

1  **SCIENCE AND THE SMP**

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An SMP update will:

- Respect private property rights and provide predictability to the development community
- Integrate other plans that address shoreline issues (Growth Management, flood management plans, critical areas ordinances, etc.)
- Support Puget Sound Partnership's Action Agenda
- Protect property from erosion along streams and beaches and allow this process where it is natural
- Safeguard fish and wildlife habitat and seek to improve water quality
- Allow enhancement of the local economy while encouraging water dependent uses

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Washington State SMA. The state legislature finds that:







- the shorelines of the state are among the most valuable and fragile of its natural resources and that there is great concern throughout the state relating to their utilization, protection, restoration, and preservation. In addition it finds that ever increasing pressures of additional uses are being placed on the shorelines necessitating increased coordination in the management and development of the shorelines of the state.
- unrestricted construction on the privately owned or publicly owned shorelines of the state is not in the best public interest; and therefore, coordinated planning is necessary in order to protect the public interest associated with the shorelines of the state while, at the same time, recognizing and protecting private property rights consistent with the public interest. There is, therefore a clear and urgent demand for a planned, rational, and concerted effort, jointly performed by federal, state, and local governments, to prevent the inherent harm in an uncoordinated and piecemeal development of the state's shorelines.

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Key Concept: "no net loss"

- Master programs shall contain policies and regulations that assure at minimum, *no net loss* of ecological functions necessary to sustain shoreline natural resources (WAC 173-26-201(2)(c)). See also WAC 173-26-186.
- Starting point is conditions as they exist today.
- Recognizes new development will occur. Directs us to anticipate, avoid, minimize, and mitigate those impacts.
- Ecology does not have a "one-size fits all" set of expectations.

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- 5  **What WAC 173-26-186(8) says about NNL of ecological functions**
 - Master programs shall include regulations and mitigation standards ensuring that each permitted development will not cause a net loss of ecological functions of the shoreline
 - Local master programs shall evaluate and consider cumulative impacts of reasonably foreseeable future development. To ensure no net loss of ecological functions and protection of other shoreline functions and/or uses, master programs shall contain policies, programs that address adverse cumulative impacts and fairly allocate the burden of addressing cumulative impacts among development opportunities
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- 6  **Master Program Update Guidelines**
WAC 173-26 - Sets requirements for Shoreline Program updates
 - Inventory and Characterization
 - Designations (zoning)
 - Policies & Regulations
 - Cumulative Impacts Analysis
 - Restoration Planning
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- 7  **SMP Guidelines:**
Intended use of science and technical information (WAC 173-26-102(2)(a))
 - Use the most current, accurate, and complete scientific and technical information available
 - Include information, experience, and anecdotal evidence
 - Use a reasoned, objective evaluation to address conflicts
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- 8  **Challenges of Policy Formation at the Ecosystem/Landscape Level**
 - The ability to predict ecosystem behavior is limited.
 - Ecosystems have real thresholds and limits that, when exceeded, can effect major system restructuring.
 - Once these thresholds and limits have been exceeded, the changes can be irreversible.
 - Biotic diversity is important to ecosystem functioning.
 - Multiple scales interact within and among ecosystems.
 - Ecosystem components are linked.
 - Ecosystem boundaries are open.
 - Ecosystems change with time.
- 9  **Science: A Human Endeavor**
 - Science can be limited by the human understanding of the systems we interact with and be influenced by underlying human principles, values, and beliefs.
 - Important for scientists and policy makers to maintain transparency. In the world of science, transparency is provided through communication of:
 - Methods
 - Assumptions
 - Findings
- 10  **What Science ?**

- ☐ Credible scientific information typically:
 - uses peer-reviewed methods,
 - presents proper context,
 - has references
 - leads to logical conclusions.
 - can also include local citizen knowledge (i.e. anecdotal)

11  **What is appropriate science?**

- ☐ Conventional Sources of Scientific Information*
 - Peer reviewed
 - Gray literature
 - Expert Opinion
 - Anecdotal (may often be relevant at the science-policy interface)

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* Per AFS-ERF 2006

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- ☐ Important to set a basis for determining what constitutes acceptable science to reduce public confusion and maintain a defensible scientific and technical record as the SMP update moves forward.

- ☐ Kitsap is in the process of creating a DRAFT Resolution on "Science and the SMP" incorporating guidance from both WAC 365-195-905 and WAC 173-26-201(2) to provide clarity to the public and policy-makers for SMP development.

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13  **EVALUATING AND APPLYING SCIENTIFIC DATA**
WAC 173-26-201(2)(A)(III)

"Where information collected by or provided to local governments conflicts or is inconsistent, the local government shall base master program provisions on a reasoned, objective evaluation of the relative merits of the conflicting data"

14  **Defining and using appropriate science for policy & management**

- ☐ Key strengths of independent objective evaluation:
 - Minimize influence of any single interest
 - Separate scientific and nonscientific issues
 - Incorporate all relevant information
 - Articulate all relevant assumptions, risks and alternatives

15  **Defining and using appropriate science for policy & management**

- ☐ Develop Standard Procedures and Criteria
 - Use a framework to review data
 - Identify uncertainties.
- ☐ Use Landscape or ecosystem context
 - Use multi-discipline approach to link management actions to science.
- ☐ Promote scientific literacy
 - Understanding how science works leads to the most effective use science as a decision-making tool.

16  **Ideas for SMP Science Review Process**

- ☐ Define information needs for SMP Policy Decisions

- SMP Guidelines
 - Range of Policy Choices
 - Budget & Timeline
- Confirm the body of relevant information
 - Scientific Studies and Reviews
 - Local Characterization
 - First Hand Knowledge
 - Other?
- 17 **Define a Process for Evaluating Information**
 - Levels of rigor and review?
 - Same or similar environment v. less similar environment
 - Level of uncertainty?
 - In cases of high stakes, high risk, high uncertainty, do you need a an outside body for review?
 - PSP Science Panel
 - Puget Sound Institute
 - UW
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- 19 **Application of information in an SMP**
 - Policy (Guidelines)
 - Rules of the road
 - Precautionary principle
 - Legal Standards
 - High v. low risk?
 - On-the-ground conditions
 - Feasible and efficient administration
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- 20 **Policymaking:**
Given Scientific Uncertainty
 - Duty to protect public interests, especially when decisions may cause irreversible change.
 - Obligation to apply precautionary principle (i.e. risk-averse) approach, in the face of scientific uncertainty.
 - Need to explicitly discuss application of precautionary principle and how risks are to be allocated among present and future stakeholders.

* Per AFS-ERF 2006
- 21 **Precautionary Principle in Regulations**
WAC173-26-201(3)(g)
 - As a general rule, the less known about existing resources, the more protective shoreline master program provisions should be to avoid unanticipated impacts to shoreline resources.
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- 24 **1997 COBI Harbor Management Plan**
 - Eagle Harbor Inventory and Report
 - Blakely Harbor Inventory and Report
 - Manzanita Bay Inventory and Report
 - Port Madison Inventory and Report
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