Shorelines – Monitoring and Adaptive Management Webinar
Key Points Handout and Resources
March 3, 2021

Learning Objectives
- To cover the role of local governments in shoreline and critical area protection.
- To establish a common understanding of critical areas protection within the shoreline jurisdiction.
- Explore ways to utilize your permit feedback loop to adaptively manage your SMP.

Key Questions we hope to answer
- Why you should monitor shoreline development?
- What should be monitored or tracked?
- How does this monitoring information inform an adaptive management feedback loop?
- What changes can be made in response to the information that is gathered?

What we will cover
- No Net Loss of shoreline ecological functions
- Documentation requirements for project review actions in the shoreline
- Recommendations for monitoring and tracking shoreline impacts
- Mechanisms for adaptively managing SMPs

Shoreline Management Act (RCW 90.58)
The following provides a brief history of the Shoreline Management Act (SMA), an overview of the Act’s main policies, recent comprehensive updates to comply with the SMP Guidelines, and the next phase of shoreline management (periodic reviews and adaptive management).

The SMA was passed by the State Legislature in 1971 and approved in a statewide Referendum in 1972. The SMA sets policy direction and underlying authority to manage shorelines.

- **Goal** – “to prevent the inherent harm in an uncoordinated and piecemeal development of the state’s shorelines.”
- **Legislative findings** – recognize the value and fragility of shorelines and call for coordinated planning to protect the public interest associated with the shorelines while recognizing and protecting private property rights consistent with the public interest.
- **State/local partnership** – establishes “a cooperative program between local governments and the state.” Local Shoreline Master Programs (SMPs) translate the statewide policy into local policies, regulations and environment designations. Local SMPs are reviewed and approved by Ecology, but implemented locally.
- **Shorelines of the State** – defined as all marine waters, streams greater than 20 cubic feet per second, lakes 20 acres and greater, and their associated shorelands.
- **Shorelines of Statewide Significance** – defined as a special category of shorelines where certain preferred uses are prioritized.
Major SMA Policies
Listed in RCW 90.58.020, the SMA identifies goals related to the following three areas:

- **Shoreline Uses** – The policy of the state is to plan for and foster “all reasonable and appropriate uses” to promote and enhance the public interest. The Act establishes “preferred uses” that are “...consistent with control of pollution and prevention of damage to the natural environment, or are unique to or dependent upon use of the states' shorelines...”

- **Environmental Protection** - Protect public health and shoreline natural resources including vegetation and wildlife, the waters of the state and their aquatic life.

- **Public Access** - Preserve the public’s opportunity to enjoy the physical and aesthetic qualities of shorelines, and protect public rights of navigation. Courts have held the SMA implements the common law Public Trust Doctrine, which protects the waters of the state for the purposes of navigation, conducting commerce, fishing, recreation and similar public uses of the water.

Three Major Shoreline Rules

- [WAC 173-22](#): Where the SMA applies
- [WAC 173-26](#): procedural and substantive standards for local Shoreline Master Programs
- [WAC 173-27](#): Permitting and Enforcement procedures

Shoreline Master Program Updates


- The 2003 Legislature established a staggered schedule for comprehensive updates to SMPs. The Legislature pledged “reasonable and adequate” funding for SMP updates, and has provided over $34 million to local governments for plan updates. Ecology has approved 225 comprehensive SMP updates statewide as of late 2020.

- SMP guidelines establish an overarching standard of “no net loss of ecological functions necessary to sustain shoreline resources.” SMP regulations follow a mitigation sequence (Avoid, Minimize, and Compensate). Detailed regulations address shoreline uses, shoreline modifications, critical areas, and environment designations.

- SMP update process requires extensive public participation. The final product is a completely revised local Shoreline Master Program, Restoration Plan, and Cumulative Impacts Analysis.
The Next Phase of Shoreline Management

- The SMA includes a staggered schedule for **periodic reviews** to ensure the SMPs don’t get stale. Ecology rules describe the procedures that local governments must follow.

- Local governments and Ecology are developing measures to monitor implementation to form a basis for **adaptive management** to ensure SMPs are efficient and effective at achieving their purpose.

State & Local Government Roles in Shoreline Protection under the SMA

The following provides an overview of the Shoreline Master Program framework and the roles Ecology and local governments play in SMP implementation.

State and local roles defined in law

Ecology’s Role: Technical Assistance

Ecology helps interpret SMA and SMP requirements, reviews and confirms OHWM determinations, and can participate in pre-application meetings and site visits. This coordination usually occurs:

- At the request of local government or the applicant – Pre-application or in response to technical assistance request or questions
- As part of a formal comment period – SEPA Comments, Public Notice Comments
- During Ecology’s final CUP or Variance decision process
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SMP Framework for Balance

Each Comprehensively updated SMP contains the following SMA and Guideline required elements which should be reviewed during permit implementation:

- Shoreline environment designations (SEDs) with customized management policies, regulations, and use allowances/prohibitions
- Policies and regulations for each major shoreline use (commercial, residential, recreational, aquaculture, etc...) and each major shoreline modification type (fill, docks/piers, shoreline stabilization, etc...)
- Vegetation conservation standards
- Public access requirements
- Shoreline buffers and/or setbacks
- Critical areas protection standards

This review process can be thought of as three buckets:

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<th>Use</th>
<th>Development</th>
<th>Bulk, Dimensional, and Performance Standards</th>
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<td>Is the proposed use allowed in the SED? Are the applicable Use provisions being met?</td>
<td>Does the proposed action meet the definition of development? Is the proposed development or shoreline modification allowed in this SED? Are any special reports or minimization measures required for this type of development?</td>
<td>These can include buffers, setbacks, height restrictions, lot size minimums, impervious surface limitations, vegetation protection, mitigation sequencing, view corridors.</td>
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This concept illustrated here is also applicable to the shoreline permit types and review process presented later in the class. Uses can trigger Conditional Use Permits (CUPs), Development informs if the project requires a Substantial Development Permit (SDP) or can be authorized through an exemption from the SDP process, and Bulk, Dimensional, & Performance Standards can only be modified through a Shoreline Variance.

Requirement for Documentation of project review actions in Shoreline jurisdiction

WAC 173-26-191(2)(a)(iii)(D) requires local governments to document all project review actions in shoreline areas, and identify a process for periodically evaluating the cumulative effects of authorized development.
Critical Areas Protection

After Ecology approves a local jurisdictions updated SMP, the SMP alone should provide protection for critical areas within shoreline jurisdiction. Critical areas within the shoreline jurisdiction are protected under chapter 90.58 RCW and are not subject to the procedural and substantive requirement of the GMA. You should no longer use the Critical Areas Ordinance (CAO) for critical areas planning or regulatory purposes within shoreline jurisdiction. This was clarified by legislation adopted in 2010 (EHB 1653).

“Transfer” of critical area protections to SMPs

Critical areas within the shoreline jurisdiction are regulated and protected through the SMP via the shoreline permit review and issuance process. I.e. SDP exemptions, SDP, Shoreline Conditional Use Permits and Shoreline Variances.

GMA: RCW 36.70A.480 Shorelines of the state

(4) Shoreline master programs shall provide a level of protection to critical areas located within shorelines of the state that assures no net loss of shoreline ecological functions necessary to sustain shoreline natural resources as defined by department of ecology guidelines adopted pursuant to RCW 90.58.060.

GMA & SMA both: Plan for growth and use of natural resources

Protect people from Nature

- Frequently flooded areas
- CARA
- Geologically hazardous areas
- Wetlands
- Fish and wildlife habitat conservation areas
- Critical Saltwater Habitat
- Critical Freshwater Habitat

Protect Nature from People
Depending on the specific SMP this could be through the incorporation by reference of a specific set of Critical Areas Ordinance (CAO) provisions or the SMP may have its own critical areas regulations.

**Key Critical Areas principles under the SMA**

- The planning objectives: the protection of existing ecological functions and ecosystem-wide processes and restoration of degraded ecological functions and ecosystem-wide processes.
- The regulatory provisions for critical areas shall protect existing ecological functions and ecosystem-wide processes.
- Promote human uses and values that are compatible with the other objectives of this section, such as public access and aesthetic values, provided that impacts to ecological functions are first avoided, and any unavoidable impacts are mitigated.
- Critical areas review and impacts must be addressed through shoreline permits, exemptions from the SDP process, or shoreline administrative review.
- No separate “critical areas permit” in shoreline jurisdiction.
- Review as both shoreline modification (fill, grading, vegetation removal) and the proposed use (residential, commercial, etc.) standards
- Critical area buffers and setbacks are dimensional standards (i.e., reduction below allowable limits = shoreline variance).

**WAC 173-26-221(2) and (3) provide additional Critical Areas Protections**

Provides critical area specific standards for: Critical Saltwater Habitat, Critical Freshwater Habitat, Flood Hazard Reduction, Geologically Hazardous Areas, and Wetlands.

**Critical Saltwater Habitat:** all kelp beds, eelgrass beds, spawning and holding areas for forage fish, such as herring, smelt and sandlance; subsistence, commercial and recreational shellfish beds; mudflats, intertidal habitats with vascular plants, and areas with which priority species have a primary association.

Standards for the protection of critical saltwater habitat: Docks, piers, bulkheads, bridges, fill, floats, jetties, utility crossings, and other human-made structures shall not intrude into or over critical saltwater habitats

**Critical Freshwater Habitats:** management of critical freshwater habitat and other lake, river and stream values should integrate master program provisions, including those for shoreline stabilization, fill, vegetation conservation, water quality, flood hazard reduction, and specific uses, to protect human health and safety and to protect and restore lake and river corridor ecological functions and ecosystem-wide processes.

Standards for the protection of critical freshwater habitat: Integrate protection of critical freshwater, riparian and associated upland habitat, protection with flood hazard reduction and other lake, wetland, river and stream management provisions.
Flood Hazard Reduction: actions taken to reduce flood damage or hazard and to uses, development, and shoreline modifications that may increase flood hazards. Development in flood plains should not significantly or cumulatively increase flood hazard. Standards for flood hazard reduction: Lists uses and activities that may be appropriate or necessary with the CMZ or floodway that is usually translated into the use matrix, SED regulations, and shoreline modification regulations. Can also be addressed in flood provisions. Allow new structural flood hazard reduction measures in shoreline jurisdiction only when it can be demonstrated by a scientific and engineering analysis that includes all of the following elements:

- they are necessary to protect existing development,
- that nonstructural measures are not feasible,
- that impacts on ecological functions and priority species and habitats can be successfully mitigated so as to assure no net loss,
- that appropriate vegetation conservation actions are undertaken

Geologically Hazardous Areas: Development in designated geologically hazardous areas shall be regulated in accordance with the following:

- Consult designation criteria for geologically hazardous areas, WAC 365-190-120.
- Do not allow new development or the creation of new lots that would cause foreseeable risk from geological conditions to people or improvements during the life of the development.
- Do not allow new development that would require structural shoreline stabilization over the life of the development. Exceptions may be made for the limited instances where stabilization is necessary to protect allowed uses where no alternative locations are available and no net loss of ecological functions will result. The stabilization measures shall conform to WAC 173-26-231.
- Where no alternatives, including relocation or reconstruction of existing structures, are found to be feasible, and less expensive than the proposed stabilization measure, stabilization structures or measures to protect existing primary residential structures may be allowed in strict conformance with WAC 173-26-231 requirements and then only if no net loss of ecological functions will result.

WAC 173-26-231(3)(a) contains shoreline modification provisions for shoreline stabilization that are applicable to geologically hazardous areas and provide additional ecological considerations and protections for properties subject to shoreline erosions and those properties located on shoreline bluffs. These standards are often not located within the critical areas provisions of the SMP, but they are addresses the nexus between hazard mitigation and ecological protection, so they are part of the SMP critical areas protection framework.
Wetlands: Local governments should consult the department's technical guidance documents on wetlands. Regulations shall achieve, at a minimum, no net loss of wetland area and functions, including lost time when the wetland does not perform the function. This section also provides the following principles and standards:

- Establishes the uses, developments, and modifications that are subject to the Wetland protection standards;
- Requires Wetland rating and categorization system;
- Reinforces that wetland alterations must utilize mitigation sequencing and shall be consistent with the no net loss of wetland area and function standard.
- Requires that wetland buffer shall be adequate to ensure long term protection of wetland functions, considering existing wetland functions, the character of the existing buffer area, and adjacent land uses.

More information
Shoreline Management Act, RCW 90.58
- 90.58.610 –Relationship between shoreline master programs and development regulations under growth management act governed by RCW 36.70A.480
Washington Administrative Code
- WAC 173-26-221(2) – Critical Areas.
No Net Loss

This standard should be realized both in the environmental planning process of updating an SMP and over time by appropriately regulating individual developments as the SMP is implemented.

- Not retroactive (i.e., is based on existing conditions)
- Relies on use of known, effective measures (e.g., buffers, setbacks, mitigation sequencing)

No Net Loss” of ecological functions: a package deal
Shorelines – Monitoring and Adaptive Management Webinar  
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At the SMP Planning Level – During the SMP planning process, local governments plan for foreseeable future development and its impacts. This means that the resulting impacts of planned-for and appropriate shoreline development should be identified and mitigated so as to maintain shoreline ecological function as it exists at the time of adoption of the updated SMP. This framework is created with the information from the Inventory and Characterization, Reasonable Use analysis and is validated with the Cumulative Impacts Analysis and No Net Loss Determination. Additionally, the Restoration Plan highlights opportunities for functional lift or net gain within the shoreline jurisdiction.

The SMP sets the no net loss framework with the following tools:
- Buffers and setbacks;
- Vegetation management standards;
- Critical areas protection standards;
- Establishes shoreline environment designations (SEDs);
- Use Matrix – with allowed, CUP, and Prohibited uses for each SED;
- Establishes policies and regulations for specific SEDs, uses, and shoreline modifications;
- Requirement for mitigation sequencing: avoid, minimize, compensate;
- Performance standards

At the SMP implementation level – Through the permit review and authorization process, the NNL standard is met through the careful and complete implementation of SMPs during day-to-day review of individual development proposals. For development projects and uses that may have un-anticipatable or uncommon impacts that cannot be reasonably identified at the time of master program development, the master program policies and regulations should use the permitting or conditional use permitting processes to ensure that all impacts are addressed and that there is no net loss of ecological function of the shoreline after mitigation. Careful and thorough implementation is necessary to achieve no net loss. When implementing the updated SMP, no net loss principles (buffers, setbacks, mitigation sequencing) are applied as individual shoreline project applications are reviewed and approved, conditioned, or denied.

Mitigation Sequencing is always required
- **Avoidance** can be achieved, if the proposal is consistent with the SMP bulk, dimensional, performance, buffer, setback, vegetation conservation, use, and development standards of the SMP.
- For most common shoreline developments, NNL will be met when a proposal is consistent with SMP regulations.
When is additional NNL analysis needed?
Additional analysis is typically required to document NNL when avoidance cannot be fully achieved.
- Development allowed or proposed within a shoreline buffer, setback, critical area, critical area buffer, or waterward of the OHWM; or
- Projects that require a shoreline variance or a shoreline conditional use permit, should typically be required to document how a project meets NNL.

As required by WAC 173-26-201(2)(e), SMPs “...shall include provisions that require proposed individual uses and developments to analyze environmental impacts of the proposal and include measures to mitigate environmental impacts not otherwise avoided or mitigated by compliance with the master program and other applicable regulations.”

Development proposed within a shoreline buffer, setback, critical area, critical-area buffer, or waterward of the OHWM, as well as for projects that require a shoreline variance or a shoreline conditional use permit, should typically be required to document how a project meets NNL.
Additional site specific project review NNL analysis may be needed for the following activities:

- **Water-oriented uses.** Your SMP recognizes that some categories and types of water-oriented uses require a location in or near the water and that standard buffers and setbacks will not apply.

- **Shoreline modifications.** Shoreline modifications are those actions that modify the physical configuration or qualities of the shoreline area, usually through the construction of a physical element such as a dike, break-water, pier, weir, dredged basin, fill, bulkhead, or other shoreline structure. They can include other actions, such as clearing, grading, or application of chemicals.

- **Public or private shoreline access.** Shoreline access usually involves a trail, path, promenade, or similar improvement that travels through the shoreline buffer to the water. Some SMPs recognize this fact and include specific standards for these improvements, if that is the case those standards may already meet the NNL requirements.

- **Proposals requiring a shoreline variance.** When an applicant seeks relief from a bulk, dimensional, or performance standard, it’s likely they are seeking relief from a regulation put in place to avoid or minimize the loss of shoreline ecological functions.

- **Proposals requiring a shoreline conditional use permit.** The conditional use permitting process is used for proposals that may have unanticipated or uncommon impacts that could not be reasonably identified during SMP development.
If avoidance cannot be fully achieved because the activity is water oriented, public access, or requires a shoreline variance, then minimization should be emphasized in the project design.

### Design Techniques for Avoiding and Minimizing Buffer Impacts

- Alternative, space-saving septic design (non-conventional)
- Reposition structures
- Reposition access to the lot
- Cluster structures
- Decrease building footprint (add stories, reduce total square footage, reduce deck area, etc.)
- Reduce the width of access roads or driveways
- Build a road pull off for extra parking
- Request variances from common property line setbacks
- Avoid grading by incorporating natural topography into site design
- Incorporate plants already on site into landscape design
- Reduce impervious surfaces
- Use pervious materials for construction of hard surfaces
- Disperse downspouts to vegetated areas or into rain gardens instead of impervious surfaces
Determining unavoidable impacts
It is understood that some shoreline projects will result in unavoidable impacts. For these projects, compensatory mitigation is needed to achieve NNL at the project level. Common shoreline activities that have the potential to adversely impact shoreline ecological functions:

- Shoreline Stabilization
- Loss of Riparian Vegetation
- Over-Water and In-Water Structures
- New Impervious Surface
- Fill

Common mitigation strategies for shoreline activities
Vegetation clearing: replanting, invasive species replacement
Shoreline stabilization: Use soft shore armoring alternatives, Periodic beach nourishment, Remove another barrier structure of similar length, located as far landward as is feasible, add pocket beach to design, plant overhanging native vegetation along the bulkhead edge
Impervious or hard scape surfaces within buffer: Remove existing impervious surface and replant with native vegetation, install a rain garden, use low-impact development techniques
Documenting No Net Loss
It is important to remember that nearly all shoreline areas, even substantially developed or degraded areas, provide some level of ecological functions. WAC 173-26-201 (2)(c).

NNL can be documented within an applicant’s narrative, SEPA Checklist, special report, site plan, or other submittal document. In most cases, an understanding of how a project will meet NNL is achieved through a combination of application materials that, when considered together, give the reviewing planner confidence that a project will achieve NNL.

If the project cannot demonstrate no net loss – that is justification for denial of a project.

Consider using checklists to document this review.

More information
Washington Administrative Code
- WAC 173-26-186(8) – Governing principles of the guidelines.
- WAC 173-26-201(2)(c) and (e) - Process to prepare or amend shoreline master programs.
- WAC 173-26-221(5) – Shoreline vegetation conservation.
Recommendations for monitoring and tracking shoreline impacts

WAC 173-26-191(2)(a)(iii) SMP Administrative provision requires documentation of your review

(D) Documentation of project review actions and changing conditions in shoreline areas.

- Master programs or other local permit review ordinances addressing shoreline project review shall include a mechanism for documenting all project review actions in shoreline areas.
- Local governments shall also identify a process for periodically evaluating the cumulative effects of authorized development on shoreline conditions.
- This process could involve a joint effort by local governments, state resource agencies, affected Indian tribes, and other parties.

Permit Monitoring and Tracking Methods

Periodic or Occasional (i.e., backward assessment of permits issued over some period of time)
Ongoing, continuous (i.e., monitoring incorporated into normal operations) Examples: City of Kirkland (Webinar 1) and Clark County (Webinar 2)
Ongoing, term-limited (e.g., internship duration, grant period, etc.) Example: Jefferson County

Ecology Recommendations

- Connect the tracking matrices to specific SMA/SMP Policies and Regulation to facilitate an adaptive management feedback loop within the context of your SMP.
- Track all shoreline development and use authorizations – including documentation of SMP consistency reviews for project exempt from the SDP process and other actions not always required to obtain shoreline permits (subdivisions, hazard tree removal, demo).

Potential things to track

- New public access
- Ecological benefit projects
- Uses authorized (water-oriented and non-water oriented)
- Environment designations where development is being authorized
- New development, Redevelopment, and Expansions
- Critical areas review and the application of critical areas provisions
- Demonstration of mitigation sequencing
- Shoreline Modifications (stabilization, fill, over-water structures, shoreline access)
Mechanisms and Tools for Adaptive Management
Implementation, Education, and Outreach: Opportunities for Adaptive Management
Update Application Forms or Create Checklists – to improve the application submittal information to ensure that all the information you need to review and evaluate a project is included with the initial application submittal.

Create or utilized existing helpful Customer Assistance Handouts – to improve understanding of applicable requirements based on topic or permit type. Handouts can be a helpful tool to reach potential applicants before they spend a great deal of time, energy, and money pursuing a project that is not consistent with the SMP requirements.

https://wdfw.wa.gov/publications/01583
Landowner education is an adaptive management tool!

Educational brochures

http://www.shorefriendly.org/resources/resources-in-your-area/

Staff Training

**Coastal Training Program Washington** [https://www.coastaltraining-wa.org/](https://www.coastaltraining-wa.org/)
How to Administer Development Permits in Washington’s Shorelines
Intended for local government personnel and consultants engaged in shoreline permitting activities. Currently being offered virtually – with the traditional one-day course separated into 2 (1/2 day) virtual sessions. The class takes an in-depth look at the permit process and consider both procedural and substantive shoreline management issues. The Washington Administrative Code (WAC) and Revised Code of Washington (RCW) are reviewed. Permit exercises and quiz

*Also include offerings for Ordinary High Water Mark (OHWM) Trainings, Wetland Ratings, Wetland Mitigation, Wetland Credit-Debit system, and Eel Grass surveys.*

Local government target audience

**WEBINAR 1** - Background and Introduction

**WEBINAR 2** - Site Assessments and Demonstration of Need/Risk Assessment

**WEBINAR 3** - Shoreline Stabilization Techniques and Design Checklists

**WEBINAR 4** - Sea Level Rise and Shoreline Stabilization
Administrative Interpretations [WAC 173-26-140](#)

A formal written statement – clarifying an existing code provision.

Used as an adaptive management tool when evaluation of your monitoring systems identifies inconsistent application of a specific provision or standard. That specific provision or standard can be clarified with an administrative interpretation.

Provide guidance for review staff and the public to ensure consistency
- Used to provide clarification to existing SMP provisions
- Address unforeseen issues that can be addressed without an amendment to the SMP
- Do not substantively change SMP provision or modify the intent of existing provisions
- SMP policies or regulations cannot be removed or added through an interpretation

Administrative Interpretations

Formal written interpretations should be sent to Ecology for review and consultation consistent with WAC 173-26-140.

Final Administrative Interpretations can be posted on your website – providing transparency and consistency.
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Shoreline Master Program Periodic Reviews
RCW 90.58.080(4) and WAC 173-26-090

A good time to look at your monitoring and adaptive management feedback loop evaluation to consider if amendments are needed to address issues identified or provide clarity.

SMP Periodic Reviews

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The SMA mandates a schedule for the periodic review of your SMP at least every 8-years

1. REVIEW required
2. REVISE if necessary
3. ACTION required

Review SMP for changes to:
RCW & WAC
Comprehensive Plan & development regulations
Local circumstances, new information, improved data