guide development and land use....We need policies in place to manage the storm surge and sea level rise associated with climate change."

Fagan (I-3)

Member of Olympic Climate Action. Current draft inadequate to address climate change impacts. Supports prior comments submitted by Olympic Climate Action.

"... Members have commented extensively on the Master Program in order to protect county residents from the very real effects of climate change. Yet, we do not see these suggestions incorporated into the latest draft. Indeed, it looks as though the plan has gone in the opposite direction. A good deal of the language from the 2014 draft that dealt with climate change has been struck out. We are left with the words “climate change” appearing only five times throughout the document."

"The Department of Ecology also makes clear that climate change will increase the risk of shoreline erosion, landslides and channel movement in streams. Unfortunately, the 2017 Master Program draft walks back many of earlier proposed building regulations in flooding or landslide risk zones—as seen under Residential Development in Section 3.8.1 – allowing armoring and other structural modifications that are proven to hurt shoreline."

Grad (I-4)

SMP fails to account for climate change and sea level rise. It is deficient by not including 2015 Climate Change Preparedness Plan for the North Olympic Peninsula and 2013 Jamestown S’Klallam Climate Vulnerability Assessment and Preparedness Plan. Notes FEMA Floodplain maps are deficient. Attaches several documents to support comments.
Staff Response and Recommendation:

The Planning Commission also received numerous comments related to climate change and sea level rise on the 2014 Draft SMP they took to public hearing. The Planning Commission sought input from the Washington State Department of Ecology on the Draft SMP based on public comments they received on the 2014 Draft SMP related to addressing climate change and sea level rise in the SMP. Ecology's response noted that there are no current specific state requirements for SMPs to address climate change and sea level rise explicitly under the Shoreline Management Act (SMA) and state SMP rules (WAC 173-26). Ecology reviewed the County SMP update efforts as a whole and did not require any additional provisions related to climate change or sea level rise. Ecology indicated that the current SMP update is not the only opportunity to address climate change issues in the SMP in that future. The full 2015 Ecology comments to the Planning Commission are found in Attachment A to this staff report.

It is important to recognize that issues related to and planning for climate change (e.g., droughts, wildfires, etc...) goes well-beyond the narrow shoreline jurisdiction. Potential impacts and challenges related to sea level rise are a direct shoreline issue, but even sea level rise impacts may extend outside of the shoreline jurisdiction. In addition, other tools and programs can play a significant part of how the County addresses these issues, such as climate action plan, emergency management preparedness and planning, hazard mitigation planning, comprehensive planning, zoning, as well as non-regulatory programs (e.g., public outreach, acquisition, tax incentives, etc...). For example, the County is in the process of updating the 2010 Clallam County Hazard Mitigation Plan and had previously adopted 2009 Climate Action Plan for County facilities.

Clallam County has identified and recognized the need to move forward to continue the discussion and planning for climate change issues. County Resolution 27, 2016 supports the County addressing strategies of the 2015 Climate Change Preparedness Plan for the North Olympic Peninsula in Department work plans and updates to County comprehensive plan and comprehensive emergency management plan. More recently, the County adopted Resolution 62, 2018, authorizing action on climate change in Clallam County, including engaging the broader community in a conversation about climate change mitigation, adaptation strategies, or efforts that could be implemented on a community-wide scale. Attachment B to this staff report contains these two County resolutions.

Draft SMP Provisions Related to Climate Change and Sea Level Rise

The below table lists current Draft SMP (Sept. 2017) provisions that explicitly use the terms "climate change", "sea level rise" and/or "storm surges":

<table>
<thead>
<tr>
<th>Section</th>
<th>Draft SMP Provision</th>
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<tbody>
<tr>
<td>1.4</td>
<td>The following is part of SMP Update vision text: “The threat of erosion and landslides will continue to pose challenges to developments along the bluffs (Figures 1-9 and 1-10). These challenges could intensify in the future as the effects of climate change and sea level rise become more apparent. These changes present significant challenges for shoreline planning in Clallam County and throughout the world. Planners and property owners will need to be increasingly vigilant when making decisions about how, where and whether to develop along the County’s shorelines.”</td>
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<td>Figure 1-9</td>
<td>Figure 1-9 in the SMP Update Vision shows a photo of erosion at base of bluff contributing sand, cobble and gravel to the nearshore. The Figure caption notes erosive forces could become more severe in the future due to climate change.</td>
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<tr>
<td>Section</td>
<td>Text</td>
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| 2.5.3.(h), 2.6.3.(h) 2.7.3.(f) 2.8.3.(g) | The Draft SMP contains the following management policy for the Resource Conservancy, Shoreline Residential-Conservancy, Shoreline Residential-Intensive and Marine Waterfront Shoreline Environmental Designations (SED):  
"Property owners should be made aware these areas may be subject to hazards such as storm surges, flooding, landslides, erosion caused by wind and waves, and/or channel migration even where there are bulkheads, levees, or other flood/erosion protection structures in place." |
| 3.8.2.(7) | The following is part of Section 3.8.2 general regulations for residential development:  
"New residential development on low bank marine shorelines that are designated Shoreline Residential - Intensive shall be designed to minimize damage from storm surges and coastal flooding. Structures shall be designed to incorporate freeboard above the required elevation of the lowest floor or bottom of the lowest horizontal member consistent with the FEMA Coastal Construction Manual, Fourth Edition (FEMA P-55). This regulation is intended to protect property and prevent the need for future flood control/erosion control structures." |
| 3.9.1.(6) | The following is part of Section 3.9.1 policies for restoration:  
"Restoration efforts should take into account potential implications of climate change to ensure the resiliency and sustainability of the restored habitats over time." |
| 3.11.1.(8) | The following is part of Section 3.11.1 policies for new transportation developments:  
"The location and design of new transportation uses/developments including replacement of existing roads and other infrastructure should take into account implications of sea level rise and other climate change effects." |
| 4.6.2.(14) | The following is part of Section 4.6.2 general regulations for shoreline stabilization developments:  
"Shoreline stabilization shall be designed to take into account sea level rise and storm surges." |
| 6.2.(1) | The following is part of Section 6.2 shoreline buffer and vegetation policies:  
"Buffers should be established and maintained along all marine and freshwater shoreline waterbodies to protect people and property from risks associated with flooding, bank erosion, channel migration, bluff recession, landslides, storm surges, sea level rise, tsunamis and other hazards." |
| 6.2.(4) | The following is part of Section 6.2 shoreline buffer and vegetation policies:  
"Buffers composed of predominantly native vegetation should be established and/or preserved along all shorelines to:  
   a. Protect the health and sustainability of the many fish and wildlife species that depend on the County’s lakes, rivers, and marine waters for food, cover, breeding, resting, rearing, and other essential life functions.  
   b. Provide clean water for recreation, fishing, shellfish production, and other beneficial uses.  
   c. Protect people and property from hazards associated with floods, storm surges, landslides, erosion, migrating river channels, tsunamis, and other natural processes or events.  
   d. Minimize the costs that the public would have to bear to protect properties in hazardous areas or to repair damages associated with floods and other hazards.  
   e. Maintain the aesthetic values that natural and scenic shorelines provide."  
   f. Ensure no net loss of shoreline ecological functions."
| 7.2.(2f) | The following is part of Section 7.2 critical area policies:  
"Protect people and property from hazards associated with floods, storm surges, rising sea levels, landslides, erosion, migrating river channels, tsunamis, and other natural processes or events." |
In addition to the above, there are numerous other policies and regulations in the Draft SMP that do not explicitly use these terms (i.e., climate change, sea level rise, storm surge), but have a direct or indirect influence on issues related to climate change impacts. Examples include, but not limited to:

- Draft SMP Chapter 6, Shoreline Buffer and Vegetation Conservation, policies and regulations.
- Draft SMP Chapter 7, Critical Areas within Shoreline Jurisdiction, polices and regulations. For example, proposed substantial increased buffers along highly erosive marine feeder bluffs; increased wetland buffers; requiring new lot creation to demonstrate adequate building sites outside of floodplains, channel migration zones, landslide hazards, wetlands, and associated buffers; etc...
- Proposed Shoreline Environmental Designations (SED):
  - Approximately 65% of the County shorelines and adjacent upland shoreland areas subject to the SMP are within the proposed Resource Conservancy SEDs, with most reaches (~99%) located within the over 630,000 acres of designated commercial forest lands of long-term significance under the County’s comprehensive plan and zoning. These marine, lake and river shoreline reaches are predominantly characterized by large, contiguous tracts of federal, state and private forest lands that exhibit undeveloped riparian habitat areas and corridors exceeding 250 feet in width along most reaches. There were only 105 residentially developed lots scattered throughout the over 630,000 acres of commercial forest lands (Clallam County Assessor Data, 2016), and many of those home sites are not located within the shoreline jurisdiction.
  - Approximately 8% of the County’s shoreline and associated upland areas subject to the SMP are within the proposed Resource Conservancy (SED). Most of these areas are located within County/State Parks and the Dungeness Wildlife Areas and managed as conservation areas.
  - Approximately 23% of the County’s shoreline and associated upland areas subject to the SMP are within the proposed Shoreline Residential-Conservancy (SED). Many of these shorelines are also characterized by the presence of landslide hazard areas (e.g., marine bluffs, steep-sided river ravines), wetlands, other stream tributaries, and channel migration zones where critical area regulations limit development and may result in larger buffer areas on properties where such critical areas exist.
  - Only approximately 4% of the County’s shoreline areas subject to the SMP allow for new intensive shoreline residential and mixed use development and infill associated with the proposed Shoreline Residential-Intensive and Marine Waterfront SED’s. These shoreline areas are already substantially developed with homes, businesses, roads and other uses at or in close proximity to the shoreline.
Examples of Sea Level Rise Provision Included in Other Local Government SMPs

Ecology conducted a study to assess how local jurisdictions in Washington are currently addressing sea level rise using goals, policies, and regulations. Ecology published the results in a report titled: How Local Government Shoreline Master Programs Currently Address Sea Level Rise, November 2017, Publication 17-06-031. Attachment B to this staff report contains excerpts from this Ecology report containing examples of sea level rise provisions in updated SMPs of other jurisdictions with marine shorelines in Washington State. Proposed Clallam County SMP policies summarized in the above table are similar to a number of those listed in Attachment B from other jurisdictions.

Current Climate Change and Sea Level Rise Information

Scientific research, studies and plans related to climate change and sea level rise are available for Clallam County and Washington State. Two more recent reports, including maps and data on sea level rise projections for Clallam County and the North Olympic Peninsula, include:

Climate Change Preparedness Plan for the North Olympic Peninsula: The Climate Change Preparedness Plan for the North Olympic Peninsula originally published in 2015 and more recently updated for sea-level rise maps. The Plan was developed with input by a consortium of local governments, non-government organizations, businesses, and citizens, including Clallam County. It contains information on observed and projected climate trends in the Pacific Northwest, including sea level rise scenarios and projections, and also identified vulnerabilities and adaptation strategies for the North Olympic Peninsula. One of the recommended adaptation strategies in the Plan is to: “Incorporate climate change more explicitly into comprehensive plans and Shoreline Master Programs (SMP).” Attachment D to this Staff Report contains sea level rise inundation maps, extreme storm flooded areas, and related projections for Years 2030, 2050 and 2100 in the Preparedness Plan for areas (Dungeness River Delta Area, Clallam Bay-Sekiu Area) subject to the County’s SMP. The Preparedness Plan also provides information and link to the NOAA Sea Level Rise (SLR) viewer at www.coast.noaa.gov/slr that provides a tool to illustrate the location of potential flooding along County marine shorelines.

Projected Sea Level Rise in Washington State: The Washington Coastal Hazards Resilience Network has completed a project that provides an updated set of sea level rise projections that incorporates the latest science, provides community-scale projections, and is designed for direct application to risk management and planning. These new projections reflect the latest science on sea level rise and are an improvement over previous assessments. This project contains an interactive map with links to relative sea level rise (RSLR) projections for 171 sites along Washington’s coast, including multiple points along Clallam County’s Strait of Juan de Fuca and Pacific Coast shorelines. The projections for each site are provided as a downloadable excel spreadsheet which contains three worksheets: (1) an overview, (2) RSLR projections for a low greenhouse gas scenario (RCP 4.5), and (3) RSLR projections for a high greenhouse gas scenario (RCP 8.5). The main report titled: Projected Sea Rise in Washington State – A 2018 Assessment. The map, data and report can be viewed and downloaded at: http://www.wa.coastalnetwork.com/
Updates of Current Climate Change and Sea Level Rise Information

FEMA is responsible for preparing Flood Insurance Rate Maps (FIRMs) that delineate flood hazard zones and Base Flood Elevations (BFEs) in the United States. Because of the importance of understanding the nation’s coastal flood risk, FEMA has initiated coastal flood risk studies for the populated coastline as part of its Risk Map effort. FEMA is currently working on addressing comments from Clallam County and others and anticipates potential release of updated preliminary FIRMs in 2018. The pending updates to the FIRM maps do not factor in future sea level rise. However, coastal flood hazard maps in Clallam County have not been updated since the 1980’s, the upcoming FEMA maps will reflect current sea level information and updated modeling of flood hazard risks in our coastal areas.

Recommendations:

1. Add back the following goal under Section 1.5, Shoreline Master Program Goals:
   - To protect people and property from adverse impacts related to climate change and to promote resiliency in responding to climate change impacts.

2. Amend current Goal #14 under Section 1.5, Shoreline Master Program Goals as follows:
   - To increase public awareness of sea level rise projections and tsunami hazard areas and evacuation route maps in coastal areas.

3. Add the following new Goals under Section 1.5, Shoreline Master Program Goals:
   - To inform the current and prospective shoreline landowners, applicant’s for shoreline permits and approvals, and the public to potential sea level rise maps and related information for Clallam County including the 2015 Climate Change Preparedness Plan for the North Olympic Peninsula (as amended) and the 2018 sea level rise projections by the Washington Coastal Hazards Resilience Network (as amended).
   - To recognize existing information and monitor the potential effects of sea level rise as additional scientific information becomes available and consider such information to engage the broader community about additional policies, regulations, adaptation strategies, or other efforts in future updates to this Program.
   - To encourage proponents of a development on no-bank or low bank marine shorelines to locate outside of areas of potential sea level rise, and to raise the base elevation for new construction above minimum floodplain construction standards based on sea level rise considerations where location outside of potential sea level rise areas is not possible.
2016 COUNTYWIDE SHORELINE RESTORATION PLAN

Clallam County has prepared a Countywide Shoreline Restoration Plan (February 2016) to identify restoration potential, restoration opportunities, establish goals and priorities of restoration actions, and develop a strategy for implementation in accordance with WAC 173-26-201 (2) (f). The shoreline restoration plan considers and identifies restoration opportunities and projects identified in existing restoration plans by Clallam County and other organizations (e.g., lead entities for salmon recovery) actively involved in restoration. Implementation of the shoreline restoration plan will help support Clallam County in achieving no net loss of shoreline ecological functions.

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<tbody>
<tr>
<td>Quileute Tribe (A-1)</td>
<td>Concern that Clallam County Shoreline Restoration Plan has no binding commitments to restoration activities. &quot;The state Shoreline Management Act guidelines have numerous provisions requiring master programs to &quot;include goals, policies and actions for restoration of impaired shoreline ecological functions. WAC 173.26.201(2)(f)………&quot;.</td>
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<td>&quot;……The Countywide Restoration Plan prepared in support of the draft SMP does a good job of identifying the restoration goals and activities throughout the County and the many entities working to restore habitat and shoreline ecological functions. However, virtually all of the restoration activities identified in the Restoration Plan are voluntary, and except for statute intent, &quot;depending on interdepartmental coordination, partnerships, and the availability of staff and grant funding,&quot; to implement at least one restoration project within the first five years of the plan, the draft SMP falls far short of the SMA guidelines requirements to identify restoration projects &quot;reasonably assured of being implemented,&quot; identifying prospective funding for those projects, and &quot;ensuring&quot; that the identified projects will be implemented.</td>
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<td>&quot;......In order to achieve the legally mandated no net loss standard and set a trajectory for restoring the County's invaluable salmon and steelhead populations, the Quileute Tribe strongly encourages the County to make binding commitments of staff and resources, including dedicated funding, to implement projects and programs identified in the Countywide Shoreline Restoration Plan prepared in support of the SMP update.&quot;</td>
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**Staff Response:** The Countywide Shoreline Restoration Plan (February 2016) was prepared to meet the requirements of WAC 173-26-201 (2) (f). The shoreline restoration plan is non-binding and the county does not have the authority or ability to bind others to these actions. Restoration depends on funding, access, permits, etc. The purpose of the Restoration Plan is to identify where and how shoreline ecological functions need to and can be restored in the future.

Draft SMP Section 3.9, Restoration, contains policies and regulations to guide restoration efforts. Draft SMP Chapter 8, Mitigation and No Net Loss, establishes policies and regulations to address mitigation sequencing including when restoration is needed for new shoreline development. The SMP also promotes restoration of degraded buffers. For example, the standard shoreline development for minor new development (e.g., typical single-family home site) requires vegetation enhancement if buffer is degraded (i.e., does not meet the shoreline buffer condition standard).

Clallam County is committed to restoration of shoreline areas based on efforts and partnerships through the Clallam County Marine Resources Committee (MRC), North Olympic Peninsula Lead Entity, North Pacific Coast Lead Entity, Dungeness River Management Team, and other efforts. The County has also completed and is active in implementing restoration efforts in the shoreline jurisdiction. An example of a major current County shoreline restoration effort is the Dungeness River Levee Setback and Floodplain Restoration Project.
2017 CUMULATIVE IMPACT ANALYSIS/NO NET LOSS REPORT

As part of the SMP update effort, the County is required to evaluate the “cumulative impacts” of reasonably foreseeable future shoreline development to verify that the proposed SMP policies and regulations for shoreline management are adequate to ensure “no net loss of shoreline ecological functions.” WAC 173-26-201 (3)(d). To address this requirement, the County prepared a Final Cumulative Analysis and No Net Loss (CIA/NNL) Report dated June 2017. This CIA/NNL Report is analysis of the cumulative impacts that can be expected to occur over time as the SMP is implemented. It also describes how the County will achieve no net loss through the adoption and implementation of the SMP.

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<td>Quileute Tribe (A-1)</td>
<td>The Tribe provided the following comments related to the CIA/NNL Report:</td>
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</table>
| | • "The determination that the Draft SMP will achieve no net loss of ecological functions, at least in WRIA 20, appears to be entirely predicated on a presumption that the economy of the west side of the Olympic Peninsula will be depressed throughout the planning horizon and that the SMP can be strengthened in some future amendment cycle if/when economic activity increases."
| | • "...includes numerous statements to the effect that loss of ecological functions in WRIA 20 will not occur because "recent development trends and anticipated growth within Western Clallam County suggest that low levels of new lot development on undeveloped lots will occur" and the "actual pressure to create new shoreline lots is relatively low given current population projections and trends for this remote part of the County." No Net Loss Report p. 132. The Tribe does not believe that the County should be relying on a weak economy to achieve the no net loss requirement, nor rely on the ability to quickly adopt strengthening amendments to the SMP should economic growth improve."
| | • "Seems to assume that should stronger economic growth occur resulting to losses of ecological functions, the County can remedy this through the 8-year periodic review required by WAC 173.26.090. However, WAC 173.26.090 is clear that the periodic review is "distinct from the comprehensive updates required by RCW 90.58.080(2). The legal requirements are that the SMP update currently before the Board of County Commissioners—must satisfy the no net loss requirement, and the periodic review must "assure that the SMP complies with applicable law and guidelines in effect at the time of the review." WAC 173.26.090(2)(d)(i)(A). The periodic review is not an excuse or a mechanism for adopting or correcting a SMP that was incapable of achieving no net loss because of an incorrect economic forecast. The County should be planning for economic growth in WRIA 20 and the SMP should be sufficient to achieve no net loss of ecological functions under any economic scenario."
| | • "...the No Net Loss Report still anticipates that in various of the analysis areas, shorelines within WRIA 20 will potentially experience new shoreline armoring, riparian forest lost and impacts from view/corridor allowances, floodplain/CMZ development and forest loss within the flood plain, and overwater coverage and associated modification to shoreline habitat and water quality. No Net Loss Report, pp. 113-129. These are exactly the type of cumulative impacts that cause a net loss in ecological functions....Thus it will be absolutely imperative that the Administrator scrupulously and uniformly apply and enforce the protective provisions of the SMP to each and every project, development and use as set forth in Chapter 7 of the No Net Loss Report for the SMP to actually achieve the no net loss standard."

| Futurewise, SCNOG, & WEC (C-2) | We share the Quileute Tribe’s concern that the Cumulative Impacts Analysis and No Net Loss Report relies excessively on slow economic growth in WRIA 20 to achieve no net loss. We believe that healthy economic growth is likely in Western Clallam County. We recommend that adequate SMP regulations be adopted and that they be fairly, carefully, completely, and effectively implemented as the Tribe recommends. |
"The County can take into account local circumstances. This includes a high percentage of government owned land and dedicated open space preserved from development."

"Strongly urge a more through review of the efficacy of the existing regulatory structure. A compliant Cumulative Impacts Analysis (CIA) must be prepared before a new SMP can be adopted. The CIA must consider and assess the benefits provided by existing regulations and project mitigation imposed under the Shoreline Management Act ("SMA") permitting and State Environmental Policy Act (SEPA) authority:

Local master programs shall evaluate and consider cumulative impacts of reasonably foreseeable future development on shoreline ecological functions and other shoreline functions fostered by the policy goals of the act. Evaluation of such cumulative impacts should consider:.....((iii) Beneficial effects of any established regulatory programs under the other local, state, and federal laws. WAC 173-26-186(8)(d) (emphasis added)."

The lack of public forums to discuss and solve locally key aspects of the draft plan, especially new topics such as No Net Loss and Cumulative Effect requirements (not just hosting a meeting to watch a presentation or the Planning Commission "taking comment", but lack of community discussion.)

Staff Response: The 2017 CIA/NNL Report provides an analysis of cumulative impacts of reasonably foreseeable future shoreline development and how the County will achieve no net loss of shoreline ecological functions through the adoption and implementation of the SMP in accordance with WAC 173-26-201 (3)(d). As such, the CIA/NNL Report is part of the final stages of the SMP update process. However, the effort to prevent cumulative impacts and achieve no net loss of ecological functions has been integral to all phases of the County’s SMP update process from the shoreline inventory and characterization phase through the development of the SMP and the shoreline restoration plan. The CIA/NNL Report draws heavily from those documents and previous efforts.

In regards to comments related to the CIA/NNL Report analysis for WRIA 20, the analysis did consider that most of the WRIA 20 shorelines are proposed in the Resource Conservancy Shoreline Environmental Designation (SED). The shorelines in the Resource Conservancy SED are predominantly characterized by large, contiguous tracts of federal, state and private forest lands that exhibit undeveloped riparian habitat areas and corridors exceeding the shoreline jurisdiction. Non-forestry development is very limited and where exists is generally isolated, and this pattern is expected to continue within the Resource Conservancy SED based on ownership and management, Draft SMP policies and regulations, and other land use controls such as County comprehensive plan and zoning regulations that also apply.

Although the CIA/NNL Report made statements about minimal development pressure in WRIA 20, the full analysis found in the Report evaluated the development potential irrespective of that pressure. In other words, the analysis did not discount the development potential even though it might not happen fast, particularly in areas where new shoreline development is likely to occur in areas designated Shoreline Residential – Intensive SEDs and Shoreline Residential – Conservancy SEDs.

Proposed SMP policies and regulations recognize the potential for overlapping jurisdiction with state and federal agencies particularly related to in-water, water dependent and shoreline stabilization projects. Section 7.8 of the 2017 CIA/NNL Report summarizes other local, state and federal programs that work to protect shorelines and accommodate appropriate shoreline uses.
OPPOSE ADOPTION OF DRAFT SMP

Clallam County received throughout the SMP Update process public comments opposing updating the SMP. Many of these comments did not support, or see the need and justification for, updating the current SMP or more expansive or restrictive regulations. Public comments summarized below received by the BOCC similarly reflect these perspectives and do not support County adoption of the current Draft SMP (Sept. 2017) recommended by the Planning Commission.

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<th>Commenter</th>
<th>Summary of Comment</th>
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<tr>
<td>Clark (E-2)</td>
<td>Commented as part of email response to other individual comments sent to County as well as others that concurs with comments over the use of grant funding for the SMP by non-elected bureaucrats with public monies.</td>
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| Forde (E-4) | Opposes Draft SMP. "It is a difficult-to-understand document for the ordinary citizen, with several obscure definitions for the terms "no net loss", and "restoration", and one that will bring more rules and regulations on top of too many regulations that currently exist, encumbering and costing the people of Clallam County."

"Individuals are capable of caring for their own properties without government interference, oversight, more rules and regulations, and more enforcement, which could potentially cost hundreds of thousands of dollars in order to comply with top-down, subjective dictates. And, there is already a Clallam Code in place regarding shoreline management. We need less regulation, not more...."

"...With the current climate in Washington D.C. to reduce regulations and offer citizens more freedom as expected under our US and State constitutions, I urge you to vote "no" on this draft plan. Please do what is right for the people of the county, not for the bureaucrats in Olympia."

| D. Hewett (E-7); Royal (E-15b) | Commented as part of email response to other individual comment sent to County as well as others. Questions need for more and additional restrictions (e.g., an update) unless going to a higher standard of untouched by human hand. Celebrate the “pristine nature” of the shoreline and caretakers of the land. Isn’t this the very definition of man and the biosphere? Isn’t this the standard for and already have with the existing SMP...? Concerns over grant funding. |
| P. Hewett (E8a-x) | Submitted 24 emails since release of Draft SMP (Sept. 2017) totaling over 100 pages. Over the course of SMP update process submitted over 150 email comments. Some of the more recent 2017 comments include re-submittals of prior comments related to belief of unresolved issues and questions. Emails contain extensive opinions and statements on the County’s SMP process, staff/consultants, and various reports produced (e.g., shoreline inventory and characterization). Also, many comments are written as questions directed for all who received (emails were sent also to others) to consider. Some comments and questions are directed to Ecology. The extensive content of the emails submitted by Ms. Hewett is too large to summarize. Similar to other written comments received, all of Ms. Hewett’s comments were made available to the BOCC. Ms. Hewett’s comments as a whole oppose the Draft SMP and express her concerns regarding the overall update process. The concerns noted include, but are not limited to:
- Lack of an honest assessment of what “NO NET LOSS” is from Ecology and the County’s consultant.
- Believes County consultant was incompetent with their mapping data, etc.... and that the burden of proof will have to fall back onto the property owner at much expense to protect their property right.
- Shoreline and Inventory and Characterization – does not support the premise of what was conveyed by consultant.
- Insist that the SMP Advisory Committee has been ignored on numerous issues, such as:
  - Tables presented in SMP are not clear
  - SMP is too restrictive on all forms of development
  - Too much loss of private property and the cumulative effect of shoreline setbacks
  - Shoreline Environmental Designations
  - Taking of private property for public access
- Ecology cannot provide any site specific or scientific papers that the current Clallam County
Cont’d: SMP has caused any loss of ecological function. If they cannot provide proof, the current setbacks and buffer zones should remain or be reduced.

- DOE, Consultants, Elected Officials, Appointed Officials, Staff, etc. did not listen to the citizens.
- Voiced concern over the amount of grant monies (tax payer money) received and spent by the County and the County accounting of the grant money used for the SMP update.

Nolan (E-10) Opposes Draft SMP and requests County Commissioner reject. "I have been a resident of East Clallam County, since 1970 and have property on salt water the entire time. Our beaches and tidelands are adequately protected by current rules. We should not give more power to state agencies and take existing rights from property owners...."

Perry (E-11) Opposes Draft SMP "due to regulations, fees, enforcement, and excessive burdens to property owners and taxpayers."

Phelps (E12,a,b,c) Opposes Draft SMP. Commented as part of responses to emails from several individuals sent to County as well as others various private individuals that do not support the Draft SMP. "What I don't understand is why all the taxpayers can see this and the blasted elected officials and bureaucrats can't (or don't want to)." Also, concerned that SMP will make us move our hours back another 500 feet from the beach and rebuilding if it burns down.

I can't even begin to understand all the data in the latest update document. I have the following thoughts regarding this process:

- Are the rules from the original SMP not working? Were they enforced? Are we just updating for the sake of updating? Is it possible to say that what was approved in the past is working well?
- Is there any way to reduce the netting of fish headed to the mouth of our rivers? Is there money to enforce the current rules about netting? It won't help the fish one bit if they don't have a chance to reproduce, clean water or no clean water.
- People matter, otherwise who would pay for all these studies and rules?

Spees (14a, b, c) "...The current Clallam County Shoreline Master Plan Update should be rejected. Because it is being forced on us by the partisan Department of Ecology (DOE), if it is not accepted (reinforced) by County Commissioners, Judicial Challenges by private Citizens will have a better chance at finding justice for their Private Property Grievances."

Noted was a member of the SMP Citizen Advisory Committee. Further commented that "My public testimony concerns do not preclude the elected DCD Director or the elected Clallam County Commissioners from creating policies managing and regulating "Common Sense" rules for use of Shoreline Property."

Comments also included responses to emails from other commenters sent to the County and others. These included adding that "the SMP is a 'bill of goods' being forced on use by the WA DOE" and to "stop this nonsense" in support of another private citizen email /comments that the County SMP sucked in by RCW 90.58.110. Makes references to other government actions such as removal of the Elwha Dams with the related comment "do not make a similar mistake with the Clallam County SMP update cram-down." In addition, adding his concern over the amount of grant monies (tax payer money) received and spent by the County and the County accounting of the grant money used for the SMP update.

Staff Response and Recommendation: Staff recommends that the BOCC adopt an updated SMP as required by the Shoreline Management Act (SMA) based on the Draft SMP (Sept. 2017) recommended by the Planning Commission together with any identified revisions by the BOCC that are both responsive to local needs and circumstances and consistent with the SMA and state rules (WAC 173-28) for SMP’s. The SMP update process dates back to early visioning and focus groups in 2010/2011 and has included significant public outreach, opportunities for public participation at key stages, and ability to provide comments throughout the process. Many perspectives were received throughout the process that continues through the Draft SMP before the BOCC.

Besides being a state requirement, other reasons to update the County’s SMP include: the current SMP is over 40-years old; population has more than doubled since the original SMP took effect; we know more about flooding, erosion, and landslide hazards; we know more about the dynamics of shoreline environments and functions they provide better; and we want to continue to accommodate
new shoreline residences, public access and other appropriate uses without damaging lands and waters.

Pursuant to the SMA (RCW 90.58.080), updates and implementation of SMP's must be consistent with the state SMP Guidelines (WAC 173-26) adopted by Ecology. Development of the updated SMP considered local circumstances and addressed the state SMP Guidelines. Part of the early stages of SMP development also included the County preparing a Final Consistency Review Report (July 2011) to identify and provide recommendations to: address inconsistencies and gaps of the existing SMP with state requirements; gaps and omissions of the existing SMP in terms of the range of shoreline development scenarios likely to occur in the future; improve clarity/administration; and achieve state approval of the updated SMP.

OTHER SMP RELATED COMMENTS

| Jamestown S'Klallam Tribe (A-2a) | Recommends County implementation of also "non-regulatory tools that could be used to encourage land owners to lean towards actions that enhance ecosystem services such as: Conservation Futures, Permit process streamlining or waiving fees for green projects, Shellfish protection district, Lower interest loans, Current use tax assessment and public benefit rating system.” |

**Staff Response:** This comment highlights examples of non-regulatory tools the County could consider that would be separate from the SMP. The County already implements some of these types of tools. Examples:

- Shellfish Protection District for the Dungeness Watershed Area under Chapter 27.16 CCC.
- Adopted public benefit rating system for current use tax assessment that allows for lower taxes for protection of critical areas, conservation easements, and other public benefits.
- County has administered programs for low interest loans for septic repairs.
- Current County shoreline permit and review fees do not charge a review fee for qualifying fish habitat enhancement projects and assess a lower fee $150 for shoreline enhancement and restoration projects that otherwise meet the criteria under WAC 173-27-040 as exempt from a Shoreline Substantial Development permit.

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<tr>
<td>Jamestown S'Klallam Tribe (A-2a, A-2b)</td>
<td>Supports a Notice on Title, Informational.</td>
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"...One essential element in facilitating the transition towards improving already degraded shorelines areas is a coherent and favorable framework for influencing property owners to recognize and value environmental shoreline stewardship in addition to informing land owners of hazards.

Informing landowners of hazards is identified as a goal throughout the SMP. The Tribe is skeptical, however, about the County’s strategy for achieving this goal. We recommend the use of Notice on Title, informational, as a reasonable component in an overall approach for addressing this important need. Critical areas information would then be tied to the land, allowing prospective buyers to become informed through title searches. The Tribe understands that such disclosure efforts are contentious and uncommon. However, precedence’s do exist, such as the requirement to disclosure lead hazards during the sales of single family residences. The concept of disclosing environmental hazards is a worthy goal that should be seriously pursued. Moving forward without an effective means of providing critical areas information to citizens impairs successful implementation of the SMP and thus the conservation and
The Tribe notes that the County previously had a Notice on Title, Informational requirement (attached an example), although it has apparently been discontinued. The Tribe recommends that the County should reinstitute this requirement.

Staff Response and Recommendation: Staff recommends that the BOCC discuss this issue to determine whether to add a notice to title requirement. A Notice to Title (Informational) is not a requirement of the Shoreline Management Act, RCW 90.58, or the state SMP Guidelines, WAC 173-26. An example of a Notice of Title under the County’s critical areas ordinance was included with the comment. The Clallam County Auditor current recording fee is $99.00 for first recorded page and $1.00 for each additional page.

The 2014 Draft SMP that the Planning Commission took to public hearing had the following language under Section 7.3, General Regulations for All Critical Areas:

5. Notice on Title: Any property on which a development proposal is submitted shall have filed with the Clallam County Auditor:
   a. A notice on title of the presence of the critical area and/or buffer;
   b. A statement as to the applicability of this Program to the property; and
   c. A statement describing possible limitations on actions in or affecting critical areas or buffers as approved by the Administrator. Clallam County shall record such documents and will provide a copy of the recorded notice to the property owner of record. Development proposals which are also defined as normal repair and maintenance of existing structures or developments, including but not limited to roof repair; interior remodeling, wood stove permits, etc., and on-site sewage disposal systems repairs or replacement, are exempt from this requirement.

The above language in the 2014 Draft SMP was taken from the current critical areas code.

Based on citizen comments, the majority of the Planning Commission believed County SMP, supporting documents (e.g., shoreline inventory and characterization report), on-line shoreline and critical area maps, permit records, real estate disclosures, and other information could alert perspective purchasers of presence of shorelines and critical areas in the shoreline jurisdiction. In addition, the majority of the Planning Commission also questioned fairness and effectiveness of a notice to title given that as written such notices would only be required on lots associated with "new development" in the shoreline jurisdiction, but that similarly situated properties (e.g., along same marine bluffs) in the vicinity that were previously developed or undeveloped would not have recorded notice of title.

A potential benefit of a notice of title is to alert prospective owners of shoreline and critical areas are present and may assist as a code compliance tool. Disadvantage is the generally limited amount of information provided in such recorded notices and the potential impact of such limited information to owners trying to sell their properties.

| Jamestown S'Klallam Tribe (A-2a) | "The proper administration and management of the updated SMP will demand extensive resources. We recommend that this program include a funding mechanism that would serve at least two purposes:
   • Provide funding for County planning staff to 1) administer the program and 2) perform the monitoring to assure No Net Loss (or adapt the program if needed).
   • Discourage property development in sites that have inherent risks to both the developed structure and the surrounding environment (such as along erosive bluffs, near channel migration zones, and along marine shorelines that already are flood prone or will be with sea-surface rise)."

Staff Response: The Department of Community Development agrees that adequate staffing and funding needs to be allocated for successful SMP administration as well as monitoring and public
outreach efforts. Beyond one-time grants, current funding for staffing is thru the County general fund. The County does collect fees for processing and review of shoreline permits and fees that were recently updated in May 2018. Code violations may also result in collection for penalties.

In 2018, Clallam County expanded code compliance from 1 dedicated staff person to a dedicated code compliance coordinator and 3 part-time compliance field officers. This change not only more than doubled staffing resources, but also ensured more consistent coverage with now three field staff.

| Evanoff (E-3) | Commented that property (671 and 721 Burnt Mountain Rd – Hwy 113) was surveyed and taken out of flood zone including FEMA flood zone maps. Request County to revise maps accordingly to take property out of the Channel Migration Zone (CMZ) designation. Asked who to contact to see how new maps affect my small family owned commercial foresting acres? |

**Staff Response:** Review of County records show a flood elevation certificate that was done to support a County 2013 final building permit approval for placement of the current modular home within the mapped FEMA 100-year floodplain.

In terms of the National Flood Insurance Program (NFIP) maps for Clallam County, FEMA has a process to consider map revisions to the Flood Insurance Rate Maps for Clallam County called Letter of Map Amendment (LOMA). A LOMA is an official amendment, by letter, to an effective NFIP map. A LOMA establishes a property’s location in relation to the 100-year floodplain. LOMA’s are usually issued by FEMA because a property has inadvertently been mapped as floodplain. LOMA’s are approved by FEMA not the County. They do not result in a physical change to the NFIP map, between updates.

FEMA does not map channel migration zones (CMZ) in Clallam County. The CMZ map referred to for the County to revise was prepared by the Department of Ecology (i.e., not Clallam County).

| Bowen (E-1a) | I make the claim that WRIA 20 received poor representative support:  
- In creating the WRIA 20 ICR that is labored to be more than general in nature stated quite often in the report, and there is even concern over the qualifications of the authors to even perform the task of compiling such an ICR evaluation.  
- The lack of public forums to discuss and solve locally key aspects of the draft plan, especially new topics such as No Net Loss and Cumulative Effect requirements (not just hosting a meeting to watch a presentation or the Planning Commission “taking comment”, but lack of community discussion.)  
- CMZ analysis based on a single reach of a single river in the WRIA.  
- Predominate effect versus the eastern portion of the county of new SED categories that discount small landowners held to a higher land size standard (the Resource Conservancy Example).  
- The financial demographic of the west end versus that of the east end to accommodate onus funded mandates.  
- The development potential between the west end and the east.  
- The lack of WRIA 20 representation except for one WRIA 20 tribal representative on the DCD Shoreline Advisory Committee (not the one authorized by County Code – Chapter 26.02, Shoreline and Sensitive Area Committee) used to draft with the consultant the plan.  
- I believe the consultant tasked to fill the gaps in trying to bring WRIA 20 in to the rest of the county plan had limited scope, and mission creep was only second to the theory that pressure was to just get it done. |
Staff Response: In regards to the recommendation, the County could certainly establish citizen advisory committees for future periodic or significant issue updates to the SMP to obtain focused input from the County’s various regions. Although the County can and should always strive to improve on ways to obtain public input, the County’s SMP public process has been overall very broad/extensive and has also been open to public comment. Some highlights include:

- The County through a memorandum of agreement had the Olympic Natural Resources Center develop the WRIA 20 Shoreline Inventory and Characterization Report (ICR). The ONRC also facilitated early in the SMP update process community meetings related to visioning, WRIA 20 ICR and WRIA 20 Shoreline Restoration Plan.

- The SMP Update Committee was comprised of environmental, industry, property rights, and other interest groups/organizations; state agency and tribal representatives; shoreline landowners; shoreline business owners; and other citizen representatives. There was west-end WRIA 19 and 20 representation and interests on the Committee, including at least two property owners that owned shoreline properties in WRIA 20. To also assist in obtaining WRIA 20 input in the early SMP process, the County also sought input from WRIA 20 Implementing Body (for watershed planning).

- The County engaged at key points in the SMP process with regional forums held in Clallam Bay-Sekiu and Forks. The Planning Commission also held regional hearings both in Clallam Bay-Sekiu and Forks. The Planning Commission has 3 west-end appointed representatives, including one that lives in WRIA 20. Notices included paid ads, press releases, and/or legals.

- Notices were also mailed to shoreline landowners for Regional County SMP forums and the public hearings before the Planning Commission and Board of County Commissioners. County has maintained a SMP update web site and also has sent email notifications on milestones and public meetings throughout the process.

- Other key ways to inform and invite comment throughout the SMP process was thru maintaining an SMP Update web page and using email notifications (list is currently over 600 addresses) for key milestones and public meetings.

Staff Response: The SMP does not change the zoning designation applicable to a shoreline property. For properties either partially or fully within the SMP jurisdiction, the SMP establishes policies and regulations for further regulating shoreline development. Lawfully established uses are
grandfathered and may continue. Only new development and uses within the shoreline jurisdiction would be affected by the updated SMP. Section 5.1 of the Draft SMP addresses Existing (Grandfathered) Uses and Development.

| McEntire (E-9) | Noted and included state legislative findings under RCW 90.58.020 of the Shoreline Management Act related to use preference along shorelines of the state. Also, included an internet link to the Washington State Office of the Attorney document for the County to consider titled: Advisory Memorandum and Recommended Process for Evaluating Proposed Regulatory or Administrative Action to Avoid Unconstitutional Takings of Private Property (December 2015) |

**Staff Response and Recommendation:** The November 2014 Draft SMA and June 2017 Draft SMP before the Planning Commission were reviewed by the County Prosecuting Attorney Office. Recommended changes were incorporated. Staff would recommend that the final revised SMP by the Commissioners be reviewed by Prosecuting Attorney Office prior to adoption.

| Bowen (E-1b) | References the state Shoreline Management Act (SMA) provision that states that the restrictions imposed by the SMA shall be considered by the county assessor in establishing the fair market value of the property (RCW 90.58.290). The letter requests the County Assessor to provide input to the County Commissioners regarding how the restrictions imposed by the SMP will be considered by the Assessor in establishing fair market value. Requests such considerations be discussed in advance of County adoption of the new SMP. |

**Staff Response:** Similar to any other County development regulation, if the SMP regulations affects “fair market value” of a particularly piece of property it will be considered by the County Assessor.
2015 Washington State Department of Ecology Memorandum

RE: Clallam County Planning Commission Questions Regarding Addressing Climate Change in the Draft Clallam County Shoreline Master Program (SMP)
MEMORANDUM

May 28, 2015

To: Steve Gray, Clallam County Planning Manager

From: Michelle McConnell, Regional Shoreline Planner, WA Department of Ecology

Subject: Planning Commission’s Interest re: Addressing Climate Change in the Draft SMP

Summary: There is no requirement for SMPs to address climate change explicitly. The following information is advisory only.

The County’s most recent public comment period on the November 2014 Draft Shoreline Master Program (Draft SMP) yielded much input from stakeholders and interested citizens. A large volume of the feedback received was regarding the issue of climate change.

I appreciated the opportunity to attend the May 6, 2015 Planning Commission work session on the Draft SMP and receiving the SMP Comment Summary matrix provided to the group. During the Planning Commission’s discussion that evening they asked specific questions about addressing climate change in the Draft SMP on which I agreed to follow-up:

- How have other SMPs addressed climate change?
- How much is enough? What more is needed in the Draft SMP?
- What does ECY consider the current, available science on climate change?
- If/what obligation the County has to inform property owners about the risks of climate change?

Based on an initial word search review of the document, there are some 30 comment entries in the matrix attributed to the issues of ‘climate change’ and ‘sea level rise’. There are likely other entries that also have direct/indirect connection but do not contain these key words (e.g. flood hazard management, vegetation conservation, etc.). After conferring with other ECY staff this memo provides additional information to supplement the verbal comments I made that night and to answer the Planning Commission’s questions.

What is Required:
As I noted in my 5/4/15 email to you that was relayed to Planning Commissioners that same day, and as is evident in Ecology’s SMP Handbook Appendix A. Addressing Sea Level Rise in SMPs, there is no specific requirement for SMPs to address climate change and sea level rise
explicitly. What is required is a meaningful review of the current, accurate, available science and technical information (WAC 173-26-201(2)(a)) and to manage shoreline use and development activities to achieve no net loss of ecological function. The SMP requirement for science is primarily addressed through the inventory, analysis and characterization of shoreline conditions; the findings and conclusions of this assessment must drive the policies and regulations of the SMP. The County prepared two Shoreline Inventory & Characterization Reports (ICR), one for WRIs 17 – 19 and another for WRIA 20. Ecology previously accepted these work products as complete in 2012 when the final versions were released.

The WRIA 17-19 ICR at Chapter 8 References includes five citations of studies specific to climate change and sea level rise: Casola et. al. (2005a and 2005b), Huppert et. al. (2009), Mazotte et. al. (2008), and Snover et. al. (2005). The WRIA 20 ICR does not explicitly address climate change but thoroughly assesses the floodways, floodplains, past flooding events, and risks of future flooding based on stream conditions, all of which are issues affected by changes in volume and timing of precipitation in the shoreline planning area and contributing region that have/may result from a changing climate. There is no requirement to perform a comprehensive or exhaustive review of all literature ever published on any issue. The climate change and sea level rise citations already considered by the County have satisfied Ecology as an adequate representative sampling of the information available at the time – especially for an issue/topic not specifically required by statute or guidelines.

What is Proposed:
Enclosed please find a summary I prepared of the provisions contained in the November 2014 Draft SMP that explicitly note climate change and sea level rise as identified through a word search review of the document. Again, there is other relative content that is directly or indirectly related without use of the terms ‘climate change’ or ‘sea level rise’; such content is not included in this quick summary. Please advise if any provisions omitted in this limited review require additional consideration. Of the eight provisions identified, just one is a shoreline stabilization regulation (Chapter 4.6.5(3)) and all the other provisions are either goals or policies which provide broad guidance to the regulations and performance standards and to programmatic implementation at the project level.

While not explicitly stated as climate change/sea level rise provisions, the proposed shoreline buffers and vegetation conservation standards are SMP ‘tools’ that will help shoreline use and development adapt to the impacts of climate change to minimize safety hazards and the effects on shoreline function. A December 2012 memo from the County’s SMP consultant (ESA) explains that one of the added, indirect benefits of the wider buffers is to protect people and property by mitigating the impacts of climate change.
Further, there are requirements for site-specific geotechnical analysis to support the review of projects proposed in hazard areas. This is another way the County will consider the most current, available science to support permit decisions. Climate change may exacerbate certain coastal hazards but it appears the avoidance strategies included in the Draft SMP address the issues regardless of whether the magnitude or frequency of such events increases or not.

Given there is no specific requirement to address climate change the County’s proposed provisions regarding such are considered adequate and Ecology is not requiring any additional provisions. During the continued review and pending adoption process both the County and Ecology must ensure that all SMP provisions are consistent with the SMA and SMP Guideline requirements, are internally consistent, and do not conflict with other applicable local, state or federal requirements.

**Risk Liability**
This is an issue for consideration by the County’s legal counsel as there is no specific SMA or WAC requirement for local governments to include SMP provisions about notifying property owners about risks associated with location and natural processes. The County’s Division of Emergency Management and the Hazard Mitigation Plan may also have input and guidance on how to address such risks.

**How to Proceed:**
The Planning Commission must consider the public input received but is not obligated to take any of the actions suggested by public comment. The Planning Commission should evaluate the proposed provisions for consistency and could opt to recommend ‘as is’ or to revise - either reduce or increase - the proposed goals, policies, and regulation regarding climate change and sea level rise.

In response to the significant level of public interest in the issue, the County may opt to augment the science already considered to confirm that the existing provisions are still in keeping with current science. If the County does so, Ecology’s SMP Handbook Appendix A on sea level rise references some citations that are not included in the County’s ICR references; therefore the County could opt to review and include those additional sources whether or not any revisions are made to the Draft SMP. The Appendix A guidance document and other online resources were included in my previous email and also shared with the Planning Commission so they are not repeated here.
If the County opts to review additional science, I’ve enclosed a list of coastal climate adaptation resources prepared by our Headquarters’ staff that may be of interest. The list includes three documents our agency considers key reports for sea level rise projections in Washington:

- Sea Level Rise in the Coastal Waters of Washington State – Mote et al. 2008 (UW Climate Impacts Group and Dept. of Ecology) [also cited in Appendix A]

If/what additional science gets reviewed depends on what specific climate drivers/stressors the County wants to further consider (e.g. sea level rise, changes in stream flow, rising temperatures, ocean acidification, etc.). While these systems/processes are all connected and influence each other, there are different sources of information for each issue. Please let me know if you need additional information on specific topics.

Ecology commends the County on its effort to build climate change resilience through mitigation and adaptation efforts. It is important to recognize that planning for climate change is not solely limited to shoreline management; other planning tools play a part of how the community addresses this issue, including a Climate Action Plan, the Comprehensive Plan as well as plans or ordinances for critical areas, flood management, hazard mitigation, zoning codes, incentive programs and more. Given the ongoing efforts by other local groups to plan for climate change it’s also important to remember that limited amendments can be made to the new SMP at any time to address new information or changing circumstances. Further, periodic review of the SMP is required on an eight year cycle after it is updated. Hence, this current SMP Update is not the only opportunity for the County to address climate change in the SMP and the issue may be more fully addressed in the future.

Should any new climate change provisions be added to the Draft SMP, they must be supported either by the existing science (i.e. ICR references) and/or by review of additional science and technical information, as necessary, to inform the added provisions. Should the County exercise its discretion on this matter, any additional citations, findings and conclusions from the new information considered should be added as an addendum to the ICR to supplement the project record and the rationale for the proposed SMP.

Ecology has not formally tracked how updated SMPs are addressing climate change since it is not a required component. After querying other Regional Planners in Ecology’s Shorelands and
Environmental Assistance (SEA) Program, the enclosed table summarizes how local governments have included climate change provisions, as a supplement to Appendix A.

Given the County’s 2011/2013 due date for completing the SMP Update is long past, Ecology urges the County to minimize delay and keep moving forward to a locally approved program for state review and final adoption.
<table>
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<tr>
<th>CHAPTER</th>
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<tr>
<td>1</td>
<td>1-13</td>
<td>1.4</td>
<td>SMP Update Vision</td>
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<tr>
<td>1-13</td>
<td></td>
<td>Figure 1-9</td>
<td>Figure 1-9. Erosion at base of bluff contributing sand, cobble and gravel to the nearshore. Erosive forces could become more severe in the future due to climate change.</td>
</tr>
<tr>
<td>1-19</td>
<td>1.5</td>
<td>SMP Goals</td>
<td>13. To protect people and property from adverse impacts related to climate change and to promote resiliency in responding to climate change impacts.</td>
</tr>
<tr>
<td>3</td>
<td>3-27</td>
<td>3.9.1</td>
<td>Restoration Policies</td>
</tr>
<tr>
<td>3-31</td>
<td>3.11.1</td>
<td>Transportation Policies</td>
<td>5. The location and design of new transportation uses/developments including replacement of existing roads and other infrastructure should take into account implications of sea level rise and other climate change effects.</td>
</tr>
<tr>
<td>4</td>
<td>4-24</td>
<td>4.6.5</td>
<td>New/Expanded Shoreline Stabilization Regulations</td>
</tr>
<tr>
<td>6</td>
<td>6-1</td>
<td>6.2</td>
<td>General Buffer &amp; Veg Policies</td>
</tr>
<tr>
<td>7</td>
<td>7-1</td>
<td>7.2</td>
<td>General Critical Area Policies</td>
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</table>
## SEA LEVEL RISE ADAPTATION: OPPORTUNITIES FOR PLANNING IN WASHINGTON STATE

### Resources for Adaptation Planning

<table>
<thead>
<tr>
<th>Title</th>
<th>Organization / Agency</th>
<th>Description</th>
<th>Link</th>
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<tbody>
<tr>
<td><strong>PLANNING AND ANALYTICAL TOOLS</strong></td>
<td></td>
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<tr>
<td>Initial Project Clearinghouse for Coastal Adaptation Planning</td>
<td>Department of Ecology, Washington State</td>
<td><strong>Initial Project Clearinghouse for Coastal Adaptation Planning</strong> is a tool designed to facilitate the development and implementation of effective coastal adaptation strategies. It provides a comprehensive database of projects and resources to help communities and organizations navigate the complex process of coastal adaptation.</td>
<td><a href="http://www.ecology.wa.gov">Link</a></td>
</tr>
<tr>
<td>Coastal Vulnerability Analysis (CVA)</td>
<td>Washington Department of Ecology</td>
<td><strong>Coastal Vulnerability Analysis (CVA)</strong> is a comprehensive tool for assessing the vulnerability of coastal communities and ecosystems. It provides detailed maps and data on sea level rise impacts, helping communities prepare for future challenges.</td>
<td><a href="http://www.ecology.wa.gov">Link</a></td>
</tr>
<tr>
<td><strong>LOCAL RESOURCES</strong></td>
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<td><strong>Washington State</strong></td>
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<td><strong>Regional</strong></td>
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<tr>
<td>Puget Sound Regional Council</td>
<td>King County, WA</td>
<td>The Puget Sound Regional Council is a regional coordinating body for coastal and ocean issues. It works to foster collaboration among local, state, and federal partners to address coastal challenges.</td>
<td><a href="http://www.ecology.wa.gov">Link</a></td>
</tr>
<tr>
<td><strong>Statewide</strong></td>
<td></td>
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<tr>
<td>Washington State Department of Ecology</td>
<td>Washington State Department of Ecology</td>
<td>The Washington State Department of Ecology is responsible for the overall management and protection of Washington's natural and cultural resources, including coastal areas.</td>
<td><a href="http://www.ecology.wa.gov">Link</a></td>
</tr>
<tr>
<td><strong>Federal</strong></td>
<td></td>
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</tr>
<tr>
<td>National Oceanic and Atmospheric Administration (NOAA)</td>
<td>Washington State Department of Ecology</td>
<td>The National Oceanic and Atmospheric Administration (NOAA) is responsible for providing coastal management information and tools. It serves as a central resource for coastal planning and adaptation efforts.</td>
<td><a href="http://www.ecology.wa.gov">Link</a></td>
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Institute Tidal
Coastal Program Manager
University of Washington
Department of Geography
(206) 685-3699
institute.tidal@uw.edu
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<th>Local Government</th>
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<tbody>
<tr>
<td>City of Olympia</td>
<td>Locally Adopted SMP</td>
<td>10/1/13</td>
<td>10</td>
<td>2.4.9 Shoreline Use &amp; Development Policies</td>
<td>2.4.9: The City should continue to develop information about the impacts of sea level rise on the shoreline and other affected properties; the City should develop plans to address the impacts of sea level rise in collaboration with impacted property owners, the community and the Department of Ecology. These plans should include minimum flood prevention approaches, shoreline environment impact considerations and financing approaches. The City should amend the Shoreline Master Program and other policy and regulatory tools in the future as necessary to implement these plans.</td>
<td><a href="http://www.eyJ.uw.gov/programs/sea/shorelines/sumo/mycomments/olympia/lmp.pdf">http://www.eyJ.uw.gov/programs/sea/shorelines/sumo/mycomments/olympia/lmp.pdf</a></td>
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<tr>
<td>City of Olympia</td>
<td>Locally Adopted SMP</td>
<td>10/1/13</td>
<td>10</td>
<td>2.4.9 Shoreline Use &amp; Development Policies</td>
<td>2.4.9: The City should consider the impacts of sea level rise as it plans for the rebuild of Percival Landing and other shoreline improvements and it should be designed to provide for a reasonable amount of sea level rise consistent with the best available science and the life cycle of the improvements.</td>
<td><a href="http://www.eyJ.uw.gov/programs/sea/shorelines/sumo/mycomments/olympia/lmp.pdf">http://www.eyJ.uw.gov/programs/sea/shorelines/sumo/mycomments/olympia/lmp.pdf</a></td>
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<tr>
<td>City of Olympia</td>
<td>Locally Adopted SMP</td>
<td>10/1/13</td>
<td>13</td>
<td>2.9.6 Marine Recreation Management Policies</td>
<td>2.9.6: The City recognizes that the Marine Recreation shoreline (Reaches SC and the adjoining Urban Conservancy/Urban Intensity shoreline in Reach 6A) provide a variety of benefits to the community including boat moorage, utility transmission, transportation, public access, water enjoyment, recreation, wildlife habitat and opportunities for economic development. These benefits are put at risk by continued shoreline erosion. The City recognizes that there exists a need to develop a detailed plan for shoreline restoration and stabilization for Reaches SC and 6A and encourages the Port to partner in this effort.</td>
<td><a href="http://www.eyJ.uw.gov/programs/sea/shorelines/sumo/mycomments/olympia/lmp.pdf">http://www.eyJ.uw.gov/programs/sea/shorelines/sumo/mycomments/olympia/lmp.pdf</a></td>
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<tr>
<td>City of Olympia</td>
<td>locally Adopted SMP</td>
<td>10/15/13</td>
<td>14</td>
<td>Urban Intensity Management Policies</td>
<td>2.11 B Olympia’s shoreline is characterized by a wide variety of “urban” uses and activities, including commercial, industrial, marine, residential, and recreational uses. Together, these uses and activities create a vibrant shoreline that is a key component of Olympia’s character and quality of life. These types of uses should be allowed within the Urban Intensity environment, with preference given to Water-Dependent and Water-Enjoyment uses. Shorelines in this SED are highly altered and restoration opportunities are limited. The City’s own Percival Landing is a good example of how the immediate shoreline in the Urban Intensity SED should be redeveloped with a focus on public access and enjoyment, sea level rise protection and restoration of shoreline environmental function where feasible.</td>
<td><a href="http://www.ecy.wa.gov/programs/sed/shorelines/smp/mycomments/olympia/smp.pdf">http://www.ecy.wa.gov/programs/sed/shorelines/smp/mycomments/olympia/smp.pdf</a></td>
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<tr>
<td>City of Olympia</td>
<td>locally Adopted SMP</td>
<td>10/1/13</td>
<td>23</td>
<td>Fill Policies</td>
<td>2.32 C Fill should be allowed to accommodate berms or other structures to prevent flooding caused by sea level rise. Any such fill should include mitigation ensuring no net loss of ecological functions and system-side processes.</td>
<td><a href="http://www.ecy.wa.gov/programs/sed/shorelines/smp/mycomments/olympia/smp.pdf">http://www.ecy.wa.gov/programs/sed/shorelines/smp/mycomments/olympia/smp.pdf</a></td>
</tr>
<tr>
<td>City of Olympia</td>
<td>locally Adopted SMP</td>
<td>10/1/13</td>
<td>76</td>
<td>Fill Water-way of OHWM (Regulations)</td>
<td>Fill water-way of the Ordinary High Water Mark shall be permitted for the following purposes only, with due consideration given to specific site conditions and only as part of an approved use or development: (X) Construction of protective berms or other structures to prevent the inundation of water resulting from sea level rise shall be allowed in response to increases in sea level subject to all other provisions of this section and the mitigation sequencing process;</td>
<td><a href="http://www.ecy.wa.gov/programs/sed/shorelines/smp/mycomments/olympia/smp.pdf">http://www.ecy.wa.gov/programs/sed/shorelines/smp/mycomments/olympia/smp.pdf</a></td>
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<tr>
<td>Island County</td>
<td>Locally Adopted SMP</td>
<td>12/27/12</td>
<td>6</td>
<td>Shoreline Use Element Policies</td>
<td>6. Sea level rise and increased frequency and magnitude of extreme storm events as a result of climate change should be taken into account when considering and evaluating shoreline uses,</td>
<td><a href="https://www.wa.gov/shorelines/documents/ADOPTEDMPGoalsAndPolicies1327723.pdf">https://www.wa.gov/shorelines/documents/ADOPTEDMPGoalsAndPolicies1327723.pdf</a></td>
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<tr>
<td>Island County</td>
<td>Locally Adopted SMP</td>
<td>12/27/12</td>
<td>9</td>
<td>Conservation Element Policies</td>
<td>10. Island County shall establish a program to monitor the effects of ongoing climate change on the marine environment by annually measuring sea level and marine water pH at a minimum of five established sites spread throughout the Island County.</td>
<td><a href="https://www.wa.gov/shorelines/documents/ADOPTEDMPGoalsAndPolicies1327723.pdf">https://www.wa.gov/shorelines/documents/ADOPTEDMPGoalsAndPolicies1327723.pdf</a></td>
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<tr>
<td>Jefferson County</td>
<td>Final SMP (fully adopted)</td>
<td>2/7/14</td>
<td>9-5</td>
<td>Article 3 Master Program Goals 7. Shoreline Use</td>
<td>(Also codified as ACC 18.25.180(2)) online at UW/jeffersonCounty/html/jeffersoncounty1825.html#18.25.180(2)</td>
<td><a href="http://www.ecy.wa.gov/programs/sed/shorelines/smp/mycomments/jeffersonCounty/smp.pdf">http://www.ecy.wa.gov/programs/sed/shorelines/smp/mycomments/jeffersonCounty/smp.pdf</a></td>
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<tr>
<td>King County</td>
<td>Comprehensive Plan</td>
<td>Chapter 4 Section II - Climate Change</td>
<td>5-63</td>
<td>Comp Plan Chapter 5 (Goals &amp; Policies) B.Shoreline Critical Areas &amp; Fish &amp; Wildlife Habitat Conservation Areas F. Preparing for Climate Change</td>
<td>As discussed in Chapter 4 of the King County Comprehensive Plan, climate change has the potential for significant impacts on shorelines and coastal habitats. Sea-level rise and storm surges may place risk infrastructure, habitat restoration projects, and economic development, including residential development. New development and maintenance or replacement of existing development should take into account the potential for harm that may result from sea-level rise.</td>
<td><a href="http://www.esy.wa.gov/programs/ed/shorelines/comp/plans/rfp/King%20County%20Comprehensive%20Plan%202017%20Final%20Draft%2012%202017%20Dec%2020.pdf">http://www.esy.wa.gov/programs/ed/shorelines/comp/plans/rfp/King%20County%20Comprehensive%20Plan%202017%20Final%20Draft%2012%202017%20Dec%2020.pdf</a></td>
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<tr>
<td>King County</td>
<td>Final SMOI (fully adopted)</td>
<td>1/14/13</td>
<td>5-63</td>
<td>Comp Plan Chapter 5 (Goals &amp; Policies) B.Shoreline Critical Areas &amp; Fish &amp; Wildlife Habitat Conservation Areas F. Preparing for Climate Change</td>
<td>S-650 King County shall ensure that new projects for and major maintenance or replacement of utilities, roads, and other public infrastructure consider the impacts of sea-level rise in the location, design, and operation of the projects.</td>
<td><a href="http://www.kingcounty.gov/environment/waterandland/shorelines.aspx">http://www.kingcounty.gov/environment/waterandland/shorelines.aspx</a></td>
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<tr>
<td>King County</td>
<td>Final SMOI (fully adopted)</td>
<td>1/14/13</td>
<td>5-63</td>
<td>Comp Plan Chapter 5 (Goals &amp; Policies) B.Shoreline Critical Areas &amp; Fish &amp; Wildlife Habitat Conservation Areas F. Preparing for Climate Change</td>
<td>S-651 Habitat protection and restoration projects in the shoreline jurisdiction shall consider implications of sea-level rise and other climate change impacts to promote resiliency of habitats and species.</td>
<td><a href="http://www.kingcounty.gov/environment/waterandland/shorelines.aspx">http://www.kingcounty.gov/environment/waterandland/shorelines.aspx</a></td>
</tr>
<tr>
<td>King County</td>
<td>Final SMOI (fully adopted)</td>
<td>1/14/13</td>
<td>5-63</td>
<td>Comp Plan Chapter 5 (Goals &amp; Policies) C. Shoreline Modifications 2. Shoreline Stabilization</td>
<td>When new development occurs within the shoreline jurisdiction, the following measures shall apply: 5-779 King County should notify all prospective developers of new development along Vashon and Maury Islands that their development may be impacted by sea-level rise and should encourage all such development to be set back a sufficient distance to avoid the need for shoreline protection during the protected life of the development.</td>
<td><a href="http://www.kingcounty.gov/environment/waterandland/shorelines.aspx">http://www.kingcounty.gov/environment/waterandland/shorelines.aspx</a></td>
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<tr>
<td>King County</td>
<td>Final SMP (fully adopted)</td>
<td>1/14/13</td>
<td>S-25</td>
<td>Comp Plan Chapter 5 (Goals &amp; Policies) A. Shoreline Modifications B. Shoreline Stabilization</td>
<td>The King County shoreline jurisdiction includes a large number of shoreline stabilization structures, many of which were constructed years ago with little or no consideration of the impact on shoreline ecological processes and functions. 5-7.85 King County should encourage replaced structural shoreline stabilization located on Vashon and Maury Islands to be relocated outside of the 100-year floodplain whenever possible. The edge of the 100-year floodplain is consistent with a two-foot sea-level rise.</td>
<td><a href="http://www.kingcounty.gov/environment/waterandland/shorelines.aspx">http://www.kingcounty.gov/environment/waterandland/shorelines.aspx</a></td>
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<tr>
<td>Kitsap County</td>
<td>Final SMP (fully adopted)</td>
<td>12/10/14</td>
<td>C-14</td>
<td>Appendix C. Shoreline Restoration Plan E. Degraded Sites with Restoration Potential and Identified Restoration Projects</td>
<td>3. Infrastructure... Identify public infrastructure and major private structures at risk due to sea level rise/ climate change impacts</td>
<td><a href="http://www.kitsapshoresline.org/TITLE_22_SMP_Final.docx">http://www.kitsapshoresline.org/TITLE_22_SMP_Final.docx</a></td>
</tr>
<tr>
<td>Kitsap County</td>
<td>Final SMP (fully adopted)</td>
<td>12/10/14</td>
<td>C-22</td>
<td>Appendix C. Shoreline Restoration Plan E.7 Program and Funding Steps A. Obstacles and Challenges</td>
<td>1. Climate Change and Sea Level Rise, The net-sea level rise projections for South-Central Puget Sound from 2015-2065 range from 13”-25”. For Hood Canal, the numbers are slightly less at 9”-18” for the same time period. Such changes, coupled with more intense weather events and storm surges, are expected to bring about several challenges, including: loss of beach and marsh habitat, loss of beach access, and threats to existing structures and uses (Climate Impacts Group, 2009). The Washington Climate Change Impacts Assessment, University of Washington, as the County develops or has access to such threat analysis, steps should be taken to prioritize restoration efforts to mitigate for sea level rise impacts on ecological functions, both amongst similar projects and this Restoration Plan as a whole.</td>
<td><a href="http://www.kitsapshoresline.org/TITLE_22_SMP_Final.docx">http://www.kitsapshoresline.org/TITLE_22_SMP_Final.docx</a></td>
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<tr>
<td>San Juan County</td>
<td>Inventory &amp; Characterization</td>
<td>4/1/13</td>
<td>98 - 49</td>
<td>1.2.1 Key Physical Controls - Climate 3.3.1 Key Processes Related to Shoreline Ecological Functions - Processes Affecting Marine Shorelines - Marine floods 7.4.2 Delta Flows - Climate Change, Sea Level Rise &amp; Ocean Acidification</td>
<td>[Summary: explains that net tectonic uplift reduces overall effect of sea level rise but SLR impacts need continued study. It recommends using the SLR guidance from Corps of Engineers for stabilization policies. SLR is not specifically addressed in the SMP as of January 2015.]</td>
<td><a href="http://www.co-san-juan.wa.us/cmp/lcndC_Files.aspx">http://www.co-san-juan.wa.us/cmp/lcndC_Files.aspx</a></td>
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Note: Primary focus was to capture SMP goals, policies, and regulations; Other document (i.e. Comp Plan and ICR) references are provided as related information - not all such related references are included here; This list is not intended to represent a comprehensive review or exhaustive compilation of such information; This list subject to change.
ATTACHMENT B

Clallam County Resolution 27, 2016 and Resolution 62, 2018
Regarding Climate Change
RESOLUTION 27, 2016

WORK PLAN FOR ADAPTING TO CLIMATE CHANGE POTENTIAL IMPACTS

THE BOARD OF CLALLAM COUNTY COMMISSIONERS finds as follows:


2. Local vulnerabilities were identified by representatives from Clallam County, from the cities within the County, civic and non-governmental organizations, economic interests, individual citizens, and recognized experts.

3. The report identified a number of vulnerabilities that, if not addressed, could result in serious hardships, costs, and adverse health effects to the citizens of Clallam County; proactive planning is much more effective and less costly than reacting to impacts as they happen.

4. Recognizing and addressing vulnerabilities will help the County protect citizens from making costly development mistakes and reduce exposure to potential litigation, and place the County in a better position to qualify for federal and state assistance for adaptation funds.

5. Credible documentation exists to minimize the effort required to address the climate change vulnerabilities projected for Clallam County. A publication titled, "Washington State Integrated Climate Change Response Strategy" lays out a framework that decision-makers can use to help protect their communities, natural resources, and economy from the impacts of climate change.

6. The Washington State Departments; e.g. Commerce, Transportation, Ecology and cities; e.g. Sequim and Port Angeles have begun discussing climate change adaptation strategies.

NOW, THEREFORE, BE IT RESOLVED by the Board of Clallam County Commissioners, in consideration of the above findings of fact:

1. The departments of Washington State University (WSU) Extension, Health and Human Services, Public Works, and Parks, Fair, and Facilities shall consider the projected climate change impacts and adaptation strategies contained in "Climate Change Preparedness Plan for the North Olympic Peninsula" and address applicable findings when proposing their 2017 work plan and budget.

2. Encourages the Director of the Department of Community Development and the Sheriff's Office Emergency Management Division to assure the projected climate change impacts and adaptation strategies contained in "Climate Change Preparedness Plan for the North Olympic Peninsula" are reflected in their respective 2017 budgets and incorporated in the Comprehensive Plan and the Comprehensive Emergency Management Plan.

PASSED AND ADOPTED this twelfth day of April 2016

BOARD OF CLALLAM COUNTY COMMISSIONERS

Mike Chapman, Chair

Mark Oozias

Trish Holden, CMC, Clerk of the Board

J:\public\Resolutions\2016\climate change.docx
RESOLUTION 62, 2018

AUTHORIZING ACTION ON CLIMATE CHANGE IN CLALLAM COUNTY

THE BOARD OF CLALLAM COUNTY COMMISSIONERS finds as follows:

1. In 2008, at the direction of the County Administrator, a Climate Advisory Group comprised of employee volunteers met to discuss County practices that could positively affect the environment and reduce the County's carbon footprint and to develop recommendations to the Board of Commissioners.

2. The Climate Advisory Group developed a Climate Action Plan which was presented to and formally adopted by the Board of Commissioners in April 2009.

3. County employees subsequently implemented many of the suggestions and strategies outlined in the Climate Action Plan, helping to reduce the County's carbon footprint.

4. In 2018, climate change continues to be an important global issue with many local impacts including increased likelihood of storm surge and coastal flooding, increased likelihood of low snow pack resulting in drought and water shortages, increased risk for major fires, increased opportunities for the advance of invasive species and ocean acidification.

5. There are important economic incentives for taking positive action related to climate change, such as the FEMA Flood Insurance Community Rating System which recognizes and encourages community floodplain management activities that exceed the minimum National Flood Insurance Program standards, which could help reduce citizens' flood insurance premium rates by as much as 45%.

6. The opportunity exists to develop and assess additional mitigation and adaptation strategies that could be implemented to further lessen the County's carbon footprint and risk exposure while helping to protect County residents, property and infrastructure from the anticipated impacts of climate change including fires and flooding.

NOW, THEREFORE, BE IT RESOLVED by the Board of Clallam County Commissioners in consideration of the above findings of fact:

1. All future updates to the Clallam County Comprehensive Plan will be informed by relevant climate change predictions and shall be amended to specifically include strategies that will reduce Clallam County's risk exposure (related to forest fire, storm surge, etc.) while improving citizens' ability to prepare for and address the impacts and anticipated impacts of climate change.

2. Elected officials and department heads, or their designees, will be invited to re-convene the Climate Advisory Group in order to recommend updates to the Clallam County Climate Action Plan that could be implemented to further reduce the County's carbon footprint.
3. The Board of Commissioners will lead an effort to engage the broader community in a conversation about additional climate change mitigation or adaptation strategies or efforts that could be implemented on a community-wide scale.

PASSED AND ADOPTED this nineteenth day of June, 2018.

BOARD OF CLALLAM COUNTY COMMISSIONERS

[Signatures]

ATTEST:

[Signature]

Loni Gores, Clerk of the Board

[Signature]

Bill Peach
Examples of Sea Level Rise Provisions Included in Other Local Government SMPs

How Local Shoreline Master Programs Currently Address Sea Level Rise
### Appendix B. Sea Level Rise Policies and Regulations Included in Shoreline Master Plans

Appendix B lists policies and regulations that include language about sea level rise in updated SMPs of jurisdictions with marine shoreline in Washington State. The jurisdiction, a summary of each policy and regulation, and the year in which the updated SMP took effect are listed.

<table>
<thead>
<tr>
<th>Location</th>
<th>Year</th>
<th>Language</th>
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</thead>
<tbody>
<tr>
<td>Bainbridge Island</td>
<td>2014</td>
<td>SMP&gt;Critical Areas Regulations&gt;Frequently Flooded Areas: Applicants for development in low lying shoreline areas and other areas where flood elevation is controlled by tide level shall be provided with information on sea level rise (Ord. 2005-03 § 2, 2005).</td>
</tr>
<tr>
<td>Bellingham</td>
<td>2013</td>
<td>SMP&gt;Shoreline Goals and Policies&gt;Shoreline Goals&gt;Flood Damage Minimization&gt;Objective: B: New scientific studies/information on tsunamis and sea level rise should be used to guide shoreline development as it becomes available and accepted as scientifically valid.</td>
</tr>
<tr>
<td>Bremerton</td>
<td>2013</td>
<td>SMP&gt;Goals&gt;General Goals&gt;Conservation and Restoration&gt;Goal: 7: Recognize and monitor the potential effects of sea level rise as additional scientific information becomes available. At the next major update of the Shoreline Master Program consider additional specific policies and regulations based on additional scientific projections.</td>
</tr>
<tr>
<td>Burien</td>
<td>2013, revised 2016</td>
<td>SMP&gt;General Goals and Policies&gt;Flood Prevention and Minimization Element&gt;Policy: 4: Monitor sea level rise and accordingly adjust development standards and building setbacks to minimize flooding potential.</td>
</tr>
<tr>
<td>Edmonds</td>
<td>2017</td>
<td>SMP&gt;Master Program Elements: Goals and Policies for the Edmonds Shoreline Master Program&gt;Shoreline Use Element&gt;Shoreline Use Policies: 11: The City of Edmonds shall stay abreast of scientific information regarding climate change and sea level rise and reevaluate the Shoreline Master Program development standards as soon as adequate scientific information is available. 12: The Edmonds Marsh study identified in the City of Edmonds Capital Improvement Plan is an important study for determining the potential impacts of climate change and sea level rise on the City of Edmonds and should be considered a high priority for completion.</td>
</tr>
<tr>
<td>Gig Harbor</td>
<td>2013</td>
<td>SMP&gt;General Goals, Policies, and Regulations&gt;Restoration and Remediation&gt;Policy: F: Climate Change: Consideration should be made for potential adverse effects of global climate change and sea level rise when designing restoration and remediation projects.</td>
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<td>Gig Harbor</td>
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<td>SMP&gt;General Goals, Policies, and Regulations&gt;Restoration and Remediation&gt;Policy: F: Climate Change. Consideration should be made for potential adverse effects of global climate change and <strong>sea level rise</strong> when designing restoration and remediation projects.</td>
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</table>
| Island County | 2016 | SMP>Shoreline Goals and Policies>Shoreline Use Element>Policy: 6: **Sea level rise** and increased frequency and magnitude of extreme storm events as a result of climate change should be taken into account when considering and evaluating shoreline uses.  
SMP>Shoreline Goals and Policies>Conservation Element>Policy: 10: Island County shall establish a program to monitor the effects of ongoing climate change on the marine environment by **annually measuring sea level** and marine water pH at a minimum of five established sites spread throughout Island County.  
SMP>Shoreline General Policies>Flood Hazard Reduction>Policy: 6: When reviewing projects that could be affected by **sea level rise** adjust development standards such as building setbacks or elevation as necessary to minimize potential damage from flooding. |
| Jefferson County | 2014 | SMP> Master Program Goals>Shoreline Use>Goal: 10: Encourage all use and development to address potential adverse effects of global climate change and **sea level rise**.  
SMP>General Policies and Regulations>Shoreline Setbacks and Height>Policy: 2: Proponents of a development on no-bank or low bank marine shorelines are encouraged to locate the bottom of a structure's foundation higher than the level of expected future **sea-level rise**. |
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<th>Location</th>
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<tr>
<td>King County</td>
<td>2013</td>
<td>SMP&gt;Environment Protection Policies&gt;Preparing for Climate Change Policy: S-650: King County shall ensure that new projects for and major maintenance or replacement of utilities, roads, and other public infrastructure consider the impacts of <em>sea-level rise</em> in the location, design, and operation of the projects. SMP&gt;Environment Protection Policies&gt;Preparing for Climate Change Policy: S-651: Habitat protection and restoration projects in the shoreline jurisdiction shall consider implications of <em>sea-level rise</em> and other climate change impacts to promote resiliency of habitats and species. SMP&gt;Shoreline Use &amp; Shoreline Modification&gt;Shoreline Modifications&gt;Shoreline Stabilization Policy: S-778: When new development occurs within the shoreline jurisdiction, the following measures apply: King County should notify all prospective developers of new development along Vashon and Maury Islands that their development may be impacted by <em>sea-level rise</em> and should encourage all such new development to be set back a sufficient distance to avoid the need for shoreline protection during the expected life of the development. SMP&gt;Shoreline Use &amp; Shoreline Modification&gt;Shoreline Modifications&gt;Shoreline Stabilization Policy: S-785: King County should encourage replaced structural shoreline stabilization located on Vashon and Maury Islands to be relocated outside of the 100-year floodplain whenever possible. The edge of the 100-year floodplain is consistent with a two-foot <em>sea-level rise</em>. Critical Areas Regulations&gt;Shorelines&gt;Stabilization Regulation: The department shall provide a notice to an applicant for new development or redevelopment located within the shoreline jurisdiction on Vashon and Maury Island that the development may be impacted by <em>sea level rise</em> and recommend that the applicant voluntarily consider setting the development back further than required by this title to allow for future <em>sea level rise</em> (Ord. 16985 § 41, 2010; Ord. 5734 § 5, 1981; Ord. 3688 § 413, 1978. Formerly K.C.C. 25.16.180).</td>
</tr>
<tr>
<td>Langley</td>
<td>2013</td>
<td>SMP&gt;General Policies and Regulations&gt;Flood Hazard Management Policy: When reviewing projects that could be affected by <em>sea-level rise</em> adjust development standards such as building setbacks or elevation as necessary to minimize potential damage from flooding.</td>
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<tr>
<td>Olympia</td>
<td>2015</td>
<td>SMP&gt;Section 2: Goals and Policies&gt;2.4 Shoreline Use and Development Policies: D. The City should continue to develop information about the impacts of sea level rise on the shoreline and other affected properties; the City should develop plans to address the impacts of sea level rise in collaboration with impacted property owners, the community and the Department of Ecology. These plans should include at minimum flood prevention approaches, shoreline environment impact considerations and financing approaches. The City should amend the Shoreline Master Program and other policy and regulatory tools in the future as necessary to implement these plans. E. The City should consider the impacts of sea level rise as it plans for the rebuild of Percival Landing and other shoreline improvements and it should be designed to provide for a reasonable amount of sea level rise consistent with the best available science and the life cycle of the improvements. SMP&gt;Section 2: Goals and Policies&gt;2.9 Marine Recreation Management Policy: G. The City recognizes that the Marine Recreation shoreline (Reach 5C) and the adjoining Urban Conservancy/Urban Intensity shoreline in Reach 6A provide a variety of benefits to the community including boat moorage, utility transmission, transportation, public access, water enjoyment, recreation, wildlife habitat and opportunities for economic development. These benefits are put at risk by continued shoreline erosion. The City recognizes that there exists a need to develop a detailed plan for shoreline restoration and stabilization for Reaches 5C and 6A and encourages the Port to partner in this effort. 1. This plan may include: a. Measures to enhance shoreline stabilization through the introduction of bioengineered solutions. b. Measures to incorporate habitat restoration water-ward of the OHWM. c. Measures to incorporate public access and use through trails, public art, parks and other pedestrian amenities. d. Measures to incorporate sea level rise protection. e. Setbacks, building heights and building design considerations. 2. Upon completion of a jointly developed shoreline restoration and stabilization plan for Reaches 5C and 6A, the City will initiate a limited amendment to the SMP to implement this plan. SMP&gt;Section 2: Goals and Policies&gt;2.11 Urban Intensity Management Policies: B: Olympia’s shoreline is characterized by a wide variety of &quot;urban&quot; uses and activities, including commercial, industrial, marine, residential, and recreational uses. Together, these uses and activities create a vibrant shoreline that is a key component of Olympia’s character and quality of life. These types of uses should be allowed within the Urban Intensity environment, with preference given to Water-Dependent and Water-Enjoyment uses. Shorelines in this SED are highly altered and restoration opportunities are limited. The City’s own Percival Landing is a good example of how the immediate shoreline in the Urban Intensity SED should be redeveloped with a focus on public access and enjoyment, sea level rise protection and restoration of shoreline environmental function where feasible.</td>
</tr>
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</table>
E: Provide for the restoration, repair and replacement of Percival Landing including consideration of sea level rise protection.

SMP>Section 2: Goals and Policies>2.32 Fill Policy:
C: Fill should be allowed to accommodate berms or other structures to prevent flooding caused by sea level rise, when consistent with the flood hazard reduction provisions in this Shoreline Program. Any such fill should include mitigation assuring no net loss of ecological functions and system-wide processes.

SMP>Section 3: Regulations>3.61 Shoreland Fill Regulation:
L. Fill within the shoreline jurisdiction shall be allowed in response to increases in sea level subject to all other provisions of this Master Program and the mitigation sequencing process.

SMP>Section 3: Regulations> 3.62 Fill Waterward of OHWM Regulation:
A. Fill water-ward of the OHWM shall be permitted for the following purposes only, with due consideration given to specific site conditions and only as part of an approved use or development:
1. Port development for water dependent uses where other upland alternatives or structural solutions, including pile or pier supports is infeasible;
2. Expansion or alteration of transportation facilities where there are no feasible upland alternatives;
3. Ecological restoration or enhancement such as beach nourishment, habitat creation, or mitigation when consistent with an approved restoration or mitigation plan;
4. Disposal of dredge material in accordance with the Dredge Material Management Program (DMMP) of the Department of Natural Resources;
5. Construction of protective berms or other structures to prevent the inundation of water resulting from sea level rise shall be allowed subject to all other provisions of this Master Program and the mitigation sequencing process when there are no other feasible options to protect existing development;
6. Public access; or
7. Cleanup of contaminated sites.
B. Fill shall be the minimum necessary for the intended use or activity.
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<tbody>
<tr>
<td>Port Angeles</td>
<td>2014</td>
<td>SMP&gt;General Policies and Regulations&gt;Critical Areas (Geologically Hazardous Areas)&gt;Regulation: Proposals requiring a variance for development within 65 feet of the top of a marine bluff as outlined above shall be required to submit a geotechnical engineering report, prepared in accordance with the requirements of this SMP and Title 15, PAMC. The geotechnical engineering report shall: • be prepared by a Washington State licensed professional civil engineer with a specialty in geotechnical engineering or an engineering geologist with a Washington specialty license in engineering geology as specified in RCW 18.220, • be professionally stamped, • be based upon the best available science, • consider existing and proposed uses, • include risks of slope failure, • include coastal erosion rates over at least 75 years, based in part on anticipated sea level rise and storm frequency, • Document how, and include a certification that the proposed structure will not be in danger from erosion for at least 75 years, • Include vegetation enhancement and low impact development measures that might be used as a means of reducing undesirable erosion. • address the requirements outlined in PAMC 15.20.060 (C), and • outline how the proposal meets all of the variance criteria in chapter 7 of this SMP.</td>
</tr>
<tr>
<td>Seattle</td>
<td>2015</td>
<td>SMP/Comprehensive Plan&gt;Land Use Element&gt;Shorelines&gt;Shoreline Protection and Restoration: LUG52: Address and minimize the impacts of sea level rise on the shoreline environment with strategies that also protect shoreline ecological functions, allow water-dependent uses and provide public access.</td>
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<td>Location</td>
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<tr>
<td>Shelton</td>
<td>2015</td>
<td>SMP&gt;Shoreline Master Program Goals and Policies&gt;Flood Hazard Reduction Goals and Policies&gt; Policy: SMP6.1c: Floodplain management planning should consider implications of <em>sea-level rise</em> and other climate change impacts. SMP&gt;Shoreline Master Program Goals and Policies&gt;Restoration Goals and Policies&gt; Goal: SMP10.2: Restoration projects should be designed in a manner that complements adjacent natural resources, incorporates maintenance-free designs, minimizes in-water work, considers <em>sea-level rise</em>, and includes adaptive management techniques. SMP&gt;Shoreline Master Program Goals and Policies&gt;Restoration Goals and Policies&gt; Policy: SMP10.2d: Habitat protection and restoration projects should consider implications of <em>sea-level rise</em> and other climate change impacts to promote resiliency of habitats and species. SMP&gt;Shoreline Master Program Goals and Policies&gt;Shoreline Use and Development Goals and Policies&gt; Policy: SMP12.1m: Consider implications of <em>sea-level rise</em> and other climate change impacts as part of capital facilities and infrastructure projects.</td>
</tr>
</tbody>
</table>
| Shoreline | 2013 | SMP>Goals and Objectives>Flood Hazard Management Goal: Protect the City of Shoreline and other property owners from losses and damage created by flooding along the coast and *sea-level rise*.


ATTACHMENT D

Sea Level Rise Inundation and Annual Extreme Storm Flooded Areas with Sea Level Rise Projections for the Dungeness River Delta Area and Clallam Bay-Sekiu Area

Source: Climate Change Preparedness Plan for the North Olympic Peninsula, as amended, by the North Olympic Peninsula Resource Conservation & Development (NOP RC&D)
Sea Level Rise Inundation Area in 2030, CLALLAM BAY and SEKIU
Probabilistic Projections of Changes to Average Daily High Tide Inundation Due to Sea Level Rise

Legend
- Current Shoreline
- Mean Higher High Water (MHHW)
- Annual Percent Change of Occurrence
- Critical Infrastructure
  - Health Care
  - EMS Stations
  - Public Safety
  - Fire Stations

Annual Extreme Storm Flooded Areas in 2030 with Sea Level Rise, CLALLAM BAY and SEKIU
Combined Probabilistic Sea Level Rise Projections and Annual Extreme Coastal Flooding Probabilities

Legend
- Current Shoreline
- Mean Higher High Water (MHHW)
- Annual Percent Change of Occurrence
- Critical Infrastructure
  - Health Care
  - EMS Stations
  - Public Safety
  - Fire Stations

Notes
- Sea-level rise projections based on Kopp et al., 2014 (Probabilistic 21st and 22nd century sea-level projections at a global network of tide gauge sites for RCP 8.5, and adjusted for vertical land movement.
- The mapped "Current Shoreline" is the Mean Higher High Water Datum, 1983-2001 epoch, as provided by the National Oceanic and Atmospheric Administration (NOAA).
- Maps use tide based elevation data from 2005 made available through the Puget Sound LIDAR Consortium (PSC). Accuracy of elevation data at individual sites has not been verified.
- Maps only show tidal influence, and do not reflect the influence of engineered shoreline structures, (e.g. tide gates)
- Maps only show tidal influence, and do not reflect the influence of engineered shoreline structures, (e.g. tide gates)
- Maps do not reflect the additional flood risk associated with waves in elevating water level during storms (applies to the Annual Extreme Storm Flooded Areas with Sea Level Rise map only)
- Annual extreme flooding probabilities derived from historical data collected at nearby NOAA tide stations and do not take into account possible climate-related changes to storminess patterns (applies to the Annual Extreme Storm Flooded Areas with Sea Level Rise map only).

Produced by:
NORTH OLYMPIC PENINSULA RESOURCE CONSERVATION & DEVELOPMENT
NOP RC&D

Funding Provided by:
Department of Commerce
Sea Grant
adaptation
Sea Level Rise Inundation Area in 2050, CLALLAM BAY and SEKIU
Probabilistic Projections of Changes to Average Daily High Tide Inundation Due to Sea Level Rise

Legend
- Current Shoreline
- Mean Higher High Water (MHHW)
- Annual Percent Chance of Occurrence

Critical Infrastructure
- Health Care
- EMS Stations
- Public Safety
- Fire Stations

Annual Extreme Storm Flooded Areas in 2050 with Sea Level Rise, CLALLAM BAY and SEKIU
Combined Probabilistic Sea Level Rise Projections and Annual Extreme Coastal Flooding Probabilities

Legend
- Current Shoreline
- Mean Higher High Water (MHHW)
- Annual Percent Chance of Occurrence

Notes
- Sea level rise projections based on Kopp et al., 2014 (Probabilistic 21st and 22nd century sea-level projections at a global network of tide gauge sites for RCP 8.5, and adjusted for vertical land movement).
- The mapped "Current Shoreline" is the Mean Higher High Water datum, 1983-2001 epoch, as provided by the National Oceanic and Atmospheric Administration (NOAA).
- Maps use tide-based elevation data from 2003 made available through the Puget Sound Elevation Consortium (PSEC). Accuracy of elevation data at individual sites has not been verified.
- Maps are only elevation data, do not model hydrology, and do not reflect the influence of engineered shoreline structures, i.e. tide gates.
- Maps do not reflect shoreline change or erosion.
- Maps do not reflect the additional flood risk associated with waves in elevating water level during storms (applies to the Annual Extreme Storm Flooded Areas with Sea Level Rise map only).
- Annual extreme flooding probabilities derived from historical data collected at nearby NOAA tide stations and do not take into account possible climate-related changes to storminess patterns (applies to the Annual Extreme Storm Flooded Areas with Sea Level Rise map only).

Produced by:
North Olympic Peninsula Resource Conservation & Development (NOP RC&D)