



Sea Level Rise Guidebook For WA Local Governments

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Summer Shoreline Planners Meeting
July 26, 2012

Aug
2010

- Information gathering and meeting with advisory group: SLAWG

Dec

- Developed SLR survey for local governments

Mar
2011

- Analyzed/summarized survey results

July

- SLAWG meeting

Aug

- Writing guidebook

Mar
2012

- Guidebook released to SLAWG

Apr

- Guidebook revisions with SLAWG comments

Aug

- Final guidebook released

Project: *Tools for Local WA Gov'ts to Plan for SLR*

- Executive Order 09-05, 2009
- Kathy Taylor's proposal to develop a guidebook for local WA governments to help plan for sea level rise
- Fellowship began August 2010

Aug
2010

- Information gathering and meeting advisory group: SLAWG

Sea-Level Rise in Washington

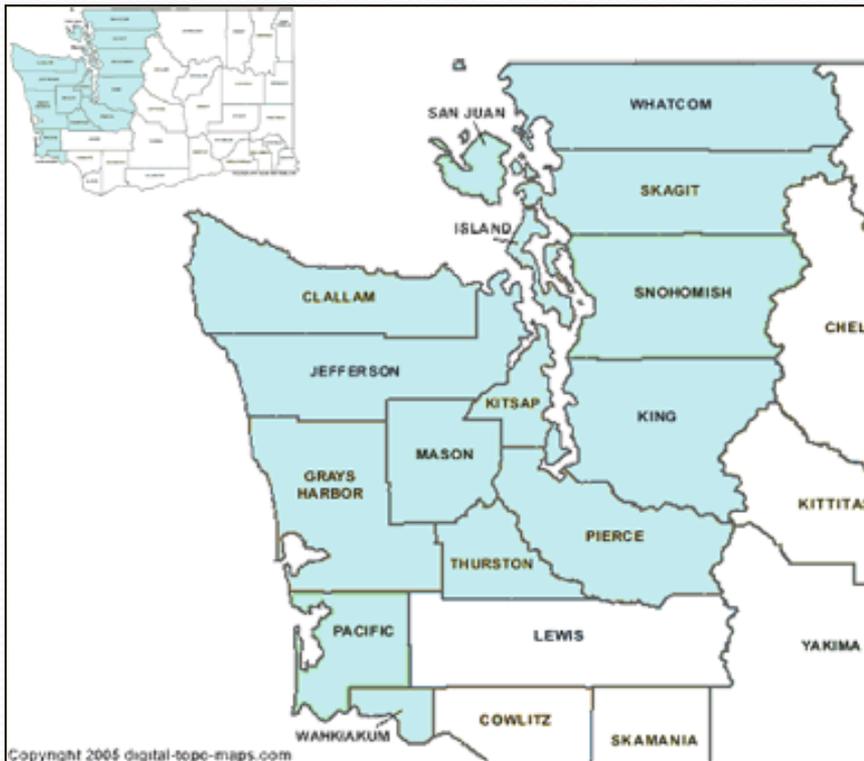


Table of Sea Level Rise Projections

Year	Puget Sound		NW Olympic Peninsula		Central & Southern Outer Coast	
	Low	High	Low	High	Low	High
2050	3"	22"	-5"	14"	1"	18"
2100	6"	50"	-9"	35"	2"	43"

(Adapted from Mote et al. 2008, *Sea Level Rise in the Coastal Waters of Washington State*)

Aug
2010

- Information gathering and meeting advisory group: SLAWG

“First steps are not that difficult to do...a process of gradually accumulating more information that builds the community’s knowledge of what they’re faced with at a pace that’s feasible. As you do that, you can, over time, incorporate it just as another community program, rather than a project or one-time thing.”

“One thing we learned is that SLR is really an abstract issue to most people, they may not fully understand it and they are inherently skeptical of something that may not really affect them for 25, 50 or 100 years.”

SLR Survey: Objectives

- What is the level of concern city and county governments have towards SLR?
- Do local governments know which areas in their jurisdiction are already vulnerable to flooding, other coastal hazards?
- What information could Ecology provide would be most helpful when considering SLR adaptation planning?

SLR Survey: Methods

- Coordinated with WA Association of Counties (WAC) and Association of WA Cities (AWC) to produce the final version of the survey
- Distributed survey through AWC and the Municipal Research & Services Center (MRSC) to their list of planning directors and public works directors
- Used Survey Monkey and Excel to analyze results:
75/88 completed responses

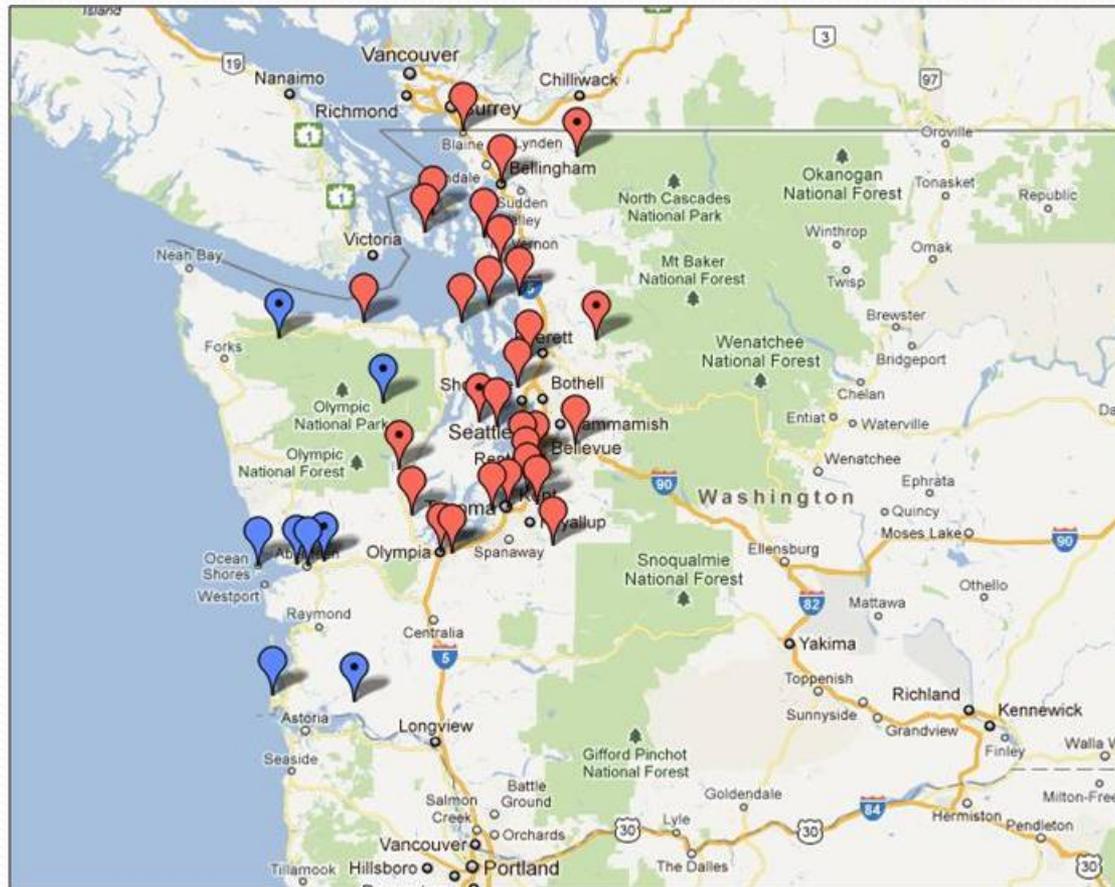
SLR Survey: Key Findings

- Respondents are concerned about the threat of SLR and believe that they should begin planning now; however, limited human and economic resources are forcing cities and counties to focus on other projects.
- Most local governments have not conducted a formal vulnerability or risk assessment to determine which areas in their jurisdiction may actually be vulnerable or at-risk to SLR. Most, however, have an idea of which areas are already prone to flooding and other coastal hazards.
- Given the money and time, most respondents believe that incorporating SLR planning into the Shoreline Master Program (SMP) or comprehensive plans are the best way to plan for SLR.
- Along with increasing education and awareness regarding SLR, a stronger link should be made between existing coastal hazards and SLR.
- A guidebook that could help local governments plan for SLR is seen by most as helpful, especially if input from local planners is incorporated throughout the writing process.

Mar
2011

- Analyzed/summarized survey results

“Strongly Agree” - “Agree” to begin planning for SLR now.



SLAWG July 2011 Meeting

- Padilla Bay NERR
- 20 SLAWG participants
- Guidebook Outline feedback
- Fellow SLAWGers Information Sharing

Guidebook Outline

- I. Intro
- II. Survey Results
- III. SLR projections for WA
- IV. SLR Adaptation Process
 - A. Scoping
 - B. Mapping
 - C. Vulnerability Assessment
 - D. Risk Assessment
 - E. WA-Specific Action Plan:
 - a. Shoreline Master Programs
 - b. Hazard Mitigation Planning
 - c. Floodplain Management
- V. Examples of SLR Adaptation in WA
- VI. Conclusion
- VII. Bibliography with abstracts

Sea-Level Rise Adaptation Guidebook for Local Governments in Washington State



Aug

- Writing guidebook

SLR Adaptation Process



SLR in Existing Planning Processes:

- Shoreline Master Program (SMPs)
- Growth Management Act
 - Frequently flooded areas
 - Critical areas
- Hazard mitigation plans

Sea level rise in SMPs:

- Public participation
- Public access
- Shoreline use analysis
- Shoreline jurisdiction identification (Phase 1)
- Shoreline inventory & characterization (Phase 2)
- Goals, policies, regulations (Phase 3)
- Environment designations (Phase 3)
- Shoreline modification policies (Phase 3)
- Restoration plan (Phase 4)

WA SLR Adaptation Examples

- Port of Bellingham
- Swinomish Tribe
- King County
- Seattle Public Utilities
- City of Olympia
- City of Aberdeen

Port of Bellingham

- Redevelopment of waterfront
 - Previously contaminated, heavy industrial areas
 - Masterplan development for mixed-use, walkable downtown
 - Focuses on increasing public access and revitalizing waterfront economy
- Addresses SLR:
 - Through draft environmental impact statement
 - Increasing site grades and increasing base elevations



Redevelopment concept for the waterfront

Swinomish Climate Change Initiative

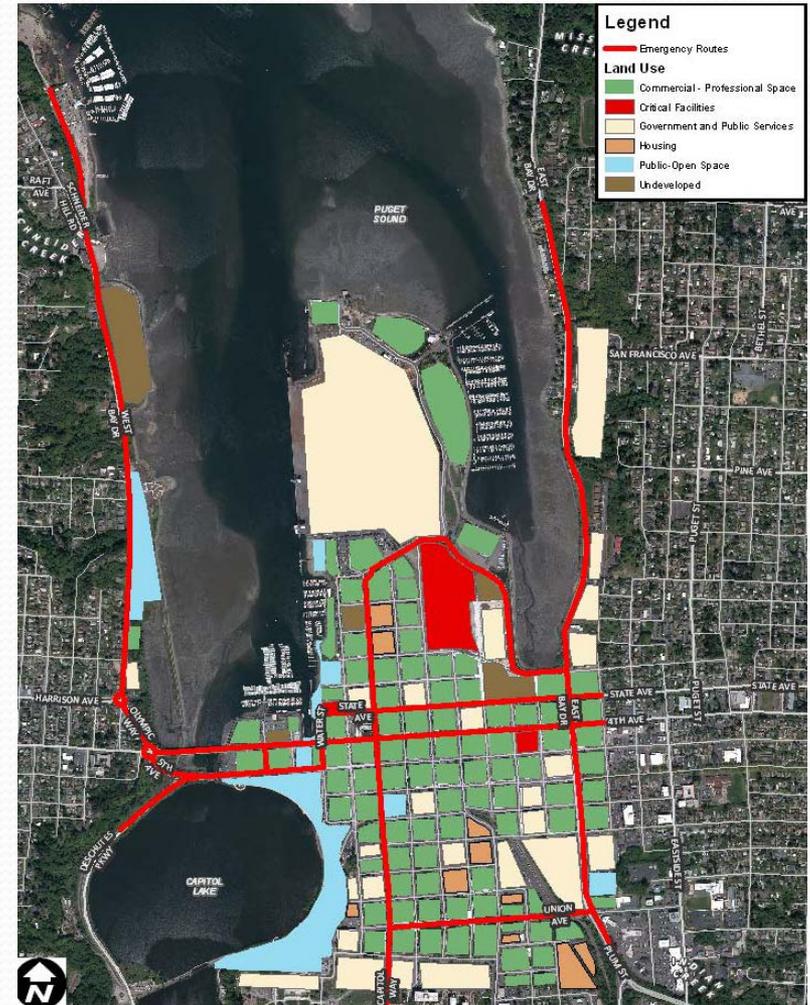
- 2009 Technical report
 - Worked with an advisory group including scientists from the Climate Impacts Group, UW
 - Conducted an inventory of shoreline infrastructure, natural, built, cultural, to determine vulnerability
- 2010 Action plan
 - How to incorporate SLR adaptation into future planning efforts
- Addressing SLR now: shoreline codes



Flooding near Rainbow Bridge, La Conner, WA

City of Olympia

- Long-term strategic planning
 - Public Works Dept has slowly incorporated SLR into long range planning for critical infrastructure
- Addressed SLR:
 - Recently completed vulnerability assessment of emergency vehicle routes, critical pump stations, and other critical infrastructure
 - Presented to public end of January



Essential Public Services, Olympia, WA

City of Aberdeen

- Regularly updates hazard mitigation plans
- Concerned about coastal flooding on top of even 6” of SLR
- Addressed SLR:
 - Increased base flood elevation of all new development in the floodplain from 7” to 12”
 - Will continue to monitor sea rise and react accordingly

Apr

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Aug

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Next month:

- Incorporate data from National Academy of Sciences, *Sea Level Rise in CA, OR, and WA*
- Finalize guidebook for release in August 2012

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Questions??

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