Programmatic Final Environmental Impact Statement

Amendment No. 4

Incorporation of the Revised

Washington Shoreline Management Act Guidelines

Into the Federally Approved

Washington Coastal Management Program

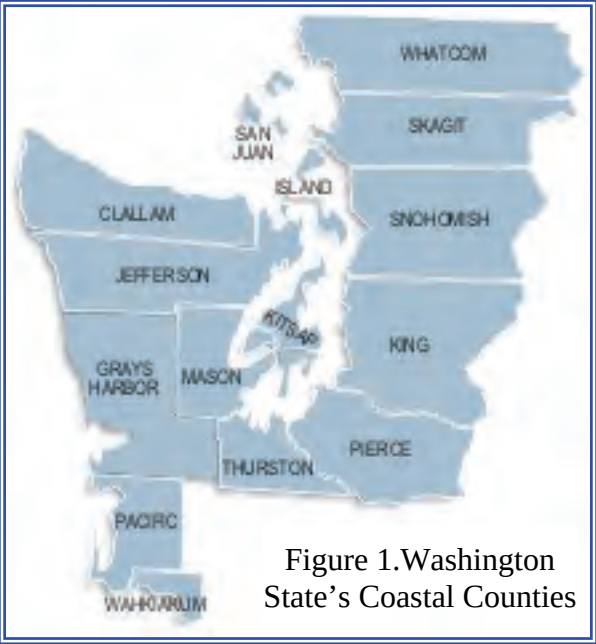

Figure 1.Washington State's Coastal Counties

November 2010

Office of Ocean and Coastal Resource Management

National Ocean Service

National Oceanic and Atmospheric Administration

U.S. Department of Commerce

office of ocean and coastal resource management

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
PROGRAM PLANNING AND INTEGRATION
Silver Spring, Maryland 20910

NOV - 1 2010

Dear Reviewer:

In accordance with the provisions of the National Environmental Policy Act (NEPA), we enclose for your review the National Oceanic and Atmospheric Administration (NOAA) *Programmatic Final Environmental Impact Statement (FEIS) for Amendment No. 4, Incorporation of the Revised Washington Shoreline Management Act Guidelines Into the Federally Approved Washington Coastal Management Program (WCMP).*

The WCMP has been implemented since 1976 upon approval under the federal Coastal Zone Management Act of 1972 (CZMA). The Washington Department of Ecology (WDOE) has submitted a request to amend its program by incorporating revised guidelines (Washington Administrative Code [WAC] 173-26) developed pursuant to the Washington Shoreline Management Act of 1971.

This FEIS is prepared pursuant to NEPA to assess the environmental impacts associated with NOAA's approval of incorporation of the revised guidelines into the WCMP. The new guidelines take into account ecological functions, cumulative impacts of many small scale developments, and represent greater efforts to restore coastal environments. The proposed action, i.e., NOAA's approval of incorporation of the revised guidelines, would allow the State to use federal CZMA grants awarded to WDOE in support of local governments revising their Shoreline Master Programs to meet the new guideline requirements. In addition, the State would be able to apply the federal consistency provisions of the CZMA using the new guidelines.

NOAA is not required to respond to comments received as a result of issuance of an FEIS. However, comments will be reviewed and considered for their impact on issuance of a record of decision (ROD). Please send comments to the correspondence coordinator identified on page 2 via mail, email or fax. The ROD will be made available publicly following final agency action after December 27, 2010.

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If you have not received, and would like a hard copy of the FEIS, please contact the Correspondence Coordinator above. The FEIS is also available online at: http://coastalmanagement.noaa.gov/assessments/welcome.html.

Sincerely,

Paul N. Doremus, Ph.D.
for NOAA NEPA Coordinator

Enclosure

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LIST OF ACRONYMS

BA	Biological Assessment
BO	Biological Opinion
CAO	Critical Area Ordinance
CMP	Coastal Management Program
CZMA	Coastal Zone Management Act of 1972
DEIS	Draft Environmental Impact Statement
DMMP	Dredged Material Management Plan
EFH	Essential Fish Habitat
EO	Executive Order
ESA	Endangered Species Act
ESHB	Engrossed Substitute House Bill
FEIS	Final Environmental Impact Statement
FHWA	Federal Highway Administration
GMA	Growth Management Act
IRI	International Roughness Index
LUSC	Land Use Study Commission
NEPA	National Environmental Policy Act of 1969
NMFS	NOAA Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
NPDES	National Pollution Discharge Elimination System
OCRM	Office of Ocean and Coastal Resource Management
RFEG	Regional Fisheries Enhancement Group
SBEIS	Small Business Economic Impact Statement
SEPA	State Environmental Policy Act
SHB	Shorelines Hearings Board
SMA	Shoreline Management Act
SMP	Shoreline Master Program
TTI	Travel Time Index
USACOE	U.S. Army Corps of Engineers
USDA	U.S. Department of Agriculture
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
VC	Vegetation Conservation
WAC	Washington Administrative Code
WCZMP	Washington Coastal Zone Management Program
WDFW	Washington Departments of Fisheries and Wildlife
WDNR	Department of Natural Resources
WDOE	Washington Department of Ecology
WRIA	Water Resource Inventory Area

EXECUTIVE SUMMARY

The Washington Coastal Zone Management Program (WCZMP) has been implemented since 1976 upon approval under the federal Coastal Zone Management Act of 1972 (CZMA). The Washington Department of Ecology (WDOE) has submitted a request to amend its program by incorporating revised guidelines (Washington Administrative Code [WAC] 173-26) developed pursuant to the Washington Shoreline Management Act of 1971 (SMA). The SMA requires local governments located in the designated coastal zone to revise their Shoreline Master Programs (SMPs) to be consistent with the standards contained in the new SMP guidelines. WDOE views the new guidelines as a significant enhancement over the original guidelines which allowed continued degradation of coastal environments. The new guidelines (when implemented through local SMPs) will create positive environmental effects as their intent is to guide shoreline growth in a more informed manner. The new guidelines take into account ecological functions, cumulative impacts of many small scale developments, and greater efforts to restore coastal environments.

Alternatives consist of approval of the proposed amendments; denial of the proposed amendments; and the no action alternative required by the National Environmental Policy Act (NEPA) of 1969. These alternatives are discussed in the Draft Environmental Impact Statement (DEIS). The preferred alternative is to approve the new WAC 173-26 SMA guidelines and permit federal CZMA grants awarded to WDOE in support of local governments revising their SMPs to meet the new guideline requirements.

This is a programmatic environmental impact statement. It analyzes the broad effects of the new requirements in the revised SMA guidelines that will be used by local governments to amend their comprehensive SMPs. It does not attempt to analyze how a local SMP, amended in accordance with the WAC 173-26, would affect the environmental impacts of individual development projects other than what would occur if the minimum standards of the guidelines were met. However, it does look at the impacts of adopting or not adopting the new guidelines, which will ensure development projects are more in accordance with the provisions of the SMA. Additional environmental analysis will be required at the time of adoption of local revised SMPs. The level of detail of this environmental impact statement is therefore generalized.

The new guidelines generally follow the same structure as the original guidelines, namely: environment designations, shoreline uses and shoreline developments. They require a higher standard in the preparation and implementation of SMPs as well as the use of the latest science and expertise available for planning and decision-making. The new guidelines do not require existing uses to meet the new standards, but all future developments under the revised SMPs will need to meet the new requirements. The new guidelines will help achieve improved water quality, scenic beauty, safer development and a number of other objectives consistent with the policies of the SMA. More importantly, the new guidelines introduce new requirements to: (1) achieve no net loss of ecological functions from the current baseline that exists at the time of SMP approval; (2) make improvements to the existing shoreline environments as part of mitigation and restoration requirements; (3) give designated “critical” areas special attention where future development may result in negative impacts; and (4) ensure that activities that do not normally require a shoreline development permit still help achieve SMA policy goals. As

previously, local governments will have latitude when interpreting the new guidelines to meet local circumstances.

The new guidelines require greater integration with the Growth Management Act (GMA). The SMA and guidelines manage a highly influential area (the land/water interface) of the coast, but cannot assure that growth beyond this 200-foot boundary will not adversely influence the water quality of its streams, rivers, lakes, and marine water bodies. The goal of a comprehensive and integrated CMP is to ensure that activities conducted outside the management area do not negatively affect the ecological functions the SMA is designed to protect. Washington promulgated the new guidelines because this level of integration had not been achieved.

The development of the new guidelines took over ten years and at times was controversial. One of the major issues was the relationship between the guidelines and the objectives of the Endangered Species Act (ESA), as a number of aquatic species have been listed in Washington State. The FEIS concludes that successful implementation of the new guidelines will: (1) be more protective of critical habitats; (2) provide an information base on which more informed decisions by local governments will be made, and (3) result in less degradation of the environment through mitigation and restoration requirements. From a statewide program review perspective, the new guidelines meet the intent and objectives of the ESA to protect species and their habitats. The NOAA Marine Fisheries Service (NMFS) provided an opinion that the Office of Ocean and Coastal Resource Management's (OCRM) approval of the State SMP guidelines, in and of itself, will not have direct or indirect effects to listed species under the ESA, or to essential fish habitat under the Magnuson-Stevens Fishery Conservation and Management Act. Based on this opinion, and after conferring with both NMFS and the U.S. Fish and Wildlife Service, OCRM withdrew from ESA consultation and adopted NMFS's opinion as the NOAA agency opinion.

1. INTRODUCTION

1.1 Approval of the Washington Coastal Management Plan

In 1972 Congress passed the Coastal Zone Management Act (CZMA) "to preserve, protect, develop, and where possible, to restore or enhance, the resources of the Nation's coastal zone for this and succeeding generations" (16 U.S.C. 1452). Because both the Nation as a whole and the individual states and territories have substantial interests in the resources and uses of the coastal zone, Congress decided that management of the coastal zone would be best accomplished through a state-federal partnership. The incentives Congress offered the states to participate in the CZMA were: (1) funding for the development and implementation of coastal management programs (CMPs) approved by the U.S. Department of Commerce/National Oceanic and Atmospheric Administration (NOAA) as meeting the requirements of the CZMA; and (2) the requirement that federal agency activities and any activities requiring a federal license or permit be consistent with states' CMP enforceable policies (referred to as "federal consistency") (16 U.S.C. 1455 and 1456).

The CZMA provides guidelines for the development of state CMPs. The implementing federal regulations at 15 CFR Part 923, subparts B-G, outline the requirements for state program development and approval. Subpart H of these regulations includes the guidelines for changing an approved state program. Changes to an approved program may be processed as either a matter of routine program change or as an amendment (15 CFR part 923, subpart H).

In 1976 Washington was the first state to gain approval of a comprehensive and integrated CMP. The WCZMP is based primarily on the State's Shoreline Management Act (SMA) and the State Environmental Policy Act (SEPA), both enacted in 1971. Other authorities related to water and air pollution control, ocean resources management, and energy facility site evaluation are also incorporated. The State designated the WDOE as the lead coastal management agency. Responsibility for administering the WCZMP has been consolidated in the Shorelands and Environmental Assistance Program.

1.2 Washington Coastal Management Program

The furthest inland reach of Washington's coastal zone lies in the landward boundary of the 15 coastal counties, including Wahkiakum County on the Columbia River. The SMA applies to the 'shorelines of the state,' including all: marine waters; lakes twenty acres and larger; streams and rivers with a mean annual flow of twenty cubic feet per second or more; land areas within 200 feet of the waters; and associated wetlands. These 10,245 miles of shoreline include pristine as well as highly developed urban environments.

The SMA has specific requirements for land and water uses:

- Recognition and protection of statewide interest over local interest;
- Preservation of the natural character of the shoreline;
- Promotion of long-term benefit over short-term gain;

- Protection of the resources and ecology of the shoreline;
- Increasing public access to publicly owned areas of the shoreline; and
- Increasing recreational opportunities of the public on the shoreline.

Washington's SMA of 1971 (RCW Chapter 90.58) sets policies and standards for shoreline management to be implemented by Washington's local jurisdictions through the adoption of local Shoreline Master Programs (SMPs). The SMA requires that SMPs be approved at the state level by Washington's designated coastal management agency, the WDOE. The standards for approval of local SMPs are contained in the Shoreline Management guidelines developed and adopted by WDOE.

Fifteen counties and 115 local jurisdictions within the coastal zone have developed, adopted, and received approval of their SMPs from WDOE and NOAA. These 130 jurisdictions have authority under the SMA to issue or deny substantial development permits for shoreline use activities. Local government recommendations for conditional uses and for variances from their SMP, however, must be submitted to WDOE for approval. The SMA also provides an appeals process. Any person aggrieved by the granting, denying, or rescinding of any local government shoreline permit may appeal that decision to the Shorelines Hearings Board (SHB), a quasi-judicial body. Local and WDOE decisions on conditional use permits and variances, for example, are subject to SHB appeal.

In addition to these formal regulatory and oversight responsibilities, the WCZMP instructs the WDOE to assist local governments with technical, financial, shoreline, and growth management planning assistance. To further extend the goals of the program, the WDOE is to engage in public education and outreach activities.

1.3 Development of new Shoreline Master Program Guidelines

For over 30 years state and federal agencies have funded the comprehensive and integrated WCZMP. Since 1972, state and local bodies have made significant efforts to improve management of the coastal zone. However, growth and development pressures have continued to lead to further degradation of the natural resources. While much was learned over this time about ecological processes and development impacts to water quality and important habitats, the SMA guidelines have not been significantly changed. By the early 1990's, it had become apparent to WDOE (and many others) that the SMA guidelines needed revising in order to incorporate new knowledge, conditions, and laws.

Beginning in 1992 WDOE began exploring the desirability and rationale for amending SMP guidelines; specifically the rules regulating local governments' preparation of local SMPs. Simultaneously, WDOE embarked on a two-year process assisting local governments with integration of provisions of the SMA with the newly enacted GMA (GMA, RCW 36.70A). This included the GMA requirements for local adoption of Critical Area Ordinances (CAOs). This effort culminated in the release of the 2nd edition of the *Shoreline Management Guidebook* (Shorelands and Coastal Zone Management Program, 1994).

In 1995 the Washington legislature adopted Engrossed Substitute House Bill (ESHB) 1724, directing that WDOE: "…periodically review and adopt guidelines…" for local shoreline master programs consistent with SMA policy, and "…at least once every five years…conduct a review of the guidelines." WDOE responded by initiating a review process, conducting research, and forming a Shorelines Policy Advisory Group composed of persons representing local governments, environmental organizations, business and industry, and agriculture. The Shorelines Policy Advisory Group issued a draft report in October 1996, which WDOE presented to the legislatively mandated Land Use Study Commission (LUSC) in early 1997. The LUSC did not reach consensus on the draft report, but endorsed more "efficient and effective" shoreline regulations.

Between 1998 and 2000 WDOE established a new guidelines Commission to draft an amendment of the guidelines rule. The Commission concluded the guidelines should be updated for three principle reasons: (1) the legislative requirement; (2) a need to provide better direction to local governments; and (3) the use of the guidelines in implementing the strategy to recover salmon and their habitat.[1] The Commission held 19 meetings and reviewed two draft rules prepared by WDOE, but could not reach consensus on some issues. WDOE issued a draft rule for public comment in April 1999. This document received a high degree of public scrutiny and comment, much of it critical. WDOE withdrew this draft and used it as a basis for discussions with local and state elected officials.

By 2000 implications from federal ESA listings of certain salmonid stocks became a factor too great to ignore. Throughout 2000 WDOE developed a revised draft rule that included two different paths (Path A and Path B) for achieving the SMA's intent, and possibly more

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[1] The **Report of the Shoreline Guidelines Commission to the Department of Ecology** dated February 16, 1999 states that the guidelines need updating for three principal reasons:

1. The Legislature has required that the guidelines be updated. The 1995 regulatory reform legislation, ESHB 1724, stated in Section 1, that the Growth Management Act "...should serve as the integrating framework for all other land-use related laws." ESHB 1724 also established a schedule for local governments to review and update their plans and development regulations, with the next such cycle due September 1, 2002. If master programs are to be integrated in accordance with ESHB 1724 in this cycle, the guidelines need to address integration issues well in advance of that date.
2. Population growth and changes in the law, planning practice, and use of science since 1971 are significant and require clearer guidance in the rule in order to achieve balanced and effective resource management. In chapter 90.58.020 RCW the Legislature found "...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…" and called for "...coordinated planning ... in order to protect the public interest associated with the shorelines of the state while, at the same time, recognizing and protecting private property." The guidelines need to provide better direction to local governments for effective protection, restoration and preservation of natural resources and utilization of the shorelines, particularly with regard to conflict among uses preferred in the Act.
3. A premise of the Governor's Salmon Recovery Strategy is to use existing laws to comply with the ESA. Since salmon depend on many areas and resources within the jurisdiction of the Shoreline Management Act for their survival, the guidelines need to show how local master programs can help implement the strategy to recover salmon and their habitat.

definitively, meet goals for salmon recovery. While controversial, this rule was adopted by WDOE in November 2000.

The rule remained controversial, especially regarding the dual path approach. Coalitions of interest groups appealed the rule to the Shoreline Hearings Board (SHB), while others intervened on behalf of WDOE. The SHB concluded that WDOE had failed to properly conduct the rule review process, and certain features of Path B exceeded statutory authority. This ruling invalidated the new guidelines rule but did not invalidate WDOE's repeal of the previous rule, thus leaving the State with no approved SMP guidelines rule. The WDOE coalition quickly appealed the SHB decision to Thurston County Superior Court. Before the Superior court could take up the appeal however, the State initiated a mediation process which embraced all parties to the original SHB appeal. The parties reached a negotiated settlement by December 2002.

In January 2003, in conformance with the settlement agreement, WDOE initiated the public process for formal adoption of the negotiated settlement draft guidelines rule. In July 2003, public review drafts of the rule, plus the associated environmental and economic assessment documents, were released for public review and comment. WDOE responded to comments by expanding and/or clarifying the economic and environmental assessment documents, and by making minor clarifications to the rule itself. This process proceeded with little controversy, and in December 2003 WDOE adopted a new guidelines rule, WAC 173-26, Sections 171 to 251. (*See* Appendix D for a chronological history of the SMA guidelines.)

WDOE submitted the revised SMA guidelines to OCRM in late October 2004 as a program change to the WCZMP. OCRM evaluated the submitted documents and made a preliminary approval determination that the revised SMA guideline changes met the requirements of the CZMA. However, because OCRM determined that incorporation of the new guidelines into the WCZMP would constitute a significant federal action, a final determination could not be made until the requirements of the NEPA were met.

Washington's SEPA, which is similar to NEPA, is an approved management tool used in the implementation of the WCZMP, including review of the guidelines. Consequently, documents 6-8 (Supplemental Final Environmental Impact Statement (FEIS), B/C Analysis, and Small Business Impacts) are incorporated by reference as part of the analysis associated with federal approval of the guidelines as they constitute part of the WDOE submission to OCRM. These documents have been viewed by the public, and are available through the WDOE web site at: http://www.ecy.wa.gov/biblio/sea2003.html.

2. PURPOSE AND NEED FOR ACTION

2.1 Purpose

OCRM is responsible under the CZMA for approving any program changes made by a state to its original federally-approved CMP. Changes that must be submitted are those that (1) affect the CMP as approved by OCRM; (2) the state CMP chooses to spend CZMA funds on; and (3) the state CMP wishes to use for federal consistency review purposes. On October 21, 2004, Washington submitted the new guidelines to OCRM for review and approval as an amendment

to the WCZMP. Adoption of the new guidelines represents a substantial change to the state's CMP. The purpose of OCRM's approval of Washington's program change request would be to allow the State to continue its certification as a federally-approved CMP, to use a portion of their CZMA funds to help implement the revised guidelines, and to conduct federal consistency reviews based on the revised program policies.

2.2 Need for Guideline Change

The CZMA regulations define two types of program changes: amendments and routine program changes. Amendments are defined in 15 C.F.R. 923.80(d), as substantial changes in one or more of five program areas. Whether or not a program change is substantial is based on a case-by-case determination. Indicators of a substantial change include: new or revised enforceable policies that address coastal uses or resources not previously managed, or major changes in the way a state CMP manages uses or resources; the extent to which the proposed change impacts the national interest reflected in the CZMA (e.g., outer continental shelf oil and gas development, energy facility siting, water and air quality, etc.); and the extent to which the proposed change is similar to past program change requests by any state that were treated as amendments.

The Washington Coastal Zone Management Program (WCZMP) was originally approved in 1976 under the federal CZMA of 1972. The WDOE submitted a request to amend their program by incorporating revised guidelines (WAC 173-26) developed pursuant to the Washington SMA of 1971. The new guidelines require local governments located in the designated coastal zone to revise their SMPs to achieve the new standards contained in the guidelines. WDOE considers the new guidelines to be a significant enhancement over the original guidelines and capable of filling gaps found in the original guidelines that allowed continued degradation of coastal environments. The original guidelines did not incorporate new scientific information on resource management, provisions of new laws dealing with rapid growth management, new growth patterns, economic expansion, and land use changes. The Washington State Legislature required that the guidelines be updated and improved if SMA objectives were to be achieved. The guidelines, when incorporated into SMPs, will guide growth management in a more informed manner, taking into consideration ecological functions, cumulative impacts of many small scale developments, and greater efforts to restore environments. Periodic updating of the guidelines is also required.

Based on the scope of these changes, OCRM has determined that Washington's program submission qualifies as a substantial change to the WCZMP, and therefore OCRM is required under the CZMA to conduct a review and approval process for Washington's program change submission as an amendment, which includes the production of an EIS.

3. DESCRIPTION OF THE PROPOSED ACTION

This section describes the proposed action that requires preparation of an EIS under NEPA; i.e., OCRM's approval of the WDOE's amendments to the WCZMP. Through its designated agent, the WDOE, Washington submitted a request to OCRM to incorporate revised guidelines to local governments into its federally-approved WCZMP. This action satisfies a federal requirement under the CZMA for states to submit, in an expeditious manner, appropriate revisions to their

programs (16 USC 1455(e)(1)). The change completely replaces Chapter 173-16 of the WAC "Shoreline Management Act Guidelines for Development of Master Programs,' that has been repealed and replaced with state-adopted Chapter 173-26 "Shoreline Master Program Guidelines." The guidelines (WAC 173-26-171 through 251 and related definitions in WAC 173-26-020) were adopted by the WDOE on December 17, 2003, and became effective January 17, 2004. This is the first comprehensive update to the guidelines since their original adoption in 1972. Table 1 depicts how the topical shoreline management issues of the original guidelines continue to be addressed in the new guidelines and where the new guidelines are expanded to more directly address additional issues.

Table 1. General Table Showing Management Issues Addressed by the Original vs. the New Guidelines.

Original WAC 173-16 Guidelines	**New WAC 173-26 Guidelines**		
Use Activities	**Master Program Provisions**	**Shoreline Modifications**	**Shoreline Uses**
Agricultural Practices			Agriculture
Aquaculture			Aquaculture
Forest Management Practices			Forest Practices
Commercial Development			Commercial Development
Marinas			Boating Facilities
Mining			Mining
Outdoor Advertising, Signs, Billboards			
Residential Development			Residential Development
Utilities			Utilities
Ports & Water-Related Industry			Industry
Bulkheads		Shoreline Stabilization	
Jetties and Groins		Breakwaters, Jetties, Groins & Weirs	
Landfill		Fill	
Solid Waste Disposal			
Dredging		Dredging & Dredge Material Disposal	
Shoreline Flood Protection	Flood Hazard Reduction		
Road and Railroad Design & Construction			Transportation & Parking
Piers		Piers & Docks	

Archeological Areas & Historic Sites	Archeological and Historic Resources		
Recreation			Recreational Development
	New Provisions in Guidelines		
	Critical Areas: - Wetlands, - Geologically Hazardous Areas, - Critical Saltwater Habitats, - Critical Freshwater Habitats	Beach & Dune Management	Instream Structural Uses
	Public Access	Shoreline Habitat & Natural System Enhancement Projects	
	Shoreline Vegetation Conservation		
	Water Quality, Storm Water, & Nonpoint Pollution		
This simplified table reflects only the distribution of titles of the original and new guideline provisions and not the substance of what is covered under each title.			

3.1 Updating Local Shoreline Master Programs

Washington's new guidelines will govern the development requirements and adoption of local jurisdiction SMPs. The guidelines advise local jurisdictions to undertake a number of specific tasks to ensure that their SMPs comply with state SMA goals and policies. The guidelines also require local jurisdictions to seek public involvement in the SMP update process and to maintain ongoing coordination with relevant local, state, federal, and tribal agencies throughout the shoreline SMP planning process. A brief summary of this planning process is provided below (*see* Figure 2).

The first step in the update process is to review and revise original SMP goals. Local governments are also expected to review and revise local permit administrative procedures to help integrate SMP administration with other regulatory processes and improve efficiency. Local jurisdictions are then required to complete a thorough inventory of their shorelines to characterize shoreline ecological processes and functions found there. This inventory is intended to synthesize all available information about a jurisdiction's shorelines and to characterize existing shoreline conditions. While the original guidelines required a land use inventory of the shoreline, this requirement to inventory and characterize existing coastal physical and biological

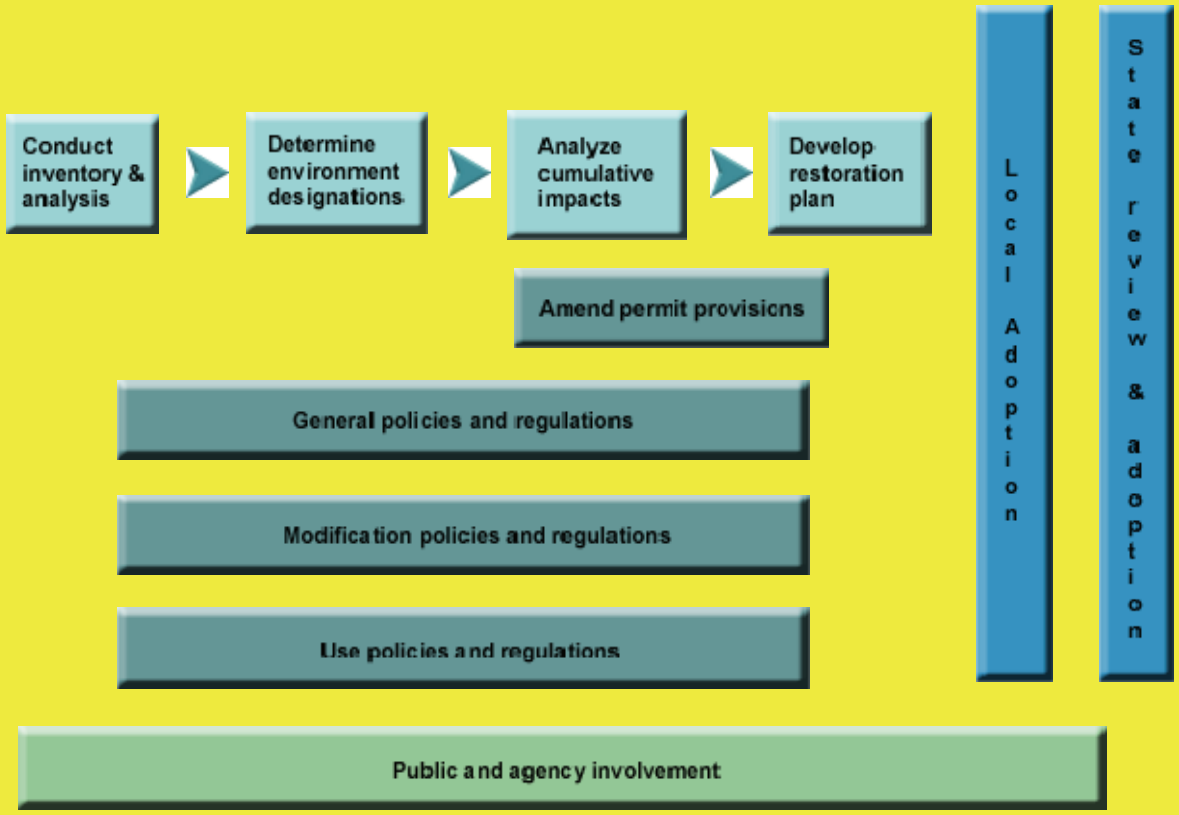

Figure 2. Diagram of the SMA Guideline Development Process. WDOE. (Click on topic to go to web page)

processes and functions represents an entirely new requirement for local SMP updates. This information is overlain with the land use information to characterize existing coastal conditions. The inventory also results in a spatially specific map portfolio.

Local governments are tasked to complete their inventories on two scales: a broader, more inclusive ecosystem or watershed scale, and a narrower, more focused reach (or drift-cell) scale. The broader analysis identifies the processes influencing or driving the biophysical conditions of shorelines within the jurisdiction's planning area. It encourages jurisdictions to coordinate with neighboring jurisdictions to understand the wider context of their planning efforts. This scale of analysis can help identify historic or ongoing cumulative shoreline impacts that can be addressed through the SMP, restoration planning, or other mechanisms (e.g., existing management programs, volunteer activities, and other planning efforts). The more detailed reach or drift cell

scale identifies ecological functions provided by shoreline segments within the local government's planning area.

Steps in the detailed mapping process include:

- Mapping preliminary shoreline jurisdiction boundaries;
- Determining shoreline jurisdiction boundary;
- Determining shoreline types based on inherent physical characteristic;
- Mapping reach boundaries and refining with other zoning and planning information;
- Documenting rationale used for defining reaches;
- Overlaying biological features and critical areas; and
- Overlaying shoreline structures and modifications to identify impairments to ecological function.

By combining map portfolio and cultural resource information, jurisdictions will be able to complete detailed analyses of their shorelines, allowing them to identify potential opportunities and issues, including:

- Areas critical for ecological protection;
- Areas where development might occur in the future;
- Areas where water dependent uses could be supported and public access improved;
- Potential shoreline environment designation boundaries;
- What restrictions on development should be required; and
- Restoration opportunities.

These information, inventory, and graphic analyses support the development of master program policies and regulations designed to achieve *no net loss of ecological functions*, and serve as the basis of a shoreline restoration plan. The restoration plan should include the following:

- Clearly identified degraded areas;
- Goals and priorities for restoration of areas with impaired ecological functions;
- Descriptions of existing programs that contribute to restoration goals;
- Descriptions of additional programs needed to meet restoration goals;
- A schedule for implementing restoration projects and programs and for achieving restoration goals; and
- A detailed strategy outlining how the program is to be implemented and monitored for effectiveness.

The process is likely to be costly and time consuming. It will likely place additional burdens on state and federal resource agencies, university experts, and others who can assist in providing the best available science, engineering, and planning expertise. Acknowledging these issues, the State Legislature designated extra monies and will allow the use of CZMA funds to assist in the process. To ensure these burdens are manageable, jurisdictions will stagger the process according to a WDOE timescale. WDOE is giving priority to jurisdictions that are experiencing the greatest rate of growth and coastal counties.

When the shoreline inventory and analysis are complete, local governments must determine their final shoreline designations. Once these designations are established, jurisdictions can complete final modifications to SMP policies and regulations and can determine use policies, modification activities, and standards.

Once a SMP has been developed and approved locally, it is submitted to the WDOE for review and further public comment. The overall regulatory structure of SMPs involves classification of areas under shoreline jurisdiction into various designations called *environments* (*see* Table 2). The SMP guidelines specify general master program *provisions* that must be addressed generally or in shoreline areas that meet the specified criteria. Policies and regulations vary among shoreline environment designations and determine the type and character of *modifications* and *uses* that are allowed or encouraged within shoreline areas. Through changes in shoreline environmental designation, jurisdictions can achieve larger policy goals for both growth and ecological protection. This overall process of program development is not a new or significant change from the old system. However, various requirements are more specific and concepts for planning more defined.

Table 2. Summary List of the SMA Guideline Environments, Provisions, Modifications, and Uses.

Shoreline environments • Natural • Rural conservancy • Aquatic • High intensity • Urban conservancy • Shoreline residential • Other
Regulated master program provisions • Archaeological and historic resources • Critical areas: wetlands; areas with a critical recharging effect on aquifers used for potable waters; fish and wildlife habitat conservation areas; frequently flooded areas; and geologically hazardous areas. • Flood hazard reduction • Public access • Shoreline vegetation conservation • Water quality, stormwater, and nonpoint source pollution
Shoreline modification activities • Shoreline stabilization • Piers and docks • Fill • Breakwaters, jetties, groins, and weirs

- Beach and dunes management
- Dredging and dredge material disposal
- Shoreline habitat and natural systems enhancement projects

Shoreline uses

- Agriculture
- Aquaculture
- Boating facilities
- Commercial development
- Forest practices
- Industry
- Instream structural uses
- Mining
- Recreational development
- Residential development
- Transportation and parking
- Utilities

3.2 Description of Changes Proposed Under the New Guidelines

The overall purpose of the guidelines is to maintain or improve environmental conditions of the shorelines within local jurisdictions (WAC 173-26-186 (8)(b), (8)(c), (8)(d)). The guidelines allow continued growth for a wide range of purposes while simultaneously protecting overall habitat integrity, natural character, and shoreline ecology and resources. The role of local governments is to achieve the goals of the guidelines with state oversight.

The guidelines introduce the standard of *no net loss of ecological functions* (WAC 173-26-186 (8)(b)(i-ii)). Local governments must achieve this standard through a combination of regulations requiring the avoidance and mitigation of impacts, individual permit decisions, and non-regulatory activities (WAC 173-26-186(3), (4), (5)). To ensure that this standard is met, specific and measurable criteria must be established on a reach scale, and monitored over time.

The SMA guidelines also require local governments with functionally ecologically impaired shorelines to include goals and policies that provide for *restoration of such impaired ecological functions* (WAC 173-26-186 (8)(c)). To ensure restoration over time, jurisdictions are required to identify shoreline areas with existing degraded functions, prioritize restoration opportunities, coordinate with existing restoration projects and programs, and to prepare a comprehensive restoration strategy (WAC 173-26-201). Local strategies should also outline how non-regulatory actions contribute to restoration objectives over time.

Policies and regulations developed under the shoreline SMA guidelines must be designed to achieve the following (WAC 173-26-186; WAC 173-26-201):

- Achieve no net loss of ecological functions necessary to sustain shoreline natural resources;

- Use the most current, accurate, and complete scientific and technical information for development of policies and regulations;
- Ensure that each permitted development causes no net loss of ecological functions;
- Ensure that exempt development in the aggregate causes no net loss of ecological functions;
- Address and fairly allocate the burden of mitigating cumulative impacts of development among development opportunities;
- Plan for restoration of ecological functions where they have been impaired;
- Promote restoration of ecological functions through a combination of regulatory and non-regulatory programs by a combination of public and private actions;
- Prioritize reservation of areas for protecting and restoring ecological functions over provision for water-dependent uses and other uses, and limit non-water-oriented uses in the shoreline;
- Require mitigation of adverse impacts of individual developments in accordance with the following sequence:
    - Avoidance of impact
    - Minimization of impact
    - Rectification of impact
    - Reduction or elimination of impact over time
    - Compensation with substitute resources
    - Monitoring
- Require mitigation in proportion to and not in excess of that necessary to ensure no net loss of ecological functions;
- Provide preference for compensatory mitigation, when mitigation is required, to be located within the immediate vicinity of the impact;
- Ensure that new development meets vegetation conservation objectives; and
- When there is uncertainty about the extent or condition of an existing ecological resource, ensure that the resource is protected.

As land use plans, SMPs contain both a planning element and specific development regulations (minimum standards). The planning element specifies how local government plans for future development and uses of particular shorelines (e.g., natural, residential, commercial). This has potential for long-term environmental consequences at it relates to protection and development potential. The regulatory elements provide implementing regulations that limit development and define uses consistent with the plan for the area. They are incorporated through local land use codes and authorities and serve as measures to protect the environment or allow changes to the landscape that meet development objectives. For example, the new guidelines state that, "vegetation conservation provisions apply even to those shoreline uses and developments that are exempt from the requirement to obtain a permit" (WAC 173-26-221(5)(a)). Governments can achieve this objective through a variety of measures (e.g., clearing and grading regulations, setback and buffer standards, critical area regulations, condition use requirements for specific uses or areas, mitigation requirements, incentives and non-regulatory programs). WDOE will use a checklist filled out by local jurisdictions to ensure these provisions have been met and documented (*see* Appendix C).

Figure 3. Example of shoreline residential use on sand/gravel island with erosion protective structures. Source: WDOE

Rapid population growth and its corresponding demands on the ecosystem have resulted in a need for programs that can help decision-makers understand and address the environmental, social and economic implications of growth. The need for sound data and the requirement to use such data are called for in the new guidelines. The comprehensive process to conduct inventories and analyses of the shoreline conditions (WAC 173-26-201(3)(c)-(d)) will serve multiple management purposes. The new guidelines encourage the participating SMP jurisdictions to:

> Gather and incorporate all pertinent and available information, existing inventory data and materials from state agencies, affected Indian tribes, watershed management planning, port districts, and other appropriate sources. Ensure that, whenever possible, inventory methods and protocols are consistent with those of neighboring jurisdictions and state efforts.

Jurisdictions must collect information on critical areas, including wetlands, aquifer recharge areas, and frequently flooded areas. They must also create a list of additional uses and resources important for planning and management purposes, including environment designations.

As the SMPs are revised, the new guidelines suggest standards to protect the shoreline conditions. For example, comparing wetland conditions with the causes related to their degradation could encourage a review of the new guidelines to look for measures that may help reduce future wetland losses.

Specific provisions of the new guidelines address all the major issues and have the overall goal of no net loss of wetland areas and their functions. The new guidelines recommend creating buffers and planning for mitigation, including compensatory mitigation as appropriate. The new guidelines also identify specific provisions in four major categories that will help in the long run to reduce losses. Following are some examples:

1. Urban Expansion

Greater requirement to establish water-dependent need for commercial and industrial development, establish no net loss for plats and subdivisions.

2. Forestry

When there is a likelihood of conversion to non-forest uses, assure no net loss of shoreline ecological functions and maintain the ecological quality of the watershed's hydrologic system.

3. Agriculture Practices

New agricultural development will require a substantial development permit, be consistent with environment designation and assure no net loss of ecological function.

4. Invasive Species

Vegetation conservation includes activities to protect and restore vegetation along or near marine and freshwater shorelines that contribute to the ecological functions of shoreline areas. Vegetation conservation provisions include the prevention or restriction of plant clearing and earth grading, vegetation restoration, and the control of invasive weeds and nonnative species.

Collectively, the new guidelines and their subsequent implementation by local governments will facilitate a more informed understanding of shoreline conditions and managing land uses in order to reduce adverse affects. Significant growth is anticipated during the next 10-15 years that will continue to cause a shoreline change. Local governments will play a central role in determining how that growth meets the policy goals of the SMA.

All of the new WDOE-adopted guidelines (WAC 173-26) that would be incorporated into the WCZMP through OCRM approval under the provisions of the CZMA are included in Appendix A. The following summarizes the changes to the WCZMP that must be considered by OCRM under the CZMA.

3.2.1 Shoreline Boundaries

The new guidelines do not change the original jurisdiction of the SMA boundaries. Local governments may choose to address channel migration zone (CMZ or meander belt) issues within their SMPs and related programs (*see* description in Appendix A, p. A-27 on flood hazard reduction). This allows flexibility not included in the original guidelines to deal with flood hazard issues. Additionally, when a critical area lies partially within an SMA jurisdiction limit and partially in an area regulated by the GMA under the Critical Areas Ordinance (CAO), the local government may extend the shoreline jurisdiction to include the entire critical area and all lands necessary to protect it (ESHB 1933 Sec. 2(2)(f)(ii) & RCW 90.58.030(2)(f)(ii)). If a local government does extend its jurisdiction, the critical area and its buffers are to be protected by the SMP. (*See* Department of Ecology and Department of Community, Trade and Economic Development: Questions and Answers on ESHB 1933 Critical Areas Protection Under the GMA and Shoreline Management Act.)

3.2.2 Program Authorities and Organization

The new guideline changes do not alter the basic structure of the authorities and organization of the WCZMP. The new revisions do require more frequent inventories, updates, and changes to SMPs, taking into consideration new laws, science, and circumstances. Local governments will continue to implement the provisions of the guidelines in accordance with the SMA, with oversight responsibilities provided by state organizations. For cities and counties fully planning under the GMA, the Legislature transferred jurisdiction for appeals of SMPs from the Shorelines Hearing Board to the Growth Management Hearings Board. (RCW 90.58.190). Federal agency activities that have reasonably foreseeable effects on any land or water use or natural resources of the coastal zone must be consistent to the maximum extent practicable with the enforceable policies of a coastal state's federally approved coastal management program. Federal license or permit activities and federal financial assistance activities that have reasonably foreseeable coastal effects must be fully consistent with the enforceable policies of state coastal management programs. Federal agencies are not required to obtain state or local SMA permits.

3.2.3 Preferred Uses

The SMA establishes the concept of 'preferred uses' of shoreline areas. According to RCW 90.58.020, "uses shall be preferred which are consistent with control of pollution and prevention of damage to the natural environment, or are unique to or dependent upon use of the state's shorelines." If alteration of the natural condition of the shorelines is allowed, priority is given to the following uses:

1) single family residences (*see* Figure 4);
2) ports;
3) shoreline recreational uses;
4) industrial and commercial developments that are particularly dependent upon their location on, or use of, the shorelines; (*see* Figure 5) and
5) other developments which will provide an opportunity for substantial numbers of people to enjoy the shorelines.

Figure 4. Single family homes along shore spit. Source: WDOE

Preferred uses for shorelines of statewide significance are those that:

1) recognize and protect the statewide interest over local interests;
2) preserve the natural character of the shoreline;
3) favor long-term over short-term benefits;

Figure 5. Shoreline industrial use. Source: WDOE

4) protect the resources and ecology of the shoreline;
5) increase public access to publicly-owned shorelines (*see* Figure 6); and
6) increase shoreline recreational opportunities.

Figure 6. Public access along shoreline.
Source: WDOE

While the SMA does not categorically prohibit all non-water dependent uses, water-dependent uses are preferred. The concept of use preferences is particularly applicable to shorelines under intense development pressure for port and harbor-related industrial activity where shoreline is limited and extremely valuable.

As summarized in WAC 173-26-176 the Act establishes a preference for uses that are unique to or dependent upon a shoreline location. Consistent with this policy, these guidelines use the terms "water-dependent," "water-related," and "water-enjoyment" (as defined in WAC 173-26-020), when discussing appropriate uses for various shoreline areas.

Shoreline areas, a limited ecological and economic resource, are under pressure from competing uses including ecological protection and restoration activities. Consistent with RCW 90.58.020 and WAC 173-26-171, local governments shall, when determining allowable uses and resolving use conflicts on shorelines within their jurisdiction, apply the following preferences and priorities in the order listed below, starting with (i) of this subsection. For shorelines of statewide significance, local government must also apply the preferences as indicated in WAC 173-26-251(2).

(i) Reserve appropriate areas for protecting and restoring ecological functions to control pollution and prevent damage to the natural environment and public health.
(ii) Reserve shoreline areas for water-dependent and associated water related uses. Harbor areas, established pursuant to Article XV of the State Constitution, and other areas that have reasonable commercial navigational accessibility and necessary support facilities such as transportation and utilities should be reserved for water-dependent and water-related uses that are associated with commercial navigation unless the local governments can demonstrate that adequate shoreline is reserved for future water-dependent and water-related uses and unless protection of the existing natural resource values of such areas preclude such uses. Local governments may prepare master program provisions to allow mixed-use developments that include and support water-dependent uses and address specific conditions that affect water-dependent uses.
(iii) Reserve shoreline areas for other water-related and water-enjoyment uses that are compatible with ecological protection and restoration objectives.
(iv) Locate single-family residential uses where they are appropriate and can be developed without significant impact to ecological functions or displacement of water-dependent uses.

(v) Limit non-water-oriented uses to those locations where the above described uses are inappropriate or where non-water-oriented uses demonstrably contribute to the objectives of the SMA (WAC 173-26-201(2)(d)).

The concept of preferred uses is noted throughout the new guidelines. There are new definitions for "water-enjoyment uses," "water-oriented uses," and "water-related uses." The original guidelines did not define these uses, however there was liberal direction that priority should be given to water-dependent industry and public uses, for use of community piers and docks.

3.3 New Guideline Provisions

3.3.1 Intent of Shoreline Environment Designations (WAC 173-26-211)

The original guidelines identified four environments (natural, conservancy, rural, and urban) but allowed local governments to identify additional types of environments. The original guidelines allowed many local governments to use designations such as aquatic, rural residential, suburban, semi-rural, and other subdivisions. The new guidelines identify the six environments described below, but continue to allow local governments discretion to list other types. Unassigned areas are automatically designated either as rural conservancy or urban conservancy, whichever is a more conservative designation, until such areas are properly designated by local jurisdictions.

The ***aquatic environment*** is intended to apply to areas waterward of the ordinary high water mark. Ecological restoration, public access, and water-dependent uses are the only uses that should be allowed in these areas. Structures must be: the minimum size necessary to support the intended use; provide for safe, unobstructed passage of fish and wildlife; minimize interference with navigation; and take into account impacts on views. Even where other shoreland environment designations are applied to water areas (e.g., rural conservancy or high-intensity), development must be consistent with the aquatic environment policies.

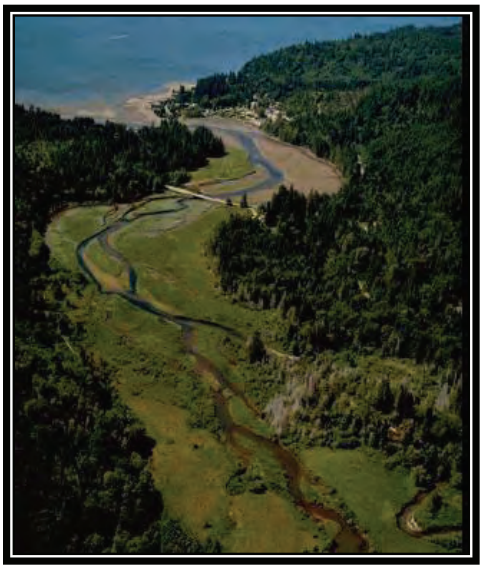

Figure 7. Example of riverine and riparian environment including highway and housing near the mouth entering Puget Sound. Source: WDOE

The ***natural environment*** is intended to be ecologically intact or relatively free of human influence to: accommodate planning for restoration of degraded shorelines; allow low-intensity residential and resource uses such as agriculture and forestry consistent with the state Forest Practices Act; and provide for low-intensity scientific, cultural, and recreational uses. Regulations should generally prohibit subdivision, commercial or industrial uses, non-water recreation, roads, parking, utility corridors, significant vegetation removal, and other activities that would substantially degrade these shoreline areas.

The ***rural conservancy environment*** is intended to: conserve existing natural resources and valuable cultural and historic areas for sustained resource use; improve natural floodplain processes; and provide recreational opportunities. Generally, no commercial and industrial uses, new shoreline stabilization measures, or flood controls should be allowed. Mining, agriculture, forestry, and recreational uses should be allowed. Impervious surfaces should be limited to ten percent of lot area.

Figure 8. Lake Union, example of high-intensity environment. Source: B. Mieremet

The ***high-intensity environment*** is intended to be applied in incorporated municipalities, urban growth boundaries, or "rural areas of more intense development" (RCW 36.70A.070), in order to provide for water-oriented commercial, transportation, and industrial uses, water enjoyment uses, and mixed-use developments that support water-dependent uses. The new guidelines require public access to be maintained wherever feasible. The new guidelines state that full utilization of urban areas should be achieved before the high-intensity environment designation is geographically expanded.

The ***urban conservancy environment*** is intended to protect and restore functions of open space, floodplains, and other sensitive lands where they exist in urban settings. Uses that promote the preservation of open space, water-oriented uses, and mining (where appropriate) may be allowed in this environment.

The ***shoreline residential environment*** is intended to accommodate residential development in incorporated municipalities, within urban growth boundaries, in rural areas of more intense development (RCW 36.70A.070), or in master planned resorts (RCW 36.70A.360).

3.3.2 Summary of General Shoreline Master Program Requirements (WAC 173-26-221)

The new guidelines require the following provisions be applied to coastal resources. They include applications, principles and standards for shoreline areas where these resources may be located or found.

3.3.2.1 Archaeological and Historic Resources

The new guidelines require that permits issued in areas documented to contain archaeological resources must include a site inspection or evaluation by a professional archeologist in coordination with all affected Indian tribes. In addition, developers and property owners are

required to stop work and notify officials if such resources are uncovered during excavation. Archaeological, cultural, and historic resources in shoreline areas must be protected. Assessment and protection measures are expected to add to coastal development costs. These standards are consistent with other laws and ordinances governing preservation of these resources.

3.3.2.2 Critical Areas

Critical areas include the following areas and ecosystems:

- Wetlands
- Areas with a critical recharging effect on aquifers used for potable waters
- Fish and wildlife habitat conservation areas

- Frequently flooded areas
- Geologically hazardous areas

The new guidelines require that critical area shoreline management planning objectives focus on protecting existing ecological functions, ecosystem-wide processes, and restoration of these functions and processes where they are degraded. The regulatory provisions for critical areas are required to promote human uses and values that are compatible with the other objectives of this section, such as public access and aesthetic values, provided they do not result in significant adverse impacts on ecological functions.

Wetlands

The new guidelines require regulations to achieve, at a minimum, no net loss of wetland area and functions, including lost time when the wetland or its buffer does not perform the function. Master programs must require buffer zones around wetlands.

Geologically Hazardous Areas

The new guidelines require development in designated geologically hazardous areas to be regulated in accordance with WAC 365-190-080(4) (B). New developments that require lifetime structural shoreline stabilization are prohibited.

Critical Saltwater Habitats

Critical saltwater habitats are defined to include all kelp beds; eelgrass beds; spawning and holding areas for forage fish such as herring, smelt, and sandlance; commercial and recreational shellfish beds; mudflats; intertidal habitats with vascular plants; and areas with which priority species have a primary association. The new guidelines require structures to generally not intrude into or over critical saltwater habitats, except when required for a public purpose and when ecological functions can be protected. Until an inventory of critical saltwater habitat has been performed, SMPs must condition all over-water and near-shore developments in marine and estuarine waters with the requirement for an inventory of the site and adjacent beach sections.

Critical Freshwater Habitats

The new guidelines define critical freshwater habitats as portions of streams, rivers, wetlands, and lakes, their associated channel migration zones, and designated floodplains. Master programs must, where appropriate, integrate protection of critical freshwater habitat with flood hazard reduction and other river and stream management provisions. No net loss of ecological functions associated with designated stream or river corridors, or their associated hyporheic zone, is permitted.

3.3.2.3 Flood Hazard Reduction

Unless otherwise demonstrated through scientific and technical information, the following areas should not be considered within the channel migration zone: (1) within incorporated municipalities and urban growth areas; (2) areas separated from the active river channel by legally existing artificial channel constraints that limit channel movement; and (3) areas separated from the active channel by a legally existing artificial structure that is likely to restrain channel migration, including transportation facilities, built above or constructed to remain intact through the 100-year flood. In areas outside incorporated municipalities and urban growth areas, channel constraints and flood control structures built below the 100-year flood elevation do not necessarily restrict channel migration and should not be considered to limit the channel migration zone unless demonstrated otherwise using scientific and technical information.
SMPs must:

- Give preference to nonstructural flood hazard reduction measures over structural measures;
- Base SMP flood hazard reduction provisions on applicable watershed management plans, comprehensive flood hazard management plans, and other comprehensive planning efforts, provided that those measures are consistent with the SMA;
- Plan for and facilitate returning river and stream corridors to more natural hydrological conditions, recognizing that seasonal flooding is an essential natural process; and
- Development in floodplains should not significantly or cumulatively increase flood hazard or be inconsistent with a comprehensive flood hazard management plan adopted after 1994 and approved by the WDOE. New development or new uses within shoreline jurisdiction, including the subdivision of land, should not be established when the development or use would require structural flood hazard reduction measures within the channel migration zone or floodway.

The new guidelines state that the following uses and activities may be appropriate and necessary within the channel migration zone or floodway:

- Development in incorporated municipalities and designated urban growth areas, as defined in RCW 36.70A, where existing structures prevent active channel movement and flooding;
- New structural flood hazard reduction measures within shoreline jurisdiction, but only when necessary to protect existing development, only where nonstructural measures are

not feasible, and only when appropriate vegetation conservation actions are undertaken consistent with WAC 173-26-221(5);

- New structural flood hazard reduction measures, but only where placed landward of associated wetlands and designated vegetation conservation areas, except for actions that increase ecological functions, such as wetland restoration;
- New public structural flood hazard reduction measures, such as dikes and levees, if they include public access pathways; and
- Removal of gravel for flood management purposes if it is consistent with an adopted flood hazard reduction plan.

3.3.2.4 Public Access

The new guidelines generally require shoreline development by public entities to include public access measures as part of each development project. SMPs must require dedication and improvement of public access in developments for water-enjoyment, water-related, and non-water dependent uses and for the subdivision of land into more than four parcels. SMPs must establish provisions such as maximum height limits, setbacks, and view corridors to minimize the impacts on existing views from public property or substantial numbers of residences. Where there is an irreconcilable conflict between water-dependent shoreline uses or physical public access and maintenance of views from adjacent properties, water-dependent uses and physical public access have priority.

3.3.2.5 Shoreline Vegetation Conservation

Figure 9. Example of vegetative buffer along braided stream bottom. Source: WDOE

Vegetation conservation does not include those activities covered under the Washington Forest Practices Act, except for conversion to other uses and forest practice activities over which local governments have authority. Like other master program provisions, vegetation conservation standards do not apply retroactively to existing uses and structures, such as existing agricultural practices. Vegetation conservation provisions apply to all other uses, even to those shoreline uses and developments that are exempt from the requirement to obtain a permit. In establishing vegetation conservation regulations, local governments must use available scientific and technical information. Local governments should identify the ecological processes and functions that are important to the local aquatic and terrestrial ecology and conserve sufficient vegetation to maintain them. Vegetated areas along streams that once supported or could support mature trees should be wide enough to facilitate the woody debris recruitment

process. Master programs must establish vegetation conservation standards. Selective pruning of trees for safety and view protection may be allowed, and the removal of noxious weeds should be authorized.

3.3.2.6 Water Quality, Stormwater, and Nonpoint Source Pollution

The new guidelines require SMPs to protect against adverse impacts on the land and its vegetation and wildlife, and on the waters of the State and their aquatic life, through implementation of the following principles:

- Prevent impacts on water quality and stormwater quantity that would result in a net loss of shoreline ecological functions, or a significant impact on aesthetic qualities or recreational opportunities; and
- Ensure mutual consistency between shoreline management provisions and other regulations that address water quality and stormwater quantity, including public health, stormwater, and water discharge standards. The regulations that are most protective of ecological functions shall apply.

3.3.3 Requirements for Shoreline Modifications (WAC 173-26-231)

Shoreline modifications are usually undertaken in support of, or in preparation for, a shoreline use. For example, such projects as fill (a shoreline modification) required for a cargo terminal (an industrial use), or dredging (a shoreline modification) to allow for a marina (a boating facility use). The new guidelines require that structural shoreline modifications be allowed only where they are necessary to support or protect an allowed principle structure or a legally existing shoreline use that is in danger of loss or substantial damage. While accommodating permitted uses, enhancement of impaired ecological functions must be planned where feasible and appropriate.

3.3.3.1 Shoreline Stabilization

Shoreline stabilization is any action taken to address erosion impacts by natural processes such as current, flood, tides, wind, or wave action on shoreline property and dwellings, businesses, or structures. The new guidelines require, to the extent feasible, that new development be located and designed to avoid the need for future shoreline stabilization. SMPs must regulate the subdivision of land to ensure that the lots created do not require shoreline stabilization. New development on steep slopes or bluffs must be set back sufficiently to ensure that shoreline stabilization is unlikely to be necessary during the life of the structure. New development requiring shoreline stabilization that could cause significant impacts on adjacent or down-current properties and shoreline areas should not be allowed. New structural stabilization measures are not allowed, except when necessary (1) to protect existing principal structures; and (2) for the protection of new development and ecological restoration or cleanup projects where nonstructural methods are not feasible or sufficient, and the stabilization structure would not result in a net loss of shoreline ecological functions. When any structural shoreline stabilization measures are necessary, the new guidelines require that:

- The size of stabilization measures be limited to the minimum necessary;
- Publicly financed or subsidized shoreline erosion control measures do not restrict appropriate public access to the shoreline; and
- Adverse impacts on natural sediment conveyance systems (e.g., feeder bluffs) are minimized.

3.3.3.2 Piers and Docks

Figure 10. Example of piers and docks associated with single-family residences. Source: WDOE

The new guidelines require that new piers and docks be allowed only for water-dependent uses or public access. A dock associated with a single-family residence is considered a water-dependent use, provided that it is designed and intended as a facility for access to watercraft. Pier and dock construction must be restricted to the minimum size necessary to meet the needs of the proposed water-dependent use. New pier or dock construction, excluding docks accessory to single-family residences, should be permitted only when the applicant has demonstrated that a specific need exists to support the intended water-dependent uses. New residential development of two or more dwellings must provide for joint use or community dock facilities, when feasible, rather than allow individual docks for each residence. Piers and docks, including those accessory to single-family residences, must be designed and constructed to avoid or, if that is not possible, to minimize and mitigate impacts on ecological functions; critical area resources such as eelgrass beds and fish habitats; and processes such as currents and littoral drift. Structures should be made of materials approved by applicable state agencies.

3.3.3.3 Filling

The new guidelines require that earth fills be located, designed, and constructed to protect shoreline ecological functions and ecosystem-wide processes, including channel migration. Fills waterward of the ordinary high water mark are to be allowed only when necessary to support a water-dependent use, public access, cleanup and disposal of contaminated sediments as part of an interagency environmental cleanup plan, mitigation action, environmental restoration, beach nourishment, or an enhancement project. Fills waterward of the ordinary high water mark for any use except ecological restoration should require a conditional use permit.

3.3.3.4 Breakwaters, Jetties, Groins, and Weirs

The new guidelines require that breakwaters, jetties, groins, and weirs located waterward of the ordinary high water mark be allowed only where necessary to support water-dependent uses, public access, shoreline stabilization, or other specific public purposes. Breakwaters, jetties, groins, weirs, and similar structures should require a conditional use permit, except for those structures installed to protect or restore ecological functions, such as woody debris installed in streams. Breakwaters, jetties, groins, and weirs must be designed to protect critical areas and shall provide for mitigation according to the sequence defined in WAC 173-26-201(2)(f).

3.3.3.5 Beach and Dunes Management

The new guidelines require that coastal master programs institute development setbacks from the shoreline to prevent impacts on the natural, functional, ecological, and aesthetic qualities of dunes. Coastal dunes can be modified consistent with state and federal flood protection standards, only without net loss of shoreline ecological functions or significant adverse impact on other shoreline resources and values. Dunes may be modified to protect views of the water only on properties subdivided and developed prior to adoption of the master program, where the view is completely obstructed for residences or water-enjoyment uses, and where the dunes did not obstruct views at the time of original occupancy.

3.3.3.6 Dredging and Dredge Material Disposal

The new guidelines recommend that new development be sited and designed to avoid or minimize the need for new and maintenance dredging. Dredging for the purpose of establishing, expanding, or relocating navigation channels and basins should be allowed only when significant ecological impacts are minimized and when mitigation is provided. Maintenance dredging of established navigation channels and basins should be restricted to previously dredged and/or existing authorized location, depth, and width unless necessary to improve navigation. Dredging waterward of the ordinary high-water mark for the primary purpose of obtaining fill material cannot be allowed, except when the material is necessary for the restoration of ecological functions. Master programs should include provisions for uses of suitable dredge material that benefit shoreline resources. Disposal of dredge material into river channel migration zones within shoreline jurisdiction, but outside harbor areas, must be discouraged. In the limited instances where it is allowed, such disposal must require a conditional use permit.

3.3.3.7 Shoreline Habitat and Natural Systems Enhancement Projects

The new guidelines recommend that master programs include provisions fostering habitat and natural system enhancement projects. Master program provisions should ensure that the projects address legitimate restoration needs and priorities and facilitate implementation of the restoration plan developed pursuant to WAC 173-26-201(2)(f).

3.3.4 Shoreline Uses (WAC 173-26-241)

The new guidelines require that preference be given to uses that are consistent with the control of pollution and prevention of damage to the natural environment or are unique to or dependent to water-related uses and water-enjoyment uses. Master programs must establish a comprehensive program of use regulations for shorelines and must incorporate provisions for specific uses to ensure consistency with the intent of the statute.

3.3.4.1 Agriculture

The new guidelines do not allow master programs to require modification of or limit existing agricultural activities occurring on agricultural lands. Master programs must include provisions addressing new agricultural activities on land not meeting the definition of agricultural land, conversion of agricultural lands to other uses, and other development on agricultural land that does not meet the definition of agricultural activities. Master programs must include provisions to ensure that new agricultural activities are consistent with underlying environment designations, are located and designed to ensure no net loss of ecological functions, and do not have a significant adverse impact on other shoreline resources and values. Measures appropriate to meet this requirement include provisions addressing water quality protection and vegetation conservation.

3.3.4.2 Aquaculture

Aquaculture is dependent on the use of the water area and, when consistent with control of pollution and prevention of damage to the environment, is a preferred use of the water area. Local governments should provide limits and conditions to ensure appropriate, compatible types of aquaculture for the local conditions. Aquaculture should not be permitted in areas where it would adversely impact eelgrass and macroalgae, or significantly conflict with navigation and other water-dependent uses. Aquaculture facilities should be designed and located so as not to spread disease to native aquatic life, establish new nonnative species that cause significant ecological impacts, or significantly affect the aesthetic qualities of the shoreline.

3.3.4.3 Archaeological and Historic Resources

The new guidelines require local SMPs to:

- Require developers and property owners to immediately stop work and notify appropriate officials if archaeological resources are uncovered during excavation; and
- Require permits issued in areas documented to contain archaeological resources to require a site inspection or evaluation by a professional archaeologist in coordination with affected Indian tribes.

3.3.4.4 Boating Facilities

The new guidelines require SMPs to contain provisions assuring no net loss of ecological functions as a result of developing boating facilities while providing the boating public recreational opportunities on waters of the state.

SMPs should, at a minimum, contain provisions to:

- Ensure that boating facilities are located only at sites with suitable environmental conditions, shoreline configuration, access, and neighboring uses;
- Ensure that facilities meet health, safety, and welfare requirements;
- Avoid, or, if that is not possible, mitigate aesthetic impacts;
- Require public access in new marinas;
- Limit the impacts to shoreline resources from boaters living in their vessels;
- Protect the rights of navigation; and
- Restrict vessels from extended mooring on waters of the state except as allowed by applicable state regulations.

3.3.4.5 Commercial Development

The new guidelines require master programs to give preference to: (1) water-dependent commercial uses over non-water-dependent commercial uses; and (2) water-related and water-enjoyment commercial uses over non-water-oriented commercial uses. Master programs must ensure that commercial uses that may be authorized as water-related or water-enjoyment be required to incorporate appropriate design and operational elements so that they function as water-related or water-enjoyment uses.

Master programs should require that public access and ecological restoration are considered as potential mitigation of impacts to shoreline resources and values for all water-related or water-dependent commercial development unless such improvements are demonstrated to be infeasible or inappropriate. Where commercial use is proposed on land in public ownership, public access should be required. Master programs should prohibit non-water-oriented commercial uses on the shoreline unless the project provides a significant public benefit and is either part of a mixed-use project that includes water-dependent uses or is on a site where navigability is severely limited. Non-water-dependent commercial uses should generally not be allowed over water. Master programs must ensure resources and values such as navigation, recreation and public access.

3.3.4.6 Forest Practices

In general, forestry is managed by standards found in the Washington Forest Practices Act. However, where shorelines are being converted or are expected to be converted to non-forest uses, SMPs must establish provisions to ensure that forest practices do not result in significant adverse impacts on other shoreline uses provided for in RCW 90.58.020 such as navigation, recreation, and public access. SMPs must implement the provisions of RCW 90.58.150 regarding selective removal of timber harvest on shorelines of statewide significance. Exceptions to this standard are to be allowed only through issuance of a conditional use permit. Lands designated

as *forest lands* must be designated in a manner consistent with the natural or the rural conservancy environment designation pursuant to RCW 36.70A.170.

3.3.4.7 Industry

The new guidelines require SMPs give preference to: (1) water-dependent industrial uses over non-water-dependent industrial uses; and (2) water-related industrial uses over non-water-oriented industrial uses. Lands designated for industrial development should not include shoreline areas with severe environmental limitations, such as critical areas. SMPs should require that industrial development consider incorporating public access as mitigation for impacts to shoreline resources and values unless public access cannot be provided in a manner that does not result in significant interference with operations or hazards to life or property, as provided in WAC 173-26-221(4).

When industrial use is proposed on land in public ownership, public access should be required. Industrial development and redevelopment should be encouraged to locate where environmental cleanup and restoration of the shoreline area can be incorporated. New nonwater-oriented industrial development should be prohibited on shorelines, except when: (1) the use is part of a mixed-use project that includes water-dependent uses; (2) navigability is severely limited; and (3) only if the use is accompanied by a substantial public benefit such as public access or ecological restoration. New non-water-oriented industrial development may also be allowed if the site is physically separated from the shoreline by another property or public right of way.

3.3.4.8 In-Stream Structural Uses

The new guidelines allow in-stream structures, but such structures must provide for the protection and preservation of ecosystem-wide processes, ecological functions, and cultural resources, including but not limited to fish and fish passage, wildlife and water resources, shoreline critical areas, hydrogeological processes, and natural scenic vistas. The location and planning of in-stream structures must give due consideration to the full range of public interests, watershed functions and processes, and environmental concerns, with special emphasis on protecting and restoring priority habitats and species.

3.3.4.9 Mining

An SMP program should: (1) identify where mining may be an appropriate use of the shoreline, and; (2) ensure that when mining or its associated activities in the shoreline are authorized, those activities are properly sited, designed, conducted, and completed so that no net loss of ecological functions occurs. Mining waterward of the ordinary high water mark of a river must not be permitted unless removal of sand, gravel, or other materials at the specific location does not adversely affect the natural processes of gravel transportation for the river system as a whole. In considering renewal, extension, or reauthorization of gravel bar and other in-channel mining operations in locations where they have previously been conducted, local government must require compliance with the new guidelines to the extent that no such review has previously been conducted.

3.3.4.10 Recreational Development

Recreational development must primarily relate to access, enjoyment, and use of the water and shorelines of the state. Commercial recreational development must comply with commercial standards discussed above. Recreational development must be consistent with the shoreline designation and must be designed so that no net loss of ecological functions results. The SMP must mandate consideration of recreational uses on state-owned shorelines. For jurisdictions planning under the state GMA, the SMP recreation policies shall be consistent with growth projections and level of service standards of the applicable comprehensive plan.

3.3.4.11 Residential Development

Local SMPs must provide standards for residential development, including regulations for setbacks and buffer areas, density, shoreline armoring, vegetation conservation requirements, and where applicable, onsite sewage system standards. New overwater or floating residences are prohibited, but existing overwater or floating homes should be accommodated. New development should be located so as not require shoreline stabilization or to endanger residents from flooding, erosion, or unstable slopes. Multifamily residential development should provide public or community access to the shoreline.

3.3.4.12 Transportation and Parking

Transportation uses must be accommodated to provide safe, reasonable, and adequate circulation to shorelines. Transportation uses must be consistent with the standards of applicable shoreline environments and be compatible with existing and proposed shoreline uses. Circulation plans must accommodate pedestrians, bicycles, and public transit. Transportation and parking facilities must have the least possible adverse effect on unique or fragile shoreline features, result in no net loss of shoreline ecological functions, and avoid adversely affecting existing or planned water-dependent uses. Parking shall not be a preferred use in the shoreline and shall only be allowed as necessary to support authorized uses. Visual and environmental impacts of parking facilities shall be minimized.

3.3.4.13 Utilities

These standards apply only to production, storage, and conveyance systems, and not onsite systems serving an individual use. Utility production and processing facilities that are nonwater-oriented shall not be allowed in the shoreline unless it can be demonstrated that no other feasible option is available. Transmission or conveyance facilities shall be located outside of shorelines where feasible. Utilities shall be located in public rights-of-way whenever possible. Development of utilities on tidelands should be discouraged.

3.3.5 Shorelines of Statewide Significance (WAC 173-26-251)

The guidelines place special recognition and special requirements on those shorelines designated to be of statewide significance (WAC 173-26-251). It requires that preference be given to

particular uses in order to recognize and protect statewide interest over local interest and to preserve the natural character of the shoreline among others that have previously been discussed.

4. ALTERNATIVES

The proposed federal action is OCRM's approval of the revisions to statute WAC 173-26 as amendments to the WCZMP pursuant to OCRM regulations on Amendments to Approved Management Programs (15 C.F.R. part 923, subpart H). When an amendment is submitted, OCRM must review the request to determine if the federally-approved management program as changed by the amendment request will still constitute an approvable program. This requires a preliminary determination that the WCZMP, as amended by the new statute will still meet the substantive requirements of the CZMA in five categories:

1) Uses subject to management (15 C.F.R. part 923, subpart B)

2) Special Management Areas (15 C.F.R. part 923, subpart C)

3) Boundaries (15 C.F.R. part 923, subpart D)

4) Authorities and Organization (15 C.F.R. part 923, subpart E)

5) Coordination, Public Involvement and National Interest (15 C.F.R. part 923, subpart F)

The preliminary Findings of Approvability have been made and are included in Appendix F. These Findings provide a detailed analysis of approvability of this amendment.

There are three major alternatives for consideration. First, OCRM can approve the WCZMP program change amendment submitted in October 2004, thereby incorporating the amendment into the federally-approved WCZMP. Second, OCRM could find that the WCZMP, as revised by the SMA guidelines, no longer constitutes an approvable program under the CZMA, and deny the program change. Third is the no action alternative, which would occur if OCRM did not act on a State's proposed amendment to a coastal management plan and would result in approval of the proposed amendment by operation of 16 U.S.C. 1455(e)(2). OCRM's preferred alternative is to accept the WDOE's submission with the revised WAC 173-26 statutes as constituting reasonable and appropriate changes that will allow the WCZMP to continue to meet the requirements of the federal CZMA. The three available alternatives are discussed in more detail below, along with a short description of alternatives considered, but denied by Washington as part of their SEPA process.

4.1 Alternative 1: Approve Washington's Request to Incorporate WAC 173-26 (the Guidelines) as an Amendment to the WCZMP (Preferred Alternative)

Alternative 1, OCRM's preferred alternative, is the approval and incorporation of the revised SMA guidelines into the WCZMP. This option will permit WDOE to provide federal funding to local governments participating in the WCZMP and updating their local SMPs using the new

requirements and standards of the guidelines. Additionally, federal consistency provisions of the CZMA will apply once SMPs have been modified and approved.

4.2 Alternative 2: Deny Washington's amendments

Alternative 2 is denial of Washington's proposed amendments, based on a finding that approval of the amendment would not satisfy the requirements of the CZMA or other federal law. As a result, the State would not have a federally-approved coastal management plan, and would not be eligible to receive CZMA funding to implement the WCZMP, nor would federal consistency with the WCZMP be required. The revised WCZMP would continue in force under state law, but the State would need to amend the WCZMP and resubmit it for review and approval under the CZMA to continue to participate in the federal CZMA program. Washington could, of course, potentially amend the WCZMP to seek federal approval in any number of ways, including the alternatives it considered during the development of the new guidelines. These alternatives are described below for context, but are not analyzed in detail because it is purely speculative whether or how the State would choose to amend the WCZMP to seek federal approval under the CZMA.

4.3 Alternative 3: No Action

The no action alternative, required to be analyzed in an EIS by 40 C.F.R. 1502.14(d) , is the most likely outcome that can be expected to occur in the absence of agency action, and is described for comparison with the proposed action and any alternatives. Under the CZMA, if OCRM did not act on a state's proposed amendment to a coastal management plan, the amendment would eventually be conclusively presumed as approved. 16 U.S.C. 1455(e)(2). Thus, the same effects would occur as in Alternative 1, approval of Washington's amendments.

4.4 Alternatives Reviewed by Washington State Prior to Submission of Revision Request

Because of the nature of this federal action, OCRM is limited in the type of alternatives that can be considered. In Washington, in order to amend its program, the State was required as part of its program development process to generate alternatives to be considered and reviewed by all concerned parties, including federal agencies and the public. The process also provided an opportunity for comment at an early stage. However, after this process, laws, regulations, guidelines, and procedures are often approved by the state legislature or other governing bodies which can make it difficult for OCRM to consider or to suggest revisions. Consequently, it is not productive to consider numerous potential changes to policies or guidelines at this stage of the review process. However, as part of the current state program change process, Washington did consider five additional alternatives that were reviewed by WDOE in the development of the new guidelines. Four of the state's alternatives were found to not be acceptable, therefore no further environmental assessment was conducted on these alternatives. Since the program change that was submitted to OCRM was selected as part of this process over the other four alternatives, a brief discussion of the four alternatives considered by the State, but ultimately rejected is provided below for context. These alternatives are more thoroughly described in the WDOE Supplemental FEIS at: http://www.ecy.wa.gov/biblio/0306006.html.

4.4.1 State Alternative A: No Action – Continued Implementation of Original WAC 173-16

For purposes of environmental impact analysis, continuing to use the original SMP Guidelines rule (WAC 173-16) was considered to be the state 'no action alternative.' This alternative was rejected for several reasons. First, the original guidelines were no longer providing an adequate level of environmental protection to meet the intent of the SMA and based on science dating from the 1960's with respect to large scale impacts but not cumulative impacts of many small scale development projects. Second, the State needed to integrate the requirements of the SMA with the GMA; the original guidelines did not acknowledge the policies of the GMA, and inconsistencies were beginning to occur, as well as inconsistencies with other local, state, and federal statutes. Other considerations included the lessons learned through implementation of SMA, guidelines, and SMPs over the years based on new legislative requirements (GMA, flood prevention), SHB and court decisions, and the increasing size and number of development projects, which could not be adequately addressed by the SMP guidelines. Furthermore, the state legislature requires WDOE to update the guidelines at least once every five years (ESHB 1724). For these many reasons, guideline change was inevitable and the status quo could not be considered an acceptable alternative.

4.4.2 State Alternative B: Prescriptive Standards

A special Shoreline Guidelines Commission (1998-1999) considered developing new guidelines with specific prescriptive standards that would result in a rule with specific numerical standards, effective statewide, and set minimum requirements for local governments to achieve through their SMPs for a full range of shoreline uses. Prescriptive standards would provide highly specific direction to local governments with a strict test for compliance. Prescriptive standards could be an effective mechanism in achieving species recovery programs and meeting the objectives of the state's salmon recovery program. Reasons for rejection this alternative included lack of consensus or broad support, as well as the potential reduction in local government autonomy and authority to prepare individual SMPs because of state standards.

4.4.3 State Alternative C: General Policy Guidance

The Shoreline Guidelines Commission also considered using a general policy approach that would provide guidance to local governments and flexibility to implement individual SMPs at the local level. Policy level guidelines would direct local jurisdictions to protect environmental functions in shoreline areas. It would provide local governments with the ability and the direction to integrate their planning efforts (e.g., SMA/GMA integration), reduce unnecessary duplication in the planning process, and develop consistent language for the local plans. However, this alternative was also rejected for several reasons, including concern that policy oriented guidelines would not include standards and a lesser level of certainty of environmental protection could occur; the guidelines would not include tests for compliance; there may be a failure of consistent management between neighboring jurisdictions which could minimize the effectiveness of management for system-wide and watershed shoreline resources and the

statewide approach to salmon recovery; and finally, there would be a greater strain on state and local agencies to produce individualized SMPs.

4.4.4 State Alternative D: Dual Path Performance Standards

In the winter of 1999, the status of several of Washington's salmonid species (e.g., Coho, Chinook, Bull nose trout) had become so precarious that they were in the process of being listed as threatened species under the federal ESA and also listed under the provisions of the Washington law. The WDOE amended WAC 173-26 in 2000 by incorporating two new sections known as Part III and Part IV (also known as Path A and Path B), each containing new guidelines for SMPs, and voided the original SMP guidelines in WAC 173-16. These were dual paths to achieving the same results under the SMA. Part III set forth "mandatory minimum procedures and performance based standards, but would allow local governments the flexibility to decide how to achieve the performance standards." Part IV, on the other hand, provided greater specificity to aid local governments in developing a master program that achieved the performance standards. All local governments required by the SMA to adopt a SMP would have been required to amend their existing SMP in accordance with Part III, or alternatively, at their choice, under Part IV. The Guidelines Commission determined that additional specific standards under Part IV would be beneficial to local governments, which would encounter water habitats important to the listed species and thereby hopefully avoid potential development problems when meeting federal or state requirements for listed species and avoid adverse taking issues.

There were several reasons for the rejection of this alternative, which was WDOE's preferred alternative. They included: (1) an appeal of the new guidelines to the SHB by a coalition of business organizations, cities and counties in November of 2000; (2) a finding of the SHB in August 2001 that Ecology failed to properly conduct the review process and that certain provisions of Path B exceeded statutory authority, which invalidated the new guidelines (but did not invalidate WDOE's repeal of the previous guidelines (ACC 172-16) – thus leaving the state with no shoreline guidelines, although local master programs would remain in effect); and (3) a negotiated settlement from September 2001 through December 2002, that included new guidelines for proposed rulemaking.

In conclusion, WDOE was legally prevented from implementing this alternative. The guidelines represented minimum requirements for local implementation, and other provisions of state law encourage development of standards that would meet ESA provisions such as the Watersheds Planning Act. Several counties like King County have been working hard through Water Resource Inventory Areas (WRIAs) to meet ESA recommendations by the Services in order to avoid jeopardy opinions. Nothing precludes local governments from implementing stronger standards if local conditions warrant and is permitted by law and they try to obtain incidental take authorizations for a number of activities.[2]

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[2] (See: http://dnr.metrokc.gov/Wrias/8/chinook-plan/volumeIII/app-e-assurances.pdf)

5. THE AFFECTED ENVIRONMENT

5.1 General Description

The boundaries of Washington's coastal zone extend from the seaward extent of the state's territorial sea (3 nautical miles) to the landward extent of the 15 coastal counties. While Washington's SMA guidelines apply to all shorelands of the state in 39 counties and 216 cities, only those located along the shores and up the rivers of the 15 coastal counties (and 115 cities/towns) are included for purposes of the WCZMP.

Within this land/water boundary are areas of direct control and areas that are less managed in SMPs (i.e., an activity further inland may still have negative effects on coastal waters and are regulated by certain state authorities (air and water quality, for example)) for consistency with the state goals.

The SMA specifically defines the area of direct control.

The SMA extends shoreline management to "shorelines of the state" which are defined as:

RCW 90.58.030 (2)

(c) "Shorelines of the state" are the total of all "shorelines" and "shorelines of state-wide significance" within the state;

(d) "Shorelines" means all of the water areas of the state, including reservoirs, and their associated shorelands, together with the lands underlying them; except

(i) shorelines of statewide significance;

(ii) shorelines on segments of streams upstream of a point where the mean annual flow is twenty cubic feet per second or less and the wetlands associated with such upstream segments; and

(iii) shorelines on lakes less than twenty acres in size and wetlands associated with such small lakes;

(e) "Shorelines of state-wide significance" means the following shorelines of the state:

(i) The area between the ordinary high water mark and the western boundary of the state from Cape Disappointment on the south to Cape Flattery on the north, including harbors, bays, estuaries, and inlets;

(ii) Those areas of Puget Sound and adjacent salt waters and the Strait of Juan de Fuca between the ordinary high water mark and the line of extreme low tide as follows:

(A) Nisqually Delta—from DeWolf Bight to Tatsolo Point,

(B) Birch Bay—from Point Whitehorn to Birch Point,

(C) Hood Canal—from Tala Point to Foulweather Bluff,

(D) Skagit Bay and adjacent area—from Brown Point to Yokeko Point, and

(E) Padilla Bay—from March Point to William Point;

(iii) Those areas of Puget Sound and the Strait of Juan de Fuca and adjacent salt waters north to the Canadian line and lying seaward from the line of extreme low tide;

(iv) Those lakes, whether natural, artificial, or a combination thereof, with a surface acreage of one thousand acres or more measured at the ordinary high water mark;

(v) Those natural rivers or segments thereof as follows:

(A) Any west of the crest of the Cascade range downstream of a point where the mean annual flow is measured at one thousand cubic feet per second or more,

(B) Any east of the crest of the Cascade range downstream of a point where the annual flow is measured at two hundred cubic feet per second or more, or those portions of rivers east of the crest of the Cascade range downstream from the first three hundred square miles of drainage area, whichever is longer;

(vi) Those shorelands associated with (i), (ii), (iv), and (v) of this subsection (2)(e);

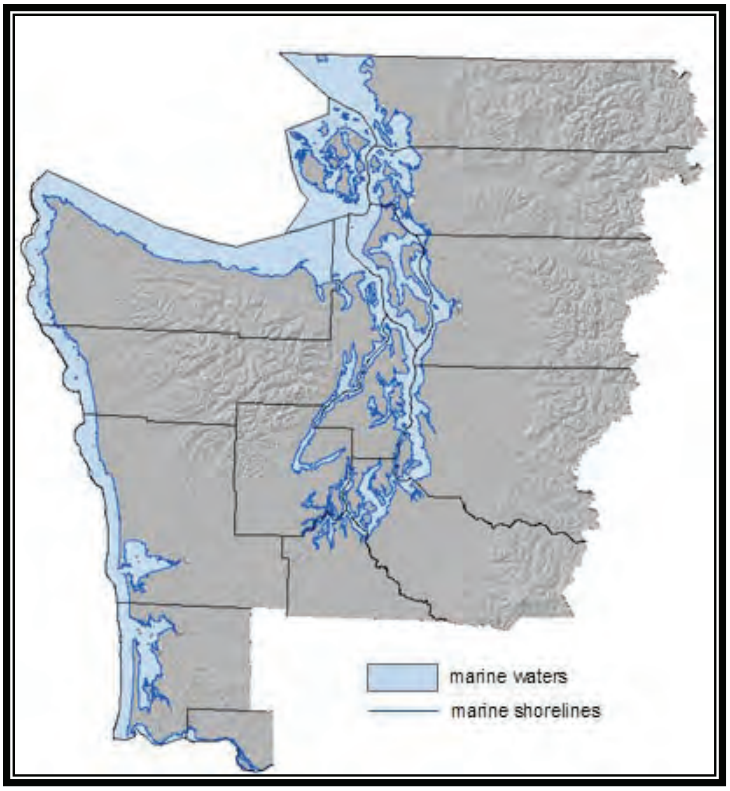


Figure 11. Washington's marine coastline is outlined in blue to include Washington's territorial sea jurisdiction. (Source: WDOE)

(f) "Shorelands" or "shoreland areas" means those lands extending landward for two hundred feet in all directions as measured on a horizontal plane from the ordinary high water mark; floodways and contiguous floodplain areas landward two hundred feet from such floodways; and all wetlands and river deltas associated with the streams, lakes, and tidal waters which are subject to the provisions of this chapter; the same to be designated as to location by the WDOE. Any county or city may determine that portion of a one-hundred-year-flood plain to be included in its master program as long as such portion includes, as a minimum, the floodway and the adjacent land extending landward two hundred feet there from.
(*See*: http://www.ecy.wa.gov/programs/sea/SMA/st_guide/jurisdiction/index.html for further description of the boundaries).

This includes approximately 2,763 miles of marine shorelines that encompasses approximately 105 square miles (to include the 200 ft. shorelands). Rivers and lakes may be included up to the eastern most boundary of the coastal counties. Within this large area, lands excluded from the coastal zone include federal lands and Tribal lands forming a checkerboard of included/excluded lands that are addressed through the WCZMP.

Figures 4 through 10 illustrate some of the complexities of state shorelines, the degree of difficulty local master programs must deal with regarding rivers, lakes, and watersheds that transcend their authorized area of governance, and how the potential impacts associated with development in one area can have consequences for other important areas. Many local

governments have included WRIAs as a useful planning area to deal with issues like water quality, fishery recovery, restoration, and other resource issues.

Figure 12 shows the number of WRIAs that are contained in the coastal zone to include the major rivers and streams.

Figure 12. Outline of Water Resource Inventory Areas used as planning units under the Watershed Planning Act. (Source: WDOE)

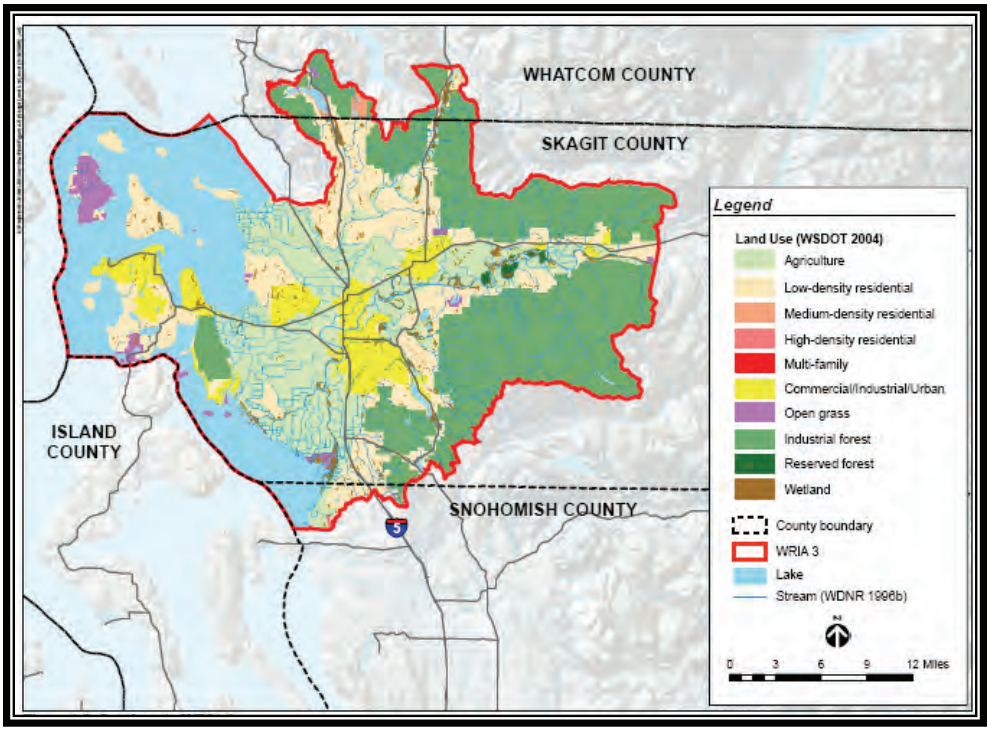
Figure 12 is a good example of how WRIAs transcend county boundaries. WRIA 3 includes Skagit County, as well as Whatcom and Snohomish Counties in its drainage basin. Furthermore, Skagit County must deal with issues from WRIA 4 and WRIA 5.

Figure 13 shows the major types of land use classifications (i.e., forests, agriculture, residential, business, etc.) used for the SMA.

The coastal atlases contain additional maps marking significant resources (i.e., wetlands, submerged vegetation, fish and wildlife habitats including listed species) and development concern issues (i.e., soils, slope stability, land uses) that must be taken into consideration by local planners and managers. Notwithstanding the vast amounts of data that have been collected, there are still significant data gaps that must be filled.

A more specific description of the coastal zone and its resources can be found in the WCZMP, Chapter 2- Washington's Coastal Zone (pages 17-60) at: http://www.ecy.wa.gov/pubs/0006029.pdf . The following provides a brief overview of the environment in western coastal Washington.

Figure 13 illustrates the number of different land use zones identified in WRIA 3. Notice residential development moving into the industrial forest lands.



5.2 Physical Characteristics

5.2.1 Physiography: Soil, Beaches and Dunes, Erosion, Geologically Hazardous Areas, and Flood Hazard Areas

The Washington coastal zone contains four major geomorphic regions. The narrow, north-south trending, low-lying Pacific Ocean coast is bordered on the east by the Coast Range comprising, from north to south, the Olympic Mountains, the Black Hills, and the Willapa Hills. The Puget Sound basin is located north and east of the Olympic Mountains and Black Hills (located south of Aberdeen). The Puget Sound basin is bordered on the east by the Cascade Range. Elevations in the coastal zone region range from sea level to 2,428 meters (7,966 feet) in the Coast Range and 4,392 meters (14,410 feet) in the Cascade Range. However, most of the Olympic Mountains and Cascade Range, including these highest elevations, are located on national forest and national park lands and therefore are not under the jurisdiction of the Coastal Zone Management Program. Severe topography, limited soil development, and large areas of exposed bedrock characterize the two mountain ranges.

By contrast, the Pacific Ocean soils are underlain by thick sequences of primarily unconsolidated sediments eroded from the surrounding mountains. The substantial horizontal and vertical variation in compactness, grain size distribution, and other characteristics of these sediments profoundly affect surface and ground water flow, location and type of mineral resource extraction activities, urban development patterns, and the distribution of natural hazards such as landslides. The Pacific Ocean coast, geomorphologically the most energetic part of the coastal zone's marine shoreline, consists of: (1) a southern segment from Cape Disappointment on the south to Point Grenville on the north (approximately 20 miles north of the north end of Grays Harbor); and (2) a northern segment dominated by erosion by erosion from Point Grenville on the south to Cape Flattery on the north (Galster 1989).

The southern segment, most of which is privately owned and falls under coastal zone jurisdiction, is characterized by barrier beaches and two major embayments (Grays Harbor and Willapa Bay) that serve as sinks for sediment carried north from the mouth of the Columbia River (Galster 1989). The northern segment, which lies within Olympic National Park, three national wildlife refuges (Copalis, Quillayute Needles, and Flattery Rocks), and five Indian reservations (Quinault, Hoh, Quileute, Ozette, and Makah), is characterized by near shore bluffs, sea stacks, and other erosional landforms. Major rivers draining from the Olympic Range into the Pacific Ocean include the Willapa, Chehalis, Humptulips, Quinault,

Figure 14. Barrier beach and dune system with public access features along Ocean Shores in Grays Harbor (WDOE)

Queets, Hoh, and Quillayute. These rivers are supported by snow and glacier melts in the upper basins and by ground water recharge in the lower reaches of the basin.

Within the Puget Sound basin, the Strait of Juan de Fuca exhibits a mix of erosional and depositional features. Erosion dominates the western portion of the strait while a mix of erosional and depositional landforms dominate the eastern half. The eastern half is characterized by two lengthy accretionary barrier beaches, Ediz Hook at Port Angeles and Dungeness Spit north of Sequim, along with extensive stretches of near shore bluffs. The inland waters of the Puget Sound basin, geomorphologically the least energetic part of the coastal zone's marine shoreline, exhibit a mix of erosional and depositional landforms. Most of the erosion occurs through the undermining of near-shore bluffs by wave action with resultant land sliding and sloughing (Galster 1989). In the 1980s, Downing (1983) estimated that approximately one-third of the Puget Sound basin shoreline was erosional, another third depositional, and the last third either modified or neutral.

The complex arrangement of embayments comprising the inner Puget Sound basin, the widely varying shoreline aspects, fetches (distances wind can travel uninterrupted over water), and quantities of available sediment lead to complex patterns of erosion and deposition.

5.2.2 Aquatic Ecosystems: Drainage, Critical Saltwater and Freshwater Habitats, Wetlands, and Water Quality

Major rivers that drain to the Puget Sound basin originate from the Cascade and Olympic Mountains and include the Hoko, Lyre, Elwha, and Dungeness rivers which drain into the Strait of Juan de Fuca and the Nooksack, Skagit, Snohomish, Snoqualmie, Green/Duwamish, White/Puyallup, and Union rivers, which drain into the inland portion of the basin. These rivers are supported by snow and glacial melt in the upper basins and by ground water recharge in the lower reaches of the basin. From more than 10,000 rivers and streams, approximately 39 million acre-feet of freshwater enters Puget Sound basin annually (Ecology 2001a).

Nearly all lakes in Puget Sound basin, from sea level to timberline, are glacial products. Approximately 3,000 lakes were formed in western Washington after glacial recedence, of which 1,567 are above 2,500 feet and are classified as *high lakes* (Kruckeberg 1991). Lakes in the lowlands tend to be larger, such as Washington and Crescent Lake, both formed when glaciers eroded large, deep valleys in the landscape. The quality of aquatic life in lakes depends on three critical attributes fluctuating over time and aquatic space: light, temperature, and nutrients. The nutrient status is the basis for biological classifications of lakes; lakes are either nutrient-poor (oligotrophic, little nourished) or nutrient rich (eutrophic, well-nourished), with gradations in between these classifications. High montane lakes tend to be oligotrophic, fostering cold-water fish such as salmonids (including trout). Low elevation lakes may have been oligotrophic shortly after deglaciation, but eutrophication due to natural (mineral cycling) and human-induced (i.e., nitrogen and phosphorous) causes have changed these lakes.

Many wetlands occur within the riparian network of Puget Sound basin, mostly within the shoreline regions of the ocean, streams, and lakes. These wetlands range from headwater freshwater wetlands in the upper watershed to large estuarine wetlands at the base of the

watershed. Wetlands play a vital role in maintaining the ecological processes of the coastal zone hydrologic system by providing flood control, base flow to streams and lakes, water quality improvement, nutrient export to adjacent waters, and critical fish and wildlife habitat, particularly for salmonid rearing in estuaries. Because wetlands contain vegetation, biofiltration and bioconversion of nutrients typically occurs, as well as eutrophication.

Estimates of pre-settlement wetland acreage in Washington range from 1.17 to 1.53 million acres, depending on the historical information and research assumptions used (Canning and Stevens, 1989; Dahl, 1990; WDOE, 1992b). Based on a 1988 estimate by the FWS, about 20 to 39 percent of Washington's wetlands were lost during the past two centuries. Other estimates place the loss as high as 50 percent, and some urbanized areas of the Puget Sound area experienced losses from 70 to 100 percent. Estimates of continuing wetland loss range from 700 to 2,000 acres per year. In addition, most of the State's remaining wetlands have been significantly degraded (WDOE, 1992b, d). The principal historic causes of wetland loss and degradation were the expansion of agriculture and the siting of ports and industrial facilities. The major causes of continuing loss and degradation of wetlands are urban expansion, forestry and agricultural practices, and the invasion of exotic plants and animals (Canning and Stevens, 1989; WDOE, 1992b, d).

Surface water quality within the Washington coastal zone is generally good; however, in particular areas water quality is degraded due to human activity and natural conditions (Ecology 1998a). Because of degraded water quality, numerous rivers and streams in the coastal zone are included on the WDOE's 303(d) list of water quality impaired or threatened water bodies. DOE rates water quality using these parameters: temperature, dissolved oxygen, fecal coliform bacteria, ammonia-nitrogen, and 5-day biochemical oxygen demand (BOD). The State's 1998 303(d) list includes the following major rivers: the Nooksack, Skagit, Snohomish, Snoqualmie, Green/Duwamish, White/Puyallup, Union, Willapa, and Chehalis.

A simplified overview of the food web within aquatic ecosystems characterizes the fauna within

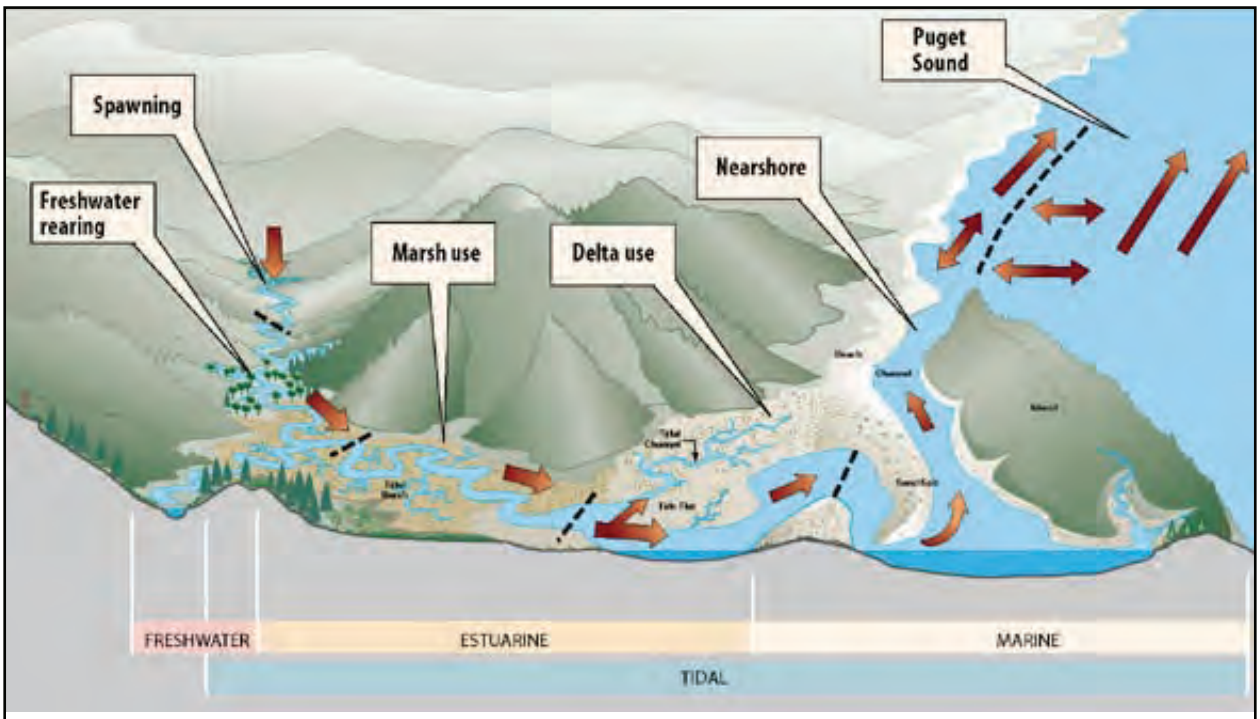


Figure 15. Diagram of shoreline and upper watershed environments utilized by anadromous fish and illustrates the need for comprehensive planning and management when dealing with habitat protection.

these systems. Primary producers are phytoplankton and green plant litter, which are consumed by micro fauna or invertebrates (small crustaceans), which in turn are consumed by vertebrate species, such as mollusks, marine and freshwater shellfish, oysters, bottom fish, smelt, trout, salmon, and marine mammals. Common fish species that are dependent upon both the marine and freshwater systems in Puget Sound basin include salmon, trout, and eel species.

Waterfowl including shorebirds, snow geese, trumpeter swans, and Canada geese, depend on these aquatic ecosystems for nesting, foraging, and refuge. Eagles are also dependent on marine and freshwater systems for their primary food source, which includes fish found throughout the lowland coastal region of the Puget Sound basin. Fragmentation and disturbance of aquatic habitats have caused the decline of several fish, mammal, and bird species in the region, resulting in ESA listings.

5.2.3 Terrestrial Ecosystems; Vegetative Zones and Forests

5.2.3.1 Nearshore Vegetation

Aquatic vegetation is recognized to be important fish and wildlife habitat by ecologists and in regulatory policy. Table 3 summarizes Washington *Shore Zone Inventory* data to show the relative abundance of four types of shoreline vegetation that affect habitat condition.

PERCENT OF SHORELINE WITH AQUATIC VEGETATION

County Name	Total Miles	Eelgrass	Floating Kelp	Non-floating Kelp	Sargassum
Clallum	254	20%	40%	80%	1%
Grays Harbor	187	5%	>1%	6%	>1%
Island	214	63%	10%	18%	8%
Jefferson	254	58%	7%	33%	18%
King	123	62%	13%	27%	25%
Kitsap	254	48%	>1%	21%	21%
Mason	232	28%	>1%	24%	33%
Pacific	276	22%	>1%	1%	>1%
Pierce	239	26%	7%	44%	19%
San Juan	408	41%	31%	63%	47%
Skagit	229	51%	12%	26%	15%
Snohomish	133	22%	1%	1%	3%
Thurston	118	4%	>1%	24%	4%
Whatcom	147	55%	7%	18%	34%
Total	**3067**	**37%**	**11%**	**31%**	**18%**

Table 3. Percentage of Aquatic Vegetation Along Coastal Shorelines in Washington State (By county). Source: Washington Department of Natural Resources (WDNR).

Eelgrass beds (*zostera marina* and *Zostera japonica*) occur along 37 percent of shorelines. Island, King, Whatcom, Kitsap and Skagit Counties have the highest percentage of eelgrass. Eelgrass is not common in South Puget Sound and it does not occur in the extreme reaches, including Budd Inlet, Eld Inlet and Totten Inlet. While this data provides a useful snapshot of

eelgrass distribution, it cannot address temporal trends in eelgrass distribution and abundance. A separate monitoring project within the Nearshore Habitat Program monitors temporal trends in eelgrass beds.

Kelp beds are important nearshore habitats that support commercial and sport fish, invertebrates, marine mammals and marine birds. The *ShoreZone Inventory* shows very different patterns in the distribution of floating kelp (*Macrocystis integrifolia* and *Nereocystis leutkana*) and other non-floating kelp species (*Laminaria spp., Egregia menziesii* and other species). Statewide, shorelines with floating kelp are less common (11 percent) than non-floating kelp (31 percent). Floating kelp is most common in rocky, high-energy environments, corresponding to high percentages of this habitat in Clallum and San Juan Counties. In Jefferson County, floating kelp is common along the rocky outer coast headlands and around Port Townsend, but it is rare in Hood Canal. Floating kelp decreases gradually as energy decreases and rocky habitat becomes less common, leading to intermediate percentages in Whatcom County, Skagit County, Island County and King County. Floating kelp is rare in lower energy areas with predominantly sand and mud shallow substrates, including counties that border Southern Puget Sound, Willapa Bay, and Grays Harbor. Like floating kelp, non-floating kelp is most common in counties with relatively high-energy rocky shorelines, such as San Juan and Clallum Counties. However, non-floating kelp occurs in all counties. In protected, lower energy areas, the principle species is *Laminaria saccharina*. The lowest percentages are found in counties with extensive low angle embayments, such as Grays Harbor, Pacific, and Snohomish Counties.

Sargassum muticum is a non-indigenous brown alga from Asia that has been established in Washington for decades. However, little is known about its distribution or its interaction with local species. *ShoreZone Inventory* data shows that *Sargassum* is present along 18 percent of the state's shorelines, and its distribution is not even. *Sargassum* is found more often along shorelines in the Hood Canal, the San Juan Archipelago and the Strait of Georgia, leading to correspondingly high percentages in San Juan, Mason, and Whatcom counties. It is least common along the outer coast, in Clallum, Grays Harbor and Pacific counties.(WDNR, Summary of Key Findings of *ShoreZone Inventory*, http://www.dnr.wa.gov/htdocs/aqr/nshr/inventory.html, last viewed 6/5/07)

5.2.3.2 Upland Vegetative Zones

Within Puget Sound basin and coastal zone lay three major vegetative zones: (1) the western hemlock (*Tsuga heterophylla*) zone, which ranges from sea level to lower montane slopes; (2) the Pacific silver fir (*Abies amabilis*) zone, forming the midmontane altitudinal belt; and (3) the mountain hemlock (*Tsuga mertensiana*) zone at the upper forested levels (Franklin and Dryness 1973). Possibly a fourth zone should be included, the timberline-to alpine, because the region contains a high, treeless rim where countless drainage systems have their origins. The western hemlock zone is typically dominated by a western hemlock and western red cedar (*Thuja plicata*) climax forest, but Douglas fir (*Pseudotsuga menziesii*) often dominates this zone in the lowland forests (Kruckeberg 1991). Additionally, the western hemlock zone, particularly along marine coastal areas, contains a subzone, the Sitka spruce (*Picea sitchensis*) zone, where Sitka spruce dominate western hemlock at elevations between sea level and approximately 500 feet. There are generally three types of forest communities that are categorized by their tree and shrub (herb)

components within the western hemlock zone: western hemlock/sword fern, western hemlock/Cascade Oregon grape, and Douglas fir/salal (Kruckeberg 1991).

Animal species relying on the western hemlock zone of Puget Sound basin for foraging, reproduction, and refuge can be divided into primary consumers (plant eating) and secondary consumers (carnivores). Primary consumers include: (1) vertebrate grazers and seedeaters, such as deer, elk, rabbits, and seed-and fruit-eating birds; (2) invertebrate grazers and seedeaters; and (3) parasites on plants such as fungi, bacteria, worms, and protozoa (Kruckeberg 1991). Secondary consumers include: (1) vertebrate omnivores such as black bears, raccoons, opossums, and crows; 2) vertebrate carnivores such as coyotes, bats, bobcats, weasels, moles, shrews, and many birds (e.g., owls, flickers, warblers, and raptors); (3) invertebrate carnivores such as beetles and wasps; and (4) animal parasites such as worms, protozoa, bacteria, and fungi.

Extensive logging has occurred since the late 1800s throughout the Puget Sound basin, but most extensively within the lowland forest (western hemlock zone). This zone is economically important in terms of timber production, but due to its proximity to water and moderate topographic relief, agriculture, and commercial and urban development have replaced the natural forest community. Fragmentation has disrupted this forest ecosystem and in some areas caused an extreme decline in forest and plant species.

5.3 Socio-Economic Environment

5.3.1 Coastal Population Growth Trends

More than 4 million people of Washington's nearly 5.9 million residents (or 68 percent of the population) live in the 15 coastal counties (*see* Table 4), with significant growth expected to continue. A review of permitted shoreline projects statewide from 1990-2002 shows the majority of permitted projects occurring in King, Pierce, Whatcom, Snohomish, Skagit, and San Juan counties in the Puget Sound area. This trend is likely to continue into the future.[3]

Table 4. Washington Population Interim Estimates. Source: Washington Office of Financial Management, Forecasting Division[4]

April 1, 2005 Population of Coastal Cities, Towns, and Counties
State of Washington

Evaluate growth by looking at the growth between the last census and most current estimate.

County Municipality	Census 2000	Estimate 2001	Estimate 2002	Estimate 2003	Estimate 2004	Estimate 2005
Clallam	**64,179**	**64,454**	**64,900**	**65,300**	**65,900**	**66,800**
Unincorporated	38,328	38,519	38,970	39,265	39,660	40,305

[3] WDOE Supplemental FEIS, op. cit. p. 51-52, and Shorelands Programs' Permit Tracking Database.
[4] Table modified to focus on coastal counties, cities and towns only.

Incorporated	25,851	25,935	25,930	26,035	26,240	26,495
Forks	3,120	3,145	3,130	3,125	3,125	3,125
Port Angeles	18,397	18,420	18,430	18,470	18,530	18,640
Sequim	4,334	4,370	4,370	4,440	4,585	4,730
Grays Harbor	**67,194**	**68,500**	**68,400**	**68,800**	**69,200**	**69,800**
Unincorporated	25,548	26,770	26,995	27,265	27,295	27,505
Incorporated	41,646	41,730	41,405	41,535	41,905	42,295
Aberdeen	16,461	16,490	16,250	16,320	16,410	16,450
Cosmopolis	1,595	1,595	1,565	1,630	1,590	1,600
Elma	3,049	3,050	3,175	3,060	3,085	3,105
Hoquiam	9,097	9,035	8,945	8,855	8,885	8,875
McCleary	1,484	1,475	1,440	1,450	1,455	1,475
Montesano	3,312	3,325	3,325	3,345	3,375	3,420
Oakville	675	680	670	680	675	680
Ocean Shores	3,836	3,930	3,930	4,065	4,240	4,385
Westport	2,137	2,150	2,105	2,130	2,190	2,305
Island	**71,558**	**72,400**	**73,100**	**74,000**	**74,800**	**76,000**
Unincorporated	49,081	49,635	50,494	50,680	51,085	51,450
Incorporated	22,477	22,765	22,606	23,320	23,715	24,550
Coupeville	1,723	1,735	1,730	1,745	1,745	1,785
Langley	959	970	996	1,005	1,030	1,045
Oak Harbor	19,795	20,060	19,880	20,570	20,940	21,720
Jefferson	**26,299**	**26,446**	**26,600**	**26,700**	**27,000**	**27,600**
Unincorporated	17,965	18,016	18,145	18,270	18,465	18,855
Incorporated	8,334	8,430	8,455	8,430	8,535	8,745
Port Townsend	8,334	8,430	8,455	8,430	8,535	8,745
King	**1,737,046**	**1,758,312**	**1,774,312**	**1,779,300**	**1,788,300**	**1,808,300**
Unincorporated	349,234	353,040	351,136	351,843	356,795	364,498
Incorporated	1,387,812	1,405,272	1,423,176	1,427,457	1,431,505	1,443,802
Algona	2,460	2,500	2,525	2,590	2,605	2,660
Auburn *part*	42,901	43,420	43,970	43,890	43,670	43,540
Beaux Arts Village	307	310	295	302	300	297
Bellevue	109,827	111,500	117,000	116,400	116,500	115,500
Black Diamond	3,970	4,015	4,015	3,995	4,000	4,080
Bothell *part*	16,119	16,244	16,264	16,250	16,250	16,250
Burien	31,881	31,830	31,810	31,480	31,130	31,040
Carnation	1,893	1,920	1,905	1,905	1,895	1,900
Clyde Hill	2,890	2,900	2,895	2,830	2,790	2,780
Covington	13,783	13,840	14,395	14,850	15,190	16,610
Des Moines	29,267	29,600	29,510	29,120	29,020	28,960
Duvall	4,616	4,860	5,190	5,460	5,545	5,595
Enumclaw *part*	11,116	11,180	11,195	11,140	11,160	11,190
Federal Way	83,259	83,890	83,850	83,500	83,590	85,800
Hunts Point	443	455	455	445	450	450
Issaquah	11,212	12,950	13,790	15,110	15,510	17,060
Kenmore	18,678	18,790	19,180	19,200	19,170	19,290
Kent	79,524	81,900	84,275	84,210	84,560	84,920

Kirkland	45,054	45,770	45,790	45,630	45,800	45,740
Lake Forest Park	12,871	12,889	12,860	12,750	12,770	12,730
Maple Valley	14,209	14,590	15,040	15,730	16,280	17,870
Medina	3,011	2,990	3,010	2,970	2,955	2,930
Mercer Island	22,036	21,970	21,955	21,840	21,830	21,710
Milton *part*	814	815	815	820	800	815
Newcastle	7,737	7,815	8,205	8,320	8,375	8,890
Normandy Park	6,392	6,405	6,395	6,345	6,400	6,385
North Bend	4,746	4,755	4,735	4,680	4,660	4,685
Pacific *part*	5,373	5,380	5,405	5,525	5,545	5,640
Redmond	45,256	45,490	46,040	46,480	46,900	47,600
Renton	50,052	51,140	53,840	54,900	55,360	56,840
Sammamish	34,104	34,560	34,660	35,930	36,560	38,640
SeaTac	25,496	25,380	25,320	25,100	25,130	25,140
Seattle	563,376	568,102	570,802	571,900	572,600	573,000
Shoreline	53,296	53,421	53,250	52,730	52,740	52,500
Skykomish	214	215	215	210	210	210
Snoqualmie	1,631	3,416	4,210	4,785	5,110	6,345
Tukwila	17,181	17,230	17,270	17,230	17,240	17,110
Woodinville	9,809	9,825	9,830	9,905	9,915	10,140
Yarrow Point	1,008	1,010	1,010	1,000	990	960
Kitsap	**231,969**	**233,400**	**234,700**	**237,000**	**239,500**	**240,400**
Unincorporated	159,896	160,625	161,345	162,000	164,960	167,920
Incorporated	72,073	72,775	73,355	75,000	74,540	72,480
Bainbridge Island	20,308	20,740	20,920	21,350	21,760	22,200
Bremerton	37,259	37,260	37,530	38,730	37,520	34,580
Port Orchard	7,693	7,810	7,900	7,910	8,060	8,250
Poulsbo	6,813	6,965	7,005	7,010	7,200	7,450
Mason	**49,405**	**49,600**	**49,800**	**50,200**	**50,800**	**51,900**
Unincorporated	40,963	41,130	41,305	41,655	42,105	43,165
Incorporated	8,442	8,470	8,495	8,545	8,695	8,735
Shelton	8,442	8,470	8,495	8,545	8,695	8,735
Pacific	**20,984**	**21,000**	**21,000**	**20,900**	**21,000**	**21,300**
Unincorporated	13,969	13,885	13,940	13,880	13,955	14,200
Incorporated	7,015	7,115	7,060	7,020	7,045	7,100
Ilwaco	950	950	945	940	955	975
Long Beach	1,283	1,385	1,340	1,345	1,360	1,395
Raymond	2,975	2,975	2,985	2,960	2,970	2,975
South Bend	1,807	1,805	1,790	1,775	1,760	1,755
Pierce	**700,818**	**713,398**	**724,998**	**733,700**	**744,000**	**755,900**
Unincorporated	315,359	323,741	329,124	332,980	339,477	345,940
Incorporated	385,459	389,657	395,874	400,720	404,523	409,960
Auburn *part*	146	565	1,040	1,465	2,465	3,930
Bonney Lake	9,687	9,980	12,360	12,950	13,740	14,370
Buckley	4,145	4,330	4,410	4,505	4,510	4,515
Carbonado	621	650	647	655	658	645
DuPont	2,452	2,855	3,295	3,685	4,425	5,410

Eatonville	2,012	2,040	2,070	2,095	2,165	2,330
Edgewood	9,089	9,220	9,320	9,405	9,440	9,460
Enumclaw *part*	0	0	0	0	0	0
Fife	4,784	4,820	4,815	4,905	4,885	4,855
Fircrest	5,868	5,890	5,925	5,935	5,995	6,080
Gig Harbor	6,465	6,485	6,540	6,655	6,680	6,765
Lakewood	58,293	58,272	58,662	58,940	59,010	58,850
Milton *part*	4,981	5,005	5,180	5,205	5,225	5,285
Orting	3,931	4,186	4,060	4,295	4,440	4,820
Pacific *part*	154	145	145	140	135	130
Puyallup	33,014	33,900	34,920	35,490	35,690	35,830
Roy	260	367	865	870	865	865
Ruston	738	740	740	745	745	745
South Prairie	382	430	440	440	435	440
Steilacoom	6,049	6,085	6,095	6,120	6,160	6,175
Sumner	8,504	8,585	8,670	8,780	8,835	8,940
Tacoma	193,556	194,500	194,900	196,300	196,800	198,100
University Place	29,933	30,190	30,350	30,720	30,800	30,980
Wilkeson	395	417	425	420	420	440
San Juan	**14,077**	**14,400**	**14,600**	**14,800**	**15,100**	**15,500**
Unincorporated	12,088	12,380	12,555	12,760	13,025	13,350
Incorporated	1,989	2,020	2,045	2,040	2,075	2,150
Friday Harbor	1,989	2,020	2,045	2,040	2,075	2,150
Skagit	**102,979**	**104,100**	**105,100**	**106,700**	**108,800**	**110,900**
Unincorporated	44,506	44,815	45,205	45,830	46,455	47,250
Incorporated	58,473	59,285	59,895	60,870	62,345	63,650
Anacortes	14,557	14,840	14,910	15,110	15,470	15,700
Burlington	6,757	6,995	7,190	7,315	7,425	7,550
Concrete	790	790	790	780	785	815
Hamilton	309	325	340	340	340	330
La Conner	761	765	775	760	785	795
Lyman	409	410	415	425	440	450
Mount Vernon	26,232	26,460	26,670	27,060	27,720	28,210
Sedro-Woolley	8,658	8,700	8,805	9,080	9,380	9,800
Snohomish	**606,024**	**618,600**	**628,000**	**637,500**	**644,800**	**655,800**
Unincorporated	291,142	294,088	300,460	305,730	309,418	315,390
Incorporated	314,882	324,512	327,540	331,770	335,382	340,410
Arlington	11,927	12,770	13,280	14,330	14,700	14,980
Bothell *part*	13,965	14,160	14,490	14,660	14,680	14,750
Brier	6,383	6,440	6,445	6,450	6,460	6,475
Darrington	1,136	1,307	1,335	1,385	1,405	1,435
Edmonds	39,544	39,590	39,460	39,580	39,620	39,860
Everett	91,488	95,990	96,070	95,470	96,840	97,500
Gold Bar	2,014	2,035	2,055	2,075	2,075	2,085
Granite Falls	2,347	2,540	2,760	2,915	3,010	3,060
Index	157	160	160	160	157	155
Lake Stevens	6,361	6,590	6,640	6,910	7,135	7,185
Lynnwood	33,847	34,010	33,990	34,500	34,540	34,830

Marysville	25,315	26,770	27,580	28,370	28,800	29,460
Mill Creek	11,525	11,970	12,055	12,260	12,760	14,320
Monroe	13,795	14,210	14,670	15,160	15,480	15,920
Mountlake Terrace	20,362	20,370	20,470	20,380	20,390	20,390
Mukilteo	18,019	18,340	18,520	19,190	19,220	19,360
Snohomish	8,494	8,565	8,575	8,640	8,585	8,700
Stanwood	3,923	3,975	4,085	4,190	4,315	4,580
Sultan	3,344	3,775	3,910	4,095	4,135	4,225
Woodway	936	945	990	1,050	1,075	1,140
Thurston	**207,355**	**210,200**	**212,300**	**214,800**	**218,500**	**224,100**
Unincorporated	114,061	116,300	117,935	119,475	122,265	126,450
Incorporated	93,294	93,900	94,365	95,325	96,235	97,650
Bucoda	628	635	640	645	645	650
Lacey	31,226	31,600	31,860	32,240	32,530	33,180
Olympia	42,514	42,530	42,690	42,860	43,040	43,330
Rainier	1,492	1,485	1,490	1,515	1,540	1,585
Tenino	1,447	1,460	1,470	1,495	1,480	1,500
Tumwater	12,698	12,770	12,730	12,740	12,850	12,950
Yelm	3,289	3,420	3,485	3,830	4,150	4,455
Wahkiakum	**3,824**	**3,800**	**3,800**	**3,800**	**3,800**	**3,900**
Unincorporated	3,259	3,240	3,240	3,240	3,250	3,350
Incorporated	565	560	560	560	550	550
Cathlamet	565	560	560	560	550	550
Whatcom	**166,826**	**170,600**	**172,200**	**174,500**	**177,300**	**180,800**
Unincorporated	74,231	75,682	76,718	77,796	78,746	79,848
Incorporated	92,595	94,918	95,482	96,704	98,554	100,952
Bellingham	67,171	68,890	69,260	69,850	71,080	72,320
Blaine	3,770	3,855	3,975	4,025	4,115	4,240
Everson	2,035	2,050	2,015	2,030	2,055	2,080
Ferndale	8,758	8,925	8,925	9,155	9,305	9,750
Lynden	9,020	9,285	9,380	9,740	10,010	10,480
Nooksack	863	918	920	902	910	970
Sumas	978	995	1,007	1,002	1,079	1,112
Washington State	**5,894,143**	**5,974,910**	**6,041,710**	**6,098,300**	**6,167,800**	**6,256,400**
Unincorporated	2,374,593	2,407,904	2,423,073	2,361,802	2,395,226	2,438,882
Incorporated	3,519,550	3,567,006	3,618,637	3,736,498	3,772,574	3,817,518

Another estimate shows the growth in density per square mile since 1980. Table 5 shows a density in coastal counties growing from 126 to an anticipated 209 persons per square mile from 1980 to 2008.

Table 5. Washington Coastal Population, 1980-2008. Source: U.S. Census Bureau and W&PE, Inc. from NOAA "Population Trends Along the Coastal United States: 1980-2008."

	1980	1990	2000	2003	2008
	Absolute / Density	Absolute / Density	Absolute / Density	Absolute / Density	Absolute / Density
Washington	4,132 / 62	4,867 / 73	5,894 / 89	6,131 / 92	6,591 / 99
Coastal	3,109 / 126	3,777 / 153	4,587 / 186	4,778 / 193	5,160 / 209
Coastal Percent	75	78	78	78	78

5.3.2 The Growth Management Act and Local-State Government Balance

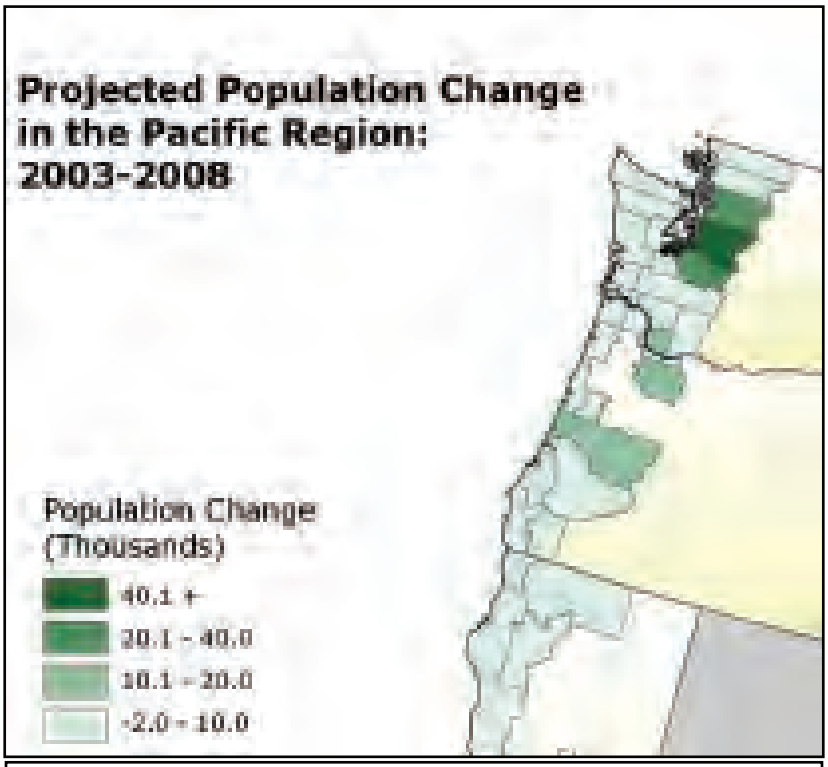


Figure 16. Source: Population trends along the coastal United States: 1980-2008, NOAA

Washington's GMA was crafted to strike a balance between local control and the need for some consistency in planning. The act requires some Washington counties and cities, and encourages others to plan for growth that is expected to increase to about 1.5 million people by 2020. Of the 29 counties covered by the GMA, 18 were required to plan and 11 have volunteered. These 29 counties have a full set of GMA planning requirements, including preparing comprehensive plans and development regulations. Ten other counties are planning for natural resource lands and critical areas only. The GMA protects local autonomy by requiring that specific decisions be made at the local level, such as how to protect critical areas and where to draw urban boundaries. Jurisdictions are using a variety of approaches to tackle land use decisions.

Unlike growth management efforts in some other states, which require state approval of plans and regulations, Washington law presumes that local plans and regulations are valid upon adoption. (An exception is the transportation chapter of the comprehensive plan, which is certified by a regional transportation planning organization.) However, the state, other local governments, and certain individuals can petition one of three regional growth management hearing boards if they think a local action does not meet growth management requirements.

Local communities may amend local plans and regulations to accommodate new conditions. Plans may be amended no more than once a year to ensure proposed amendments are reviewed

comprehensively. Every seven years, cities and counties review their growth management work to determine if it complies with the GMA; revisions are made if needed.

5.3.3 Coastal Washington Economic Growth

One of the goals of the GMA is to encourage development in urban areas where adequate public facilities and services exist or can be provided in an efficient manner. Since 1990 when the GMA was passed, development patterns have changed in the state. Urban sprawl is being reduced, and the pattern of growth is clearly changing. Neighborhoods are beginning to see significant amounts of infill development; thousands of units are being built, including in downtowns and town centers. The changes are happening in communities of all sizes; entire neighborhoods are emerging.

Residential density is increasing in six of the State's fastest growing counties. The Buildable Lands Program, created in 1997, is a review and evaluation program aimed at determining if these counties have enough residential, commercial, and industrial land to meet growth needs. The first coastal county reports under the program show the following dwelling units per acre in urban growth areas: Clark 6, King 7.3, Pierce 4.02, Thurston 3.59, Kitsap, 3.87, and Snohomish 8.89. In Pierce County, residential densities have increased from under two to more than four units per acre from 1995 to 2000. Density trends in urban King County show a significant movement toward greater residential density.

In the Puget Sound region, new growth is happening in and near designated urban centers within cities, slowing the rate of urban sprawl into nearby rural areas. From 1995 to 2000, 87 percent of population growth and 96 percent of job growth occurred inside UGAs, according to the Puget Sound Regional Council.

In King County, land development in urban areas is increasing, while development in rural areas is declining, according to the *2002 King County Benchmark Report*. The county is nearing its goal of 25 percent of growth occurring in urban centers.

Economic development is another GMA goal. Many communities are using growth management planning to help achieve economic development. The City of Cheney decided to use GMA capital facilities planning to provide infrastructure for new businesses. As a result, Cheney has been able to bring more than 900 new jobs to the community.

Figure 17. Example of undeveloped shoreline environment. Source: WDOE

5.4 Socio-Economic Environment (Human Use)

With financial assistance from NOAA through the CZMA, WDOE photographed Washington's entire marine shoreline, not

including the upper reaches of rivers streams and inland lakes (*see*: http://apps.ecy.wa.gov/shorephotos/index.html). With respect to shoreline modification, the photographs reveal that a large percentage of the coastal zone remains in pristine condition (*see* Figure 17). They also illustrate how Washington's coastal zone has been modified over the past century by urbanization, resource extraction, and other human activities. These activities have resulted in vegetation removal, soil disturbance, and conversion to impervious surfaces, having an observably negative effect on many coastal zone areas.[5] Development has additionally resulted in substantial changes to the ecological processes and functions of coastal aquatic systems. For example, floodplains have been disconnected from streams, shorelines have been heavily armored, and contaminants in stormwater have been carried into waters from adjacent urban development and agricultural and forestry activities.[6] Because these activities degrade ecological functions and processes, they adversely affect fish and wildlife that use these ecosystems. Some species, such as chinook salmon, have been severely affected and are federally listed as threatened species.

5.4.1 Resource Lands: Agriculture, Forestry, and Mining

5.4.1.1 Agriculture

Washington agriculture is a multi-billion dollar sector of the state's economy and Washington's leading employer. It is one of the central elements of economic development for both rural and urban counties' rural areas. Washington continues to be a leader in many areas of agricultural production. Agriculture represents $29 billion of Washington's $145 billion economy. Washington farmers produce $5.8 billion worth of agricultural products annually. In addition to primary production, supporting industries include food processing, transportation, farm implements, fertilizers, and computerized irrigation systems.

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[5] "Riparian habitats have been altered or degraded by forestry and agricultural practices, and clearing for various urban and suburban lands uses. Stream channel hydrology and ecology has been altered for the worse and degraded. Wetlands loss continues, apparently at undiminished rates. Estuarine water quality is variable, and in places is substandard. Overall more commercial shellfish beds are being downgraded than are being upgraded due to on-going pollution problems. As more and more people build larger and larger houses on and near unstable slopes, the problems associated with land sliding become greater. Nearly two miles of Puget Sound shorelines are armored each year, adversely affecting beach and nearshore habitats, and the creatures which depend on those habitats for all or a portion of their life cycle."
WDOE, Supplemental FEIS, p. 5

[6] See Puget Sound Action Team's 2004 State of the Sound Report. "Ecology estimates that stormwater runoff has polluted more than 30 percent of the state's waters. Urban development is fragmenting Puget Sound's habitat. Two hundred forty square miles of forest were converted into housing units and business complexes during an eight-year period in the 1990s. One third of Puget Sound's shorelines (about 800 miles) have been impaired by bulkheads, armoring, and dredging." See Seattle Post/intelligencer Editorial, February 20, 2005 for contemporary commentary: "[Hood C)anal's oxygen levels have remained at perilously low levels with no sign of returning to a healthy state. The oxygen dead zone already has led to three major fish kills in recent years. Marine bird populations are well below those of a few decades ago. In August, the state Fish and Wildlife Commission permanently closed a host of fisheries in the canal."

Agriculture in Washington is a diverse industry that encompasses everything from very large commercial livestock operations to very small part-time crop or livestock producers. Large commercial livestock operations include dairy herds, poultry raised for eggs and meat, and beef operations. Smaller operations include horse breeding, and the raising of pigs, sheep, dairy goats, geese/ducks, rabbits, llamas, emus, and ostriches. Rural farms bring fresh produce to farmers' markets in nearby cities and towns, operate u-pick farms and roadside stands, and grow specialty crops.

Productive farms vary in size throughout the state. In western Washington's temperate climate, farms average less than 100 acres, but produce most of the state's berries, Christmas trees, green peas, milk (valued at $848 million in 1998), eggs, and seafood. Berry farms, nurseries, tree farms, and specialty lettuce have done well in coastal zone counties with large urban centers such as King and Snohomish

Over 250 crops are grown in the state, representing about 20 percent of the gross state product at the retail level. These crops include vegetables, fruits, orchards, vineyards, pasture grass and other crops for silage, hay, and grains. Plant-based agriculture includes nursery and greenhouse products. The rich, moist soil west of the Cascades produces some of the world's finest bulbs and flowering plants, and Washington is the nation's largest producer of tulips, daffodils, and bulbous irises. Cranberries have grown wild in Washington coast peat bogs since the end of the last Ice Age. Miles of bogs line the long Beach Peninsula and stretch northward from Tokeland to Grayland.

Washington is nationally known for its many apple varieties. In 1998, apples ranked second after milk products as Washington's top commodity. Red raspberries, hops, spearmint oil, sweet cherries, lentils, and pears from Washington ranked number one in the nation's agriculture production. Washington ranks second in the nation for asparagus, peppermint oil, apricots, grapes, and fall potatoes. Potatoes are one of the state's most valuable commodities. Washington's 395 growers produce more potatoes per acre than do growers anywhere else in the world. In 1999, Washington produced more than 4.7 million tons of potatoes on 170,000 acres.

Washington's agricultural lands have often been a casualty of development. Urban sprawl tends to favor the prime, highly-productive agricultural lands that occupy valley floors where land is flat and easy to develop. The American Farmland Trust has identified the Puget Sound Valley and the Willamette Valley in Oregon as the nation's fifth most threatened farming regions. Not only does development consume prime agricultural lands, but development-related land speculation pushes up prices and makes farming less profitable.

5.4.1.2 Forestry

Washingtonians have traditionally counted on the forests for jobs and products and forestry remains a leading industry in the state, employing 54,536 people. Washington's soils and climate make it one of the few areas in the nation capable of rapidly growing high-quality timber. More than sixteen million acres of forest lands support timber harvesting or other commodity production. Forest products in Washington are the second largest manufacturing

industry after transportation. In 1995, forest products' direct gross income for lumber and wood products, paper and allied products, and private forestry was $12.5 billion.

Forestry is an important part of the economy for both rural and urban counties. Although the public tends to view forest lands and the forest industry in rural counties as most important and in the most need of conservation, the three fastest growing coastal counties in the decade from 1978 to 1997 were also high in timber production. In that decade, King County was number six in timber production in private lands. Pierce County was number eight, and Snohomish County was number ten.

In 1970, Washington had 23.1 million acres of forest. In 1992, there were 20.9 million acres left—a decrease of at least 2.2 million acres. Nearly ten percent of the state's forests were converted to other uses such as roads, suburbs, cities, and farms. In 1970, 18.4 million of those forested acres were timber lands, managed for forest commodity production. In 1997, 16.1 million acres were timber lands—a loss of 2.3 million acres in less than thirty years. Excluding the value of the timber, land zoned as residential can be much more valuable than timber land. Consequently, many timber lands have been converted to residential areas. Large, continuous tracts of forest have been lost in western Washington. Urban expansion is responsible for about 48 percent of the forest conversion.

Other types of forest conversion include forest practices, like clear cuts. Intensive management of the highly productive Coast Range and Cascade Range foothills have resulted in extensive areas of well-stocked forests of young, nursery-grown Douglas-fir trees. Widespread harvest and replanting have reduced the diversity of species and forest structure in many areas, resulting in loss of biological diversity.

5.4.1.3 Sand and Gravel Mining

In Washington, during periods of rapid land development, people have turned to rivers (dredging and gravel bar mining) and flood plains (gravel pit lakes) as sources of sand and gravel for construction aggregates. Gravel mining practices such as channel dredging are typically done with either a dragline or suction dredge and are conducted mostly in the Columbia River, where a shipping channel is maintained, and the Cowlitz River, where large volumes of sediment from the 1980 Mount St. Helens eruption are still being deposited. Gravel bar mining (scalping) is performed in many Washington rivers for aggregate and in an attempt at flood control. Miners no longer dig into the banks of rivers. Also, the U.S. Army Corps of Engineers (USACOE), state agencies, and some local governments have recognized the environmental effects of in-stream mining. The Grays Harbor County Planning Department, for example, has mandated reduced rates of gravel removal on the Satsop, Wynoochee, and Humptulips Rivers. Otherwise, flood-plain mining, digging gravel pit lakes adjacent to rivers, is a common activity in Washington. "Flood plain" as defined in the SMA means the 100-year flood plain, the area susceptible to flooding by a stream for which there is a one percent chance of inundation in any given year.

Flood-plain mining has occurred on many rivers in Washington State and is highly concentrated along the Yakima River and its tributaries (Naches and Cle Elum Rivers), the Chehalis River and its tributaries (Wynoochee, Satsop, Newaukum, and Skookumchuck Rivers), the Cowlitz River,

and East Fork Lew Rivers (Collins, 1996, 1997). Collins estimates that about one-sixth of Washington's gravel production was removed from riverine sources between 1970 and 1991, and most of this mining was located on flood plains and active gravel bars. Many mines permitted in the 1990s cover several hundred acres of flood plain that have been excavated or are scheduled for excavation. The depth and size of many of those mines was previously restricted by economics and types of machinery used.

Rivers in Washington generally have steep gradients and V-shaped cross sections in their upper reaches. Headward erosion occurs where stream gradients rapidly steepen, as in the Olympic and Cascade mountains. As the rivers approach the ocean or find their way across the Columbia Basin, gradients decrease, valleys broaden, flow velocity decreases, and gravels are deposited. Deposition is greatest at the gradient changes. The river accommodates this aggradation by lateral horizontal migration. Traces of channel shifts and stream meanders are common flood plain features; oxbow lakes and side channels are testament to the history of this activity.

Flood-plain gravel mining generally occurs where the gravel bed load has been deposited, for example, at gradient changes or above or below topographic constrictions through which a river flows (such as Union or Selah gaps on the Yakima River). In Washington, many gravel pits near rivers have been excavated for fill material for major highway projects, a process that further complicates flood-plain functions. Examples are I-90 along the Yakima River, I-82 near metropolitan Yakima on the Yakima and Naches Rivers, and in several places along the East Fort Lewis River near Vancouver. Gravel sources located near the point of use significantly reduce the cost of the aggregate.

Gravel mining has created pit lakes ranging from a few acres to several hundred acres and with depths averaging about 30 feet. Several mined lakes are as deep as 90 feet, and some are as much as five times as deep as the adjacent river. Some of these deep lakes are within 50 feet of the active river channels. This head differential makes them highly vulnerable to river avulsion during high flows. Rivers have avulsed (where gravel pits have a lower base elevation, the stream can become channeled into the pits during high flows) at several mines in Washington in the last 24 years, most of them during storms in 1995 and 1996. (David K. Norman, "Flood Plains, Salmon Habitat, and Sand and Gravel Mining, Washington Geology, vol. 26, no 2/3, September 1998.

5.4.2 Residential Development

Development activities are not necessarily related to any particular resource-based industry. Merely living and/or working in or visiting Washington's coastal areas affects the land, water, and wildlife. Building houses, planting and maintaining laws, keeping pets, and owning cars may seem like innocuous pursuits, but they can harm the environment. Commuters require extensive highway systems; tourists rely on plentiful accommodations; and residents need stores, hospitals, libraries, police and fire stations, sewage treatment plans, and other types of infrastructure.

Nearly three million people live near the shores of Washington's marine waters, with another 1.2 million anticipated by the year 2025 for the coastal counties (County Population Projections:

2000 to 2025). Their bulkheads, docks, and buildings result in dramatic modification of the shorelines. Humans modify the shoreline and destroy natural habitat directly through construction of bulk heads and other structures; construction and repair of new and existing structures; and placement of railroad grades and roads along the shoreline and shoreline recreation.

Shoreline slope and bluff erosion are major natural mechanisms supplying sediments to Puget Sound beaches. In an attempt to prevent these natural processes, shoreline property owners often armor (the use of bulkheads, rip-rap, or other hard structures) the shoreline to protect their property; in the long term armoring may increase erosion of the adjacent beach, exacerbating the original problem. Armoring is linked to a number of physical changes in shore processes that eventually result in a reduction in beach height and width. The WDNR estimates that humans have modified one-third of Puget Sound's shorelines through such practices.

The sprawl of cities and suburbs into rural areas means there are more cars on the roads carrying people farther and farther to shop, work, and recreate. Since 1960, the State's population has nearly doubled and the number of cars tripled. In fact, cars have been multiplying faster than roads, resulting in congestion. Road expansion may seem an obvious solution, however roads and highways also have impacts. Roads and highways collect and concentrate water and toxins, degrading and polluting streams. As impervious surfaces, they prevent water from soaking into the ground, thereby lowering groundwater tables. Streams are constricted into culverts, making it difficult or impossible for fish to pass through. Perhaps the most direct impact is that roads and highways lead to wildlife habitat fragmentation.

Section 5.3.3 above discusses the growth of residential development under the GMA in the coastal counties. In another study, the ShoreZone Inventory, in order to determine the relative significance of single-family residences in overall shoreline modification, scientists in the Nearshore Habitat Program at the WDNR collected data on the proportion of shoreline modification along state saltwater shorelines associated with single-family residences. They found that approximately half of all shoreline modification in Washington State is associated with single-family residences (55 percent +/- nine percent). This finding suggests that shoreline modification associated with single-family residences is a major component of total shoreline modification. WDNR, Summary of Key Findings of *ShoreZone Inventory*, http://www.dnr.wa.gov/htdocs/aqr/nshr/inventory.html, last viewed 6/5/07).

5.4.3 Commercial and Industrial Development

From 1980 to 2000, U.S. wage and salary employment grew by 42.5 percent while Washington wage and salary employment grew by 64 percent. Employment growth in Washington outpaced U.S. employment growth in every major industry division of the economy with the exception of agricultural services, forestry, and fishing. Manufacturing employment in Washington grew by 14 percent from 1980 to 2000 while U.S. manufacturing employment fell by 9 percent. Washington employment in mining, transportation, public utilities, wholesale trade, retail trade, and services grew 50 percent faster than U.S. employment in the same sectors. After the recent recession, total employment in Washington rose 6.7 percent by the first quarter of 2006, more than double the national growth of 2.9 percent

(**http://www.ofm.wa.gov/trends/tables/fig103.asp**, last viewed 6/26/2007). On June 14, 2007, Washington's chief revenue forecaster, Dr. Chang Mook Sohn, stated in a press release that the Washington economy continued to outperform the U.S. economy, especially in the areas of construction and real estate. Dr. Sohn further noted that Washington's real estate market is holding up well and not slowing down as much as the rest of the nation, due in part to strong export markets, including aerospace. Exports originating in Washington totaled $53.1 billion in 2006, a 40 percent increase over 2005.
(**http://www.ofm.wa.gov/news/release/2007/070614.asp**, last viewed 6/26.2007)

Habitat loss associated with industrial and commercial development is a major threat to biodiversity and ecosystem health. Human alteration of the natural environment during the 19th and 20th centuries drastically changed many natural habitats in Washington. Human activities and development have altered wetlands, estuaries, forests, and other ecosystems at a rate of between 30,000 to 80,000 acres a year. These acres are destroyed or degraded by urban development, agricultural practices, timber harvesting, highway construction and other activities. Chronic chemical inputs and larger spills of oils and other chemicals also degrade habitat quality and affect many organisms directly. Degradation of habitat occurs both along saltwater shorelines and upstream in watersheds. Logging, dam-building, land-clearing for development and other land uses can significantly harm riverine habitats for anadromous fishes. Moreover, these activities can harm the downstream estuary. Commercial and industrial developments, as well as roads and streets create impervious surfaces from which storm water rapidly runs, adding more toxic chemicals to coastal habitats.

5.4.4 Utilities

Washington has few fossil fuel resources but has tremendous renewable power potential. The Columbia and Snake Rivers are immense hydroelectric power resources. The State's western forests offer fuel wood resources, and large areas of the State are conducive to wind and geothermal power development. Washington's population and total energy consumption are relatively high. Transportation is the leading energy-consuming sector in the State, followed by the industrial and residential sectors. Washington is a leader in the energy-intensive forest products industry and is the site of several large U.S. military bases.

Petroleum

Although Washington has no indigenous crude oil production, it is a principal refining center serving Pacific Northwest markets. Five refineries receive crude oil supply primarily by tanker from Alaska. However, because Alaskan production is in decline, Washington's refineries are becoming increasingly dependent on crude oil imports from Canada and other countries. The Trans Mountain Pipeline from Alberta supplies more than one-tenth of Washington's crude oil supply. Washington's total petroleum demand is high. Jet fuel consumption is among the highest in the Nation, due in part to several large Air Force and Navy installations. To reduce air pollution, the use of oxygenated motor gasoline is required in the Spokane area during the winter months.

Natural Gas

Washington relies heavily on natural gas produced in Canada and transported by pipeline to U.S. markets. The Sumas Center, in Canada near the border between Washington and British Columbia, is the principal natural gas trading and transportation hub for the U.S. Northwest. The Northwest Pipeline Corp. system supplies markets in western Washington and Oregon, and the Gas Transmission Northwest line supplies eastern Washington. The residential sector leads Washington's natural gas consumption, followed closely by the industrial and electric power generating sectors. Roughly one-third of Washington households use natural gas as their primary energy source for home heating.

Coal, Electricity, and Renewables

Typically accounting for close to three fourths of State electricity generation, hydroelectric power dominates the electricity market is Washington. Coal-fired, natural gas-fired, and nuclear powered plants account for roughly equal shares of the remaining generation. Washington is the leading hydroelectric power producer in the nation, typically generating about twice that of the next leading state. Eight of the State's ten largest power plants run on hydroelectric power, primarily from the Columbia and Snake Rivers. The 7,079-megawatt Grand Coulee hydroelectric facility, located on the Columbia River, is the largest generating plant in the United States. Grand Coulee's generation capacity is almost twice that of Arizona's Palo Verde nuclear plant, the second-ranked U.S. electric plant. Washington has one large coal-fired plant located near the State's only coal mine in the southwest. Coal production has fallen slightly in recent years due in part to increased hydroelectric production. The State's only nuclear plant, the Columbia Generating Station, is located near the Columbia River in the south-central part of the State, and generates nearly one-tenth of the State's electricity.

Washington State is a major net electricity exporter, supplying electricity to the Canadian power grid, and to U.S. markets as far away as California. The State transmits large amounts of cheaply produced hydroelectric power via the Western USA Interconnection, which runs from northern Oregon to southern California. The system, also known as the Pacific Intertie, is the largest single electricity transmission program in the United States. Although the Pacific Intertie was originally designed to transmit electricity south during California's peak summer demand season, flow is sometimes reversed overnight and has occasionally been reversed during periods of reduced hydroelectric generation in the Northwest.
(**http://tonto.eia.doe.gov/state/state_energy_profiles.cfm?sid=WA**; last viewed 6/26/07)

5.4.5 Transportation

Roads

Four major interstate highways, I-5, I-405, I-90, and I-82 serve Washington and provide direct access to markets within the state and throughout the North American continent. Additionally, I-205 and I-182 allow inter-loop connections for the Vancouver and Tri-Cities (Richland-Kennewick-Pasco areas). (www.choosewashington.com)

Since 1990, the Federal Highway Administration (FHWA) has required states to report road roughness according to the International Roughness Index (IRI), a set of standard codes dictated by the Highway Performance Monitoring System Field Manual for the Continuing Analytical and Statistical Database. This information is then collected and published in a consistent format in the FHWA's Highway Statistics. This measure reports the percentage of interstate miles that have an IRI of 171 or greater. In 2004, Washington's percentage of interstate miles in poor condition increased from 3.4 to 8.5 percent, decreasing its rank from 36th to 41st. Washington's five-year average value of 3.4 percent, slightly below the national average of 3.6 percent, ranked 32nd. (Washington State Economic Climate Study, 2006)

The Travel Time Index (TTI), calculated by the Texas Transportation Institute, is the ratio of travel time during periods of peak commuting activity to travel time in periods with no traffic congestion. For example, a TTI of 1.35 indicates that a trip that takes 20 minutes when there is no congestion takes an average of 27 minutes during peak commuting periods. The institute publishes indexes for 85 urban areas selected to represent the major metropolitan areas within each state. In 2003, the Seattle-Everett-Tacoma region had a TTI of 1.38, up from a value of 1.36 in 2002. Its five-year average is 1.37, just over the national average of 1.36, ranking it the 13th most congested city of those studied for that period. Spokane, the only other Washington city in the survey, fared better with a TTI of 1.08 and a five-year average of the same value. This ranked the city as the 10th least congested of the 85 cities studied in 2003 and the 12th least congested in its five-year average value. (Washington State Economic Climate Study, 2006)

Washington State trucking/shipping carriers provide scheduled daily departures to principal urban areas in the western, mountain, and mid-western regions of the U.S. and western Canada. Washington State ranks among the top ten states in general freight tonnage carried by truck interstate. This level of competition results in favorable negotiated freight rates. Overland shipping distances from the state's metropolitan areas to the mid-west are shorter than routes from other major western coastal cities. Typical shipping times include one day to San Francisco; two days to Los Angeles; two-to-three days to the mid-west; and five-to-seven days to East Coast cities. (www.choosewashington.com)

Air Transport

Washington State is supported by an air infrastructure of 129 public-use airports, including 14 scheduled commercial-service airports and two international airports providing passenger service access across the state, the nation, and the world. Air freight is moved through 26 primary locations in the state. Seattle-Tacoma International Airport, King County/Boeing Airfield, and Spokane International Airport support the majority of air freight. (www.choosewashington.com) The Federal Aviation Administration's annual Air Traffic Activity and Delay Report provides air traffic information for the 55 largest airports. Air traffic delays can occur at any phase of the flight and are characterized as delays that exceed 15 minutes. For comparison purposes, the report states the number of delays per 1000 operations. In 2005, the Seattle-Tacoma airport ranked 27th among the 55 largest airports with 2.8 delays per 1000 operations, a large improvement from 2004's value of 5.9 delays and well below the largest airports' average of 11.9 delays. The airport's five-year average value of 8.2 delays per 1000 operations was also

well below the multiple-airport average value of 13.7 delays and ranked 34th among the 55 largest airports. (Washington State Economic Climate Study, 2006)

Ports

Washington State has seven deep-draft ports on Puget Sound, one on its Pacific Coast and three on the Columbia River. These ports work together to move goods into, through, and out of the state for distribution all over the nation. Asia Pacific markets can be reached one to two days faster from Washington than from California.

The ports of Seattle and Tacoma are world-class facilities that move a combined cargo volume ranking them as the second largest port complex in the Western Hemisphere and the 11th largest in the world. The Port of Tacoma provides double-stack service for railroad shippers and operates its own intermodal rail facility and dockside-to-mainline switching rail.

Ports on Washington's Pacific Coast and lower Columbia River are also important trans-shipment points for ocean vessels and river barges. The state's water transport system extends 352 river miles inland with additional port facilities on the mid and upper Columbia River and Snake River. (www.choosewashington.com)

Railroads

Union Pacific and Burlington Northern Santa Fe are the major transcontinental rail providers in Washington. Both offer intermodal double-stack container rail transport that allows goods to be transported to the mid-west in less than three days, whiles eastern U.S. coastal cities can be reached within five days. Intermodal facilities are located in Seattle, Tacoma, and Spokane. In addition, there are 17 local service railroads.

5.4.6 Historic and Cultural Resources

Washington State has a rich archaeological heritage that spans over 12,000 years dating back to the arrival of the first humans who crossed the land bridge in the Bering Sea. Typical prehistoric archaeological sites in Washington include shell middens, open sites or campsites, pictographs and petroglyphs, caves or rockshelters, wet sites, lithic sites, quarries, culturally modified trees, and burial sites or cemeteries.

Northwest coast societies broke the anthropological rule that agriculture is necessary for large complex villages. On the Washington coast and along major rivers, people lived in large villages where monumental architecture and elaborate art flourished. The economic basis for these societies was the harvest and storage of salmon, coming in dense, predictable runs.

The families of the coast and forest moved with the seasons. Usually, they lived in a village during the winter. When resources became seasonally available, families would leave the village and camp near those resources to collect and process them for storage. This type of residence

and economic system is known as a “seasonal round” and produces a large number and wide variety of sites—spring root camps, summer fishing camps, fall hunting camps, and sheltered winter villages. Many activities took place at these sites. There were also spots where only a single activity occurred, such as logging or bark-stripping sites, rock quarries, burial islands, or areas that had religious and spiritual meaning such a pictographs and petroglyphs.

Typical archaeological sites of western Washington include the following:

1) Shell Middens: Shell middens are villages, camp sites, or shellfish processing areas, composed of dark, organically rich soil with shell or shell fragments, artifacts and fire-cracked rock. These sites are found along the saltwater shorelines of western Washington. The village or residential sites may have rectangular house depressions and will be near a source of fresh water. Most of the state’s marine shell middens are less than 3,000 years old, the date when the current sea level stabilized. Old Man House State Park at Suquamish is an example of a village site. People processed shellfish at the Manette site near the Manette Bridge in Bremerton.

2) Open Sites or Campsites: These sites are mainly found along rivers and streams and inland. They contain lithic artifacts and flakes of fire-altered rock. Some have small amounts of shell and bone. They are seasonal living sites or short-term camps where people fished, hunted, or gathered plants. Fishing sites such as Tualdad Altu in Renton and Marymoor Park on the Sammamish River have high percentages of blades or microblades (thin narrow flakes of stone) used for filleting fish.

3) Pictographs and Petroglyphys: A pictograph is an image drawn on a rock surface with a mixture of pigments that can include ochre, charcoal or other plant and animal materials. A petroglyph is an image pecked into a rock surface. Images are geometric, human or animal forms. Many petroglyphs are found on prominent boulders along the shoreline or on rock outcrops. There is a southern Puget Sound petroglyph complex characterized by curvilinear faces and designs which occur on beach bounders near or below the high tide line often near village sites. Northern Puget Sound rock art sites are also found on beach boulders. Easily accessible sites include Lime Kiln Petroglyphs on San Juan Island and the Wedding Rock petroglyphs near Cape Alava.

4) Caves or Rockshelters: Caves or rockshelters used as living areas or camping spots are rare in western Washington. They offer the potential for well-preserved deposits. Judd Peak and Layser Cave have yielded information on the use of the foothills of the Cascades from 6,700 years ago to 400 years B.P.

5) Wet Sites: These are rare sites in which normally perishable materials like basketry, wooden artifacts, or wool and hair are preserved, usually because they are saturated by water. Wet sites offer a more complete of people’s artifacts, tools and materials. On the Northwest Coast, an estimated 60 to 90 percent of artifacts were made of wood or fiber.

Wet sites can be sections of whole villages such as Ozette, over bank refuse deposits such as Biderboost on the Snoqualmie River or Hoko on the Hoko River, or fish weirs such as Wapato Creek Fish Weir in Tacoma.

6) Culturally Modified Trees (CMTs), Basket Trees or Peeled Cedars: These are living trees from which bark has been stripped or planks split off their sides. The bark was used for making baskets or clothing. The planks were used in buildings or making boxes. CMTs are frequently found in old growth stands of cedar. The cultural modifications on some CMTs have been dated tot 300 years ago. In a recent study on the Makah Indian Reservation, archaeologists identified, eight different types of CMTs, including plank-stripped logs, cut logs, notched trees and chopped trees. Partially finished canoes have also been found.

7) Burial Sites, Islands, or Cemeteries: The locations of burial sites varied over time and among groups. In some parts of western Washington, small off-shore islands or wooded slopes adjacent to villages were cemetery areas. Isolated burials are found in a variety of locations. Shortly after Euroamerican contact, entire villages were decimated by disease and thus became cemeteries. These areas are to be respected and left undisturbed.

In addition to the various types of archaeological sites, Native Americans of the saltwater coasts and forests left artifacts from both flora and fauna. Tools were made from stone, bone, antler and wood. They made projectile points from the dark basalts found along rocky beaches. Points, fish hooks, and harpoons were made from antler, bone and wood. Harpoon lines were fashioned from twisted cedar. Clothing was made from woven cedar bark, spruce roots and fur.

Northwest Coast societies did not make pottery. People boiled water and cooked food in watertight wooden boxes or baskets by heating rocks and dropping them into the water. As a result, a major component of sites is fire-cracked rocks, reddened or blackened by fire and then broken in the cooling process.

Besides artifacts and fire-altered rock, sites contain much biological data. Shellfish remains can help identify the species that were used for food, materials or decoration and can provide evidence on the local environmental setting. Archaeologists use bird remains, fish and land mammal bones to reconstruct the diet and time of year the site was occupied and carbonized plant remains, pollen and charcoal to reconstruct the local vegetation. They also use the new DNA techniques to analyze the amino acids preserved on stone tools to identify the species of animals killed and butchered by those tools.

While archaeology is more often attributed to ancient peoples and site, more recent peoples also have left traces of their lives on the landscape. In Washington, these sites can range in scope from fur trade sites and early missions to military areas and homestead sites, as well as logging, mining, and railroad features. (A Field Guide to Washington Archaeology, 2003, Stilson, M. Leland, et.al., Olympa, WA)

5.4.7 Recreational Development

Washington's coastal zone offers a wide array of recreational attractions. From the picturesque Pacific Ocean and the lush rain forests of the Olympic Peninsula to the vibrant cities and snowcapped mountains in the Puget Sound Basin, the western side of the "Evergreen State" offers outstanding recreation and entertainment in one of the Northwest's most beautiful natural settings.

Washington lays claim to one of the largest and busiest state park systems in the United States. With over 250 parks and recreation areas covering more than 250,000 acres, Washington ranks 15th among all 50 states in the number of areas operating and 13th in the amount of acreage managed, but is ranked 6th in terms of total number of visitors, with over 40 million entering in 2005. Washington park and recreation area visits per capita decreased slightly from 6.5 in 2004 to 6.4 in 2005, decreasing its rank among the states from 5th to 6th. The state's five-year average visits per capita of 7.3, however, ranked 4th. Both measures were well above the national average. Since state park visits per capita began being recorded in 1987, Washington has always placed 6th or higher in the state rankings. (Washington State Economic Climate Study, 2006)

The travel industry is one of the largest and most rapidly growing segments of the Washington economy, providing business opportunities, employment, and revenue throughout the state. Natural resources and outdoor recreation are particularly important attractions. State and National parks are very popular draws, while Washington's part public, part private, ferry system makes traveling the state's network of waterways easy. Outdoor recreational activities include camping, wildlife viewing, nature walks, bicycling, bird watching, boating, fishing and hunting, hiking, horseback riding, kayaking, llama trekking, and mountaineering. Even skiing and snowboarding are popular in Washington's coastal zone. Ski slopes are as little as two hours away from the major metropolitan areas.

Marine recreation includes fresh and saltwater activities; on ocean beaches, along the shores of rivers, streams, and lakes; and the waterfront of Puget Sound. Approximately 72 percent of all Washington households engage in recreational water activities. These activities encompass a variety of pursuits: fishing, swimming, Scuba diving, and windsurfing. Over the last years of the 20th century, whale watching became a very popular outdoor experience. Boat and kayak-based whale watching activities occur in May through September near the San Juan Islands in Haro Strait, an area where orcas are common. Surveys conducted by the Whale Museum in Friday Harbor on San Juan Island reveal a trend of consistent increase in whale watching activities. Boat-based whale watch tour operators first arrived in 1977, and by 1996, represented over 50 vessels carrying in excess of 80,000 passengers. In 1997, growth increased by more than 50 percent, with 83 commercial boats operated by 53 companies.

5.4.8 Public Access

Public access to Washington's shore includes features such as boat launches, beaches, shoreline trails, and observation overlooks. Primarily, local government park and recreation agencies, public port districts, and the state's Park and Recreation Commission provide public access. Other providers include the state departments of Fish and Wildlife, and Natural Resources, plus the National Park Service and the National Forest Service. The Interagency Committee for Outdoor Recreation, as well as local funding initiatives, provide the state and local funding.

The trend toward extensive private ownership of tidelands and shorelands in Washington State began immediately after statehood (1889) with the sale of state-owned tidelands to: (1) raise money for the State Treasury; (2) enable "wharfing out" to deep water to encourage marine commerce; and (3) encourage and enable commercial oyster production; especially in Willapa Bay. In 1907, the Legislature directed the sale of aquatic lands in Lake Washington and Lake Union (large coastal lakes) specifically to finance the Alaska-Yukon-Pacific Exposition. Publicly owned tidelands and shorelands were sold into private ownership on demand until the early 1970s. By 1979, only 39 percent of Washington's tidelands and 70 percent of the shorelands remained in public ownership. Current policy is to sell no publicly owned tidelands or shorelands into private ownership, although a lease program continues.

Based on the 1985 inventory of Washington's 2,200 miles of inland marine shoreline the approximately 700 public access sites represent about 425 miles of shoreline, or about 19 percent of that shore. Since only half that public shore has access from the uplands, the public has real access to only about 10 percent of the inland marine waters of Puget Sound.

Public use of shorelines and the demand for public access can be characterized from a 1996 statewide public opinion survey (Social and Economic Sciences Research Center, 1996). Forty-two percent of Washingtonians go to a shoreline at least once a month, and 89 percent go at least several times a year. Lakes, rivers, streams, and Puget Sound are about equally popular as "most frequently visited," while the ocean is the least frequent first choice (13 percent).

When asked, "Is there adequate public access to shorelines in Washington?"; 63 percent responded "enough" and 37 percent "not enough." When asked what they found "bothersome" to their shoreline visits, 75 percent identified "crowds," but this choice was fifth behind litter, site abuse, building development, and poor water quality.

In a 1995-96 study of boating access and access needs covering the lower 190 miles of the Columbia River (from the mouth to Dalles Dam), the researchers found that motor boaters desire additional boat launch facilities and improvements to some existing launches. Launch facilities every 10-to-12 miles along the river were considered adequate. Presently there are 33 launches in the 190 miles, but their spacing and placement often exceeds the 10-to-12 mile criteria. Other desires include more transient moorage.

5.4.9 Piers and Docks (Ports)

There are 76 public ports of all sizes in Washington State, which has the largest locally-controlled port system in the world. Forty-two ports operate industrial areas, and 41 operate recreational piers, marinas, and docks. While Washington comprises just two percent of the U.S. population; it handles seven percent of all U.S. exports and six percent of all imports. The Ports of Seattle and Tacoma combined make up the second largest container complex in North America, second only to Los Angeles/Long Beach and ahead of New York/New Jersey. Washington is more dependent upon trade, and the jobs it provides, than any other state in the U.S. International trade supports almost one third of Washington's workforce; 25 percent in exports, and seven percent in imports. Nearly 740,000 workers and proprietors depend on

exports; 161,000 depend upon imports. Forecasters predict that international trade through Washington's ports will continue to increase about four to five percent each year until 2020.

Ports in Washington evolved in much the same was as in other parts of the nation. Wherever people settled near the waters, boats, ships, rafts, and barges were needed to move people and goods. Docks, floats, piers, gangways, and other conveniences were built to accommodate watercraft traffic. Washington's ports can own and operate shipping terminals, marinas and docks, airports, industrial sites, railroads, parks and recreational facilities, and even promote tourism. Consequently, most of Washington's public piers and docks are located in areas traditionally used for heavy industry.

These days, Washington's ports are cleaning up pollution from past activities, re-claiming vacant industrial land, and exercising tighter environmental control over use of public lands. Ongoing environmental issues include urban harbor sediment cleanup when ports dredge up sediments for shoreline development or to improve harbor navigation; dredging sediment and the disposal of dredged materials to allow deep-draft navigation; habitat protection where shoreline development and dredging can affect marine or freshwater habitats; invasive species released through ballast water; and expanding transportation needs

5.4.10 Marinas

Thousands of residents and tourists enjoy the coastal zone waters through various boating activities. In 1990, Washington residents owned nearly 656,000 boats, kayaks, canoes, rowboats, sailboards and other watercraft, the vast majority of which were located in the Puget Sound. Within Washington's coastal areas, there are approximately 450 marinas providing roughly 37,400 wet moorage slips. Most marinas are small, providing less than 200 slips. Port authorities own four out of five marinas that have over 1,000 slips. Over half the total numbers of marinas are located in the central Puget Sound counties of King, Pierce, Kitsap, and Snohomish. The 29 marinas in San Juan County reflect the popularity of that part of the state as a boater destination.

5.4.11 Instream Structural Uses

"Instream structural uses" refers to management practices that either increase or harm habitat complexity through direct manipulation of streams. Examples of instream structural uses that positively affect instream habitat by increasing complexity include gabions (inexpensive wire baskets filled with rocks), and boulder and log structures that accelerate recovery of fish habitat. Examples of instream structures that negatively affect instream habitat can include such things as culverts, dams, weirs, and spillways that block fish from migrating to upstream habitat.

Few endeavors in resource and environmental management in the Pacific Northwest are more compelling than rapidly expanding efforts to restore the region's streams and rivers. The region's history and strongly held values are inseparably intertwined with its streams and rivers. In coastal and inland settings, historic and current settlement and development patterns have centered on streams for transportation, residential, municipal, agricultural, and industrial water supply, power generation, and crop irrigation. Pacific Northwest streams and rivers, and their

floodplains provide: food, construction aggregates, and recreational opportunities. Their floodplains also provide relatively flat, fertile agricultural land and their forested riparian zones historically supplied timber. However, competing uses of stream corridors in modern society, combined with large-scale alteration of watersheds, have directly and indirectly impacted the abundance, quality, and stability of stream and riparian habitats. Streams, with their associated floodplain and riparian ecosystems compose the sole habitat, or critical habitat elements for a majority of the region's native fish and wildlife. Approximately 85 percent of Washington's terrestrial vertebrate wildlife species depend on riparian habitats for all or critical portions of their life histories. This rich, floral and faunal biodiversity is the basis for much of the state's cultural heritage, economy, and famous quality of life.

Under Washington State laws, the WDOE oversees both the appropriation of water for out-of-stream uses (e.g., irrigation, municipalities, commercial and industrial uses) and the protection of instream uses (e.g., water for fish habitat and recreational use). Ecology does this by adopting and enforcing regulations, as well as by providing assistance to citizens regarding both public and private water management issues. Protection of instream uses is closely tied to the management and protection of existing and future water rights. Assistance to citizens includes funding for such activities as Regional Fisheries Enhancement Groups (RFEGs), which are citizen-based, nonprofit organizations that work to recover salmon in their own communities by partnering with local, state, and federal agencies, tribes, local businesses, community members and landowners. RFEGs receive pass-through funds for projects such as stream-side fencing, construction of off-channel rearing habitat, and estuarine and riparian habitat restoration; basically restoration, education and monitoring projects. The program improves fish habitat on private lands with little to no cost to the landowner. Technical assistance is provided by Washington Departments of Fisheries and Wildlife (WDFW) field staff who assist in project design and implementation. Other programs include the Family Forest Fish Passage Program, which provides financial and technical assistance to rural landowners who have fish barriers on their forestland. The program provides 75 to 100 percent of the cost of fixing fish barriers on qualifying lands, including such activities as removing, repairing, or replacing artificial in-stream structures such as culverts, dams, weirs, spillways; assessing in-stream structures to confirm they are fish barriers; and technical assistance with determining appropriate fish passage structures.

The WDFW enforces the state anadromous fish and shellfish harvest and management laws. It also participates in long-range planning involving streams, maintains a fish habitat enhancement program, issues hydraulic project applications permits, provides technical assistance in design of in-stream structures affecting anadromous fish, assures conservation and preservation of salmon resources in the state through intensive fish culture facilities, and cooperates in fish rearing projects with sport groups, tribal organizations, educational facilities, and civic groups. The WDFW also contains the Game Commission and its staff. It enforces state fish and game laws, classifies, monitors, and enhances wildlife species, numbers, and habitat; improves hunting and fishing access; and advises individual and groups on ways to minimize man-made impacts to wildlife.

The WDWF administers the Fisheries Restoration and Irrigation Mitigation Act (a USFWS program), which seeks to match federal funds with local, state and tribal programs to increase native fish survival, reduce entrainment in existing waters distribution systems, and increase

access to productive fish habitat by constructing fish screening and passage projects. Local, state, and tribal governments are primary applicants. Other private and public landowners may partner with local governments in submitting applications. A proposed project must be associated with an active water diversion and must benefit fish species native to the project area.

5.4.12 Dredging and Dredged Material Disposal

Marine Waters

Marine dredging in Washington can generally be characterized as either: (1) dredging for the creation of new projects (e.g., marinas, channels and port facilities) and waterway deepening; or (2) maintenance dredging to maintain existing facilities and hydrologic features. Dredging to maintain navigational channels in Washington occurs mainly in salt and brackish waters. (Dredging for mining of gravels and/or sand, beach nourishment and to provide cement production materials is discussed above under sand and gravel mining.) Marine dredging activities also include the disposal of dredged materials in marine areas and associated activities where the materials are deposited at a different marine site from where the sediments were removed. The locations of marine dredging activities in Washington State are characterized by region. The three major areas are described as follows:

1) Puget Sound (i.e. inlets and bays of the Strait of Juan De Fuca and the Georgia Strait, Bellingham, Anacortes, Swinomish Channel, Everett, Seattle, Lake Washington, Tacoma to Olympia);

2) Grays Harbor, Willapa Bay, and Quillayute coastal estuaries;

3) Columbia River from the mouth up to river mile 38. Dredging above river mile 38 is considered “freshwater dredging.”

Mechanical dredges are the most commonly used dredging method in Puget Sound (USACOE 1983). Generally, mechanical dredging is used at the larger ports and embayments of the Puget Sound and the Straits area with small-scale suction dredging being used for marina projects and under-pier clearing. In Grays Harbor and Willapa Bay, suction and hopper dredging are utilized except in the upper reaches of the navigation channel such as along the Chehalis River, where clamshell dredges are used. The type of equipment used for marine dredging at the lower reach of the Columbia River include the clamshell, hopper, and pipeline dredges. Hydraulic dredging is reserved for a limited number of under-pier or other “special needs” projects, and typically involves relatively small volumes of dredged material. Projects using hydraulic methods with direct placement from the pipeline include Snohomish River, Keystone Ferry Terminal, and Quillayute River.

In Washington State, the management of dredging and disposal pursuant to the Clean Water Act is accomplished through an interagency approach that includes the USACOE Seattle District, US Environmental Protection Agency (USEPA) Region 10, WDOE, and WDNR. This cooperative management is the Dredged Material Management Program (DMMP). Three separate programs are combined under the DMMP: The Puget Sound Dredged Disposal Analysis, Grays Harbor

and Willapa Bay, and the Lower Columbia River programs. The Columbia River jurisdiction is shared with USACOE, Portland District.

Volumes of materials dredged are reported to the DMMP agencies. These agencies, which all regulate some aspect of dredging or disposal are: the USACOE, WDNR, WDOE, and USEPA. Approximately 7 million cubic yards of sediments are dredged from Washington State waterways annually, including the amount of dredged sediment removed from the Columbia River estuary. This dredging has been primarily for the purpose of maintaining navigation systems for commercial, national defense, recreational purposes, and existing geomorphologic and hydrologic characteristics. According to the DMMP report, annual dredging volumes for 1998 and 1999 were approximately 1 to 3 million cubic yards from Grays Harbor, Willapa Bay and Quillayute combined, and approximately 600-800 thousand cubic yards from Puget Sound and the Straits. (Freshwater Gravel Mining and Dredging Issues White Paper, Kondolf, et.al., WDF&W, WDOE, WDOT, December 10, 2001)

Fresh Water

Freshwater navigational dredging occurs in the Cowlitz and Columbia Rivers (Norman et. al 1998), and in the Snake River upstream to the international ports of Lewiston and Clarkston (USACOE 2000). From 1961 to 1999 about 9.2 million cubic yards of sediment was dredged from the Snake River and McNary Reservoirs, most for navigational channels, harbors, and marinas. Disposal sites for the approximately 4.7 million cubic yards dredged from about 1961 to 1982 was not reported, but of the material dredged since 1982, 1.9 million cubic yards was disposed in upland sites and 2.6 million cubic yards was disposed in the riverine reservoirs outside the navigational channels. The USACOE (2000) proposed to dredge another 244 thousand cubic yards in 2000-2001, and to dispose of the spoils in the reservoirs. The Environmental Assessment (USACOE 2000) emphasized expected habitat benefits from disposing of sand to cobble-sized sediment in shallower parts of the reservoirs, but did not address issues such as predation of juvenile salmon by warm water fish, nor potential downstream effects of sediment starvation.

The USACOE has dredged sediment from the lower Columbia River for navigation at least since 1904. Through 1955, most of the dredge material was disposed on land, but since 1956 most disposal has been to deepwater sites offshore. Since 1939, and average of 3.3 million cubic yards of sediment was removed by dredging (George Kaminsky, Washington Dept. of Ecology, Olympia, unpublished data, 2001). The likely cumulative effect of this dredging on the sediment budget of the lower Columbia River are appreciated only when viewed in light of the combined effects of upstream dams on the river's sediment budget. The pre-dam (pre-1934) sand supply to the lower river was about 5.7 million cubic yards per year, but sediment trapping in dams has reduced the sediment rate supply by 66 percent to only 1.8 million cubic yards per year. Thus, the post-dam dredging rate of 3.3 million cubic yards has exceeded the post-dam sand supply by 80 percent (Kaminsky, unpublished data.)

The USACOE has now proposed to deepen the navigational channel from 40 feet to 43 feet along the lower 11.6 miles of the Willamette and lower 103.5 miles of the Columbia River below

Vancouver, Washington. The net increase in depth will require a significant increase in dredging.

The Columbia River is the source of sand for a littoral cell extending 100 miles along the Pacific coast, from Point Grenville, Washington, to Tillamook Head, Oregon. The coast there has experienced accelerated erosion, with recent coastal erosion in the Westport area alone costing $30 million in repairs. (Freshwater Gravel Mining and Dredging Issues: White Paper, Kondolf, et. al, December 10, 2001)

5.4.13 Aquaculture

Washington's aquaculture industry is dominated by salmon net pen facilities in Puget Sound; oyster and clam cultivation in Puget Sound, Grays Harbor, and Willapa Bay; and mussel growing in Puget Sound. In addition, new culture techniques have been developed for the cultivation of geoduck clams in the intertidal zone. In recent years, the shellfish industry, aided by federal grants, has invested substantial funds to improve geoduck culture methods. This has led to increased development of geoduck aquaculture on privately held and state-owned intertidal lands. Currently, Washington State leads all other west coast states in total production of aquaculture products and is one of the top producers of oysters and the top producer of Manila clams in the United States.

The three principal environmental concerns related to aquaculture in Washington State are: (1) water quality; (2) land use patterns and conflicts; and (3) introduced pests and predators. Water quality remains a problem for commercial shellfish aquaculture throughout the state. Principal causes are diverse, and in different regions might include sewage treatment plant discharges, failing on-site sewage treatment systems, marina and boater wastes, animal or other agricultural wastes, or urban runoff and similar nonpoint discharges. Commercial shellfish growing areas can be negatively affected not only by the pathogenic inputs that make the shellfish unfit for human consumption, but also nutrient inputs that can result in increased plankton production which, in turn, can lead to low dissolved oxygen concentrations, especially where the receiving waters are nutrient limited. On the other hand, in areas of intensive aquaculture productions, these effects can be mitigated to the extent that shellfish (as filter feeders) consume the "excess" phytoplankton.

Land use conflicts are diverse, complex, and widespread, and not all are limited to nearshore areas. Broad land use patterns and density also contribute to the problems of water quality and habitat degradation. Nearshore land use conflicts can often be perceived as aesthetic. Residential shoreline property owners are typically opposed to the siting of floating aquaculture facilities such as mussel rafts or salmon net pens, or the permitting of geoduck harvest operations, within their viewshed. Noise is also cited as an issue among property owners. However, residential stormwater runoff, on-site sewage effluents, and boater wastes adversely affect aquaculturists. While other industries potentially have the option of moving to less developed areas of the State, the aquaculture industry is limited to the same shoreline areas that attract the more shoreland development.

Pest and predator species introductions have the potential to threaten every facet of aquaculture. Habitat alteration primarily affects oyster culture in Willapa Bay, which is increasingly threatened by an infestation of nonindigenous species of *Spartina*. *Spartina* infestation spread to Grays Harbor and some embayments of Puget Sound in the mid 1990s, and continues to gain ground. The European Green Crab, a nonindigenous species first found in Willapa Bay in the late 1990s, has the potential to affect shellfish production as well as the Dungeness crab industry. The Green Crab is an effective predator of shellfish, and can out-compete native crabs for food and habitat. As more and more international and interstate movement occurs in Washington's waterways, the potential for introductions of nonindigenous and aquatic nuisance species increases.

5.5 Endangered and Threatened Species.

Information from the USFWS (Dettlaff 2003) and NMFS (Hooper 2003) indicates the potential presence of a number of endangered, threatened, proposed and candidate species in Washington's coastal zone boundaries. These species are identified in Table 6 according to their listing status under USFWS and NMFS jurisdiction, respectively.

Table 6. Species under USFWS and NMFS jurisdiction that potentially could be located in Washington's Coastal Zone Boundary

Regulatory Jurisdiction	Species Type	Federal Status	[a] Common Name	[b] Scientific Name
USFWS	Mammal	E	Gray wolf	*Canis lupis*
	Plant	E	Marsh sandwort	*Arenaria paludicola*
	Mammal	T	Canada lynx	*Lynx Canadensis*
	Mammal	T	Grizzly bear	*Ursus arctos horribilis*
	Bird	T	Bald eagle	*Haliaeetus leucocephalus*
	Bird	T	Marbled murrelet	*Brachyramphus marmoratus*
	Bird	T	Northern spotted owl	*Strix occidentalis caurina*
	Fish	T	Coastal/Puget Sound bull trout (DPS)	*Salvelinus confluentus*
	Plant	T	Water howellia	*Howellia aquatilis*
	Plant	T	Golden paintbrush	*Castilleja levisecta*
	Mammal	C	Mazama pocket gopher	*Thomomys mazama c*
	Mammal	C	Fisher	*Martes pennant*
	Bird	C	Streaked horned lark	*Eremophila alpestris strigata*
	Bird	C	Yellow-billed cuckoo	*Coccyzus americanus*
	Amphibian	C	Oregon spotted frog	*Rana pretiosa*
	Insect	C	Mardon skipper	*Polites mardon*
	Insect	C	Whulge (Edith's) checkerspot	*Euphydryas editha taylori*
NMFS	Mammal	E	Humpback whale	*Megaptera novaeanglia*
	Mammal	E	Southern Resident killer whale	*Orcinus orca*
	Reptile	E	Leatherback sea turtle	*Dermochelys coriacea*

	Mammal	T	Steller sea lion	*Eumetopias jubatus*
	Fish	T	Puget Sound chinook salmon (ESU)	*Oncorhynchus tshawytscha*
	Fish	T	Hood Canal summer-run chum salmon (ESU)	*Oncorhynchus keta*
	Fish	C	Puget Sound/Strait of Georgia coho salmon (ESU)	*Oncorhynchus kisutch*
	Mammal	D	AT1 Group of Killer Whales	*Orcinus orca*

[a] T = threatened; E = endangered; P = proposed; C = candidate; D = Depleted.
[b] DPS = distinct population segment; ESU = evolutionarily significant unit.
[c] Also includes couchi, glacialis, louiei, melanops, pugetensis, tacomensis, tumuli, and yelmensis species.
Each species listed in Table 6 is presented first by jurisdictional authority (USFWS or NMFS), and then by level of listing severity: endangered, threatened, proposed or candidate

In addition, the Washington State Fish and Wildlife Commission listed twelve more species as endangered or threatened (*see*: http://wdfw.wa.gov/wlm/diversity/soc/soc.htm). These species are important to the people of the Washington, and taken together, they present a major issue and challenge for land and water use programs.

5.5.1 Brief Background of the Listed Species

The summary descriptions of protected species listed below are more fully described in Part V of OCRM's biological assessment (BA). Part V of the BA, entitled *Washington State Shoreline Master Program Guidelines Programmatic Biological Assessment*, prepared by Herrera Environmental Consultants, March 2005, is hereby incorporated by reference. Additional information on salmon species is provided in Appendix E.

5.5.1.1 USFWS Endangered Species

Gray Wolf (*Canis lupis*)
Gray wolf packs usually consist of a set of parents (alpha pair), offspring, and other non-breeding adults. Dens are often reused, but wolves may also dig new dens or use some other type of shelter, such as a cave (Fritts et al. 1981. Packs use a traditional area and defend it from unrelated wolves.

The gray wolf is native to most of North America north of Mexico City, except for the southeastern United States, where a similar species, the red wolf (*Canis rufus*), is found. The gray wolf once occupied nearly every area in North America that supported ungulate populations. The drastic reduction in distribution and abundance of grey wolves in North America is directly related to human activities, such as over hunting, conversion of habitat into agricultural lands, and extensive predator control efforts by private, state, and federal agencies (USDA 2003).

Originally 24 subspecies of gray wolf were recognized in North America (USFWS 1994a). Recent research efforts indicate that the wolf type once occupying the northern Rocky Mountains of the United States is more widely distributed than previously understood. As a result, fewer than five subspecies or group types of gray wolf are now recognized in North America. Gray wolf populations have been extirpated from most of the western United States and are listed as endangered. There are no known gray wolf populations within the coastal zone at this time.

Marsh Sandwort (*Arenaria paludicola*)

The marsh sandwort (*Arenaria paludicola*) occurs in swamps and freshwater marshes along the Pacific Coast. Marsh sandwort is a slender perennial plant, classified in the pink family (Caryophyllaceae) that flowers from May to August. Historically, the plant occurred from California to Washington at elevations from sea level to 1, 476 feet (Morey 1990). The one remaining population is located in Black Lake Canyon in San Luis Obispo, California. This species and its coastal wetland habitat are threatened by urban development, conversion of land to agriculture, alteration of hydrology, competition with invasive exotic species, and random extinction due to the vulnerability of the species as a whole. The species has not been found in Washington for over 106 years (Thomas 2002).

Figure 18. Marsh sandwort in bloom. Source: WDOT

5.5.1.2 USFWS Threatened Species

Canada Lynx (*Lynx canadensis*)

The Canada lynx is a secretive, forest-dwelling cat of northern latitudes and high mountains. A medium-sized cat, the Canada lynx has long tufts on its ears and a short, black-tipped tail (USFWS 2003). Similar to the bobcat, the lynx has longer legs and large, well-furred paws, adaptations for maneuvering through deep winter snow. Lynx are most likely to inhabit and are best adapted to areas that receive abundant snow. Lynx use large woody debris such as windfalls and downed logs for den sites, where young can be protected and insulated from the elements. In Washington, lynx use *Pinus contorta* (lodgepole pine), *Picea* spp. (spruce), and *Abies lasiocarpa* (subalpine fir) forests older than 200 years with an abundance of downed woody debris for denning (Koehler 1990). Since 1993, the lynx has been listed as a threatened species in Washington (WDF, WDW, and WWTIT 1993). Richardson (1999) recommended retaining the lynx as a threatened species in the state because the status of the lynx had not changed appreciably in Washington. Critical habitat has not yet been designated for Canada lynx. The closest populations occur about 100 miles to the east-northeast within North Cascades National Park (WDFW 2002).

Grizzly Bear (*Ursus arctos horribilis*)

The grizzly is the second-largest terrestrial North American carnivore. It has a prominent hump over the shoulders formed by the muscles of its massive forelegs. Its color ranges from nearly white or ivory yellow to black. Although considered a meat eater, the grizzly is generally omnivorous; plants make up 80 to 90 percent of its diet. Grizzlies prey on mammals and migrating salmon, when available, but rely primarily on vegetation for food (CWS 2003).

The grizzly bear was originally distributed in various habitats throughout western North America, from central Mexico to the Arctic Ocean. Current distribution is reduced to less than two percent of the grizzly's former range south of Canada in five or six, small populations with an estimated total population of 800 to 1,000 bears. Four regions or ecosystems— the northern Continental Divide and Cabinet-Yaak in Montana, the Selkirks of Idaho and Washington, and the north Cascades of Washington—accommodate grizzly populations contiguous with Canadian populations. A grizzly population also exists in the Yellowstone ecosystem. The USFWS species lists for Skagit, Whatcom, and Snohomish counties indicate potential presence of this species (USFWS 2005a). However, there are no known grizzly bear populations within WRIA 3 (Thomas 2002 personal communication). The closest populations occur about 100 miles to the east-northeast within North Cascades National Park (WDFW 2002).

Bald Eagle (*Haliaeetus leucocephalus*)

In the Pacific Northwest, bald eagle populations include local nesting birds and wintering birds. Wintering bald eagles congregate along Washington rivers between October 31 and March 31 to feed on stranded, spawned-out salmon. Wide, braided river reaches with numerous gravel bars are the optimal areas for feeding, because the gravel bars catch and retain salmon carcasses and provide the eagles with unrestricted flight paths. A recovery plan for the Pacific bald eagle prepared in 1986 identifies habitat loss as the most significant long-term threat to bald eagle populations (USFWS 1986). The recovery plan recommends habitat management as the most important element in species recovery.

USFW has not designated critical habitat for the bald eagle. The lower Skagit study area contains 20 nesting locations and excellent foraging resources within this relatively undeveloped deltaic floodplain and tidal marsh area. This area is also heavily used as a wintering area and as a stopover for bald eagles en route to wintering areas along the middle Skagit.

Marbled Murrelet (*Brachyramphus marmoratus*)

A seabird, the marbled murrelet nests inland in coastal old-growth forests but winters on marine waters. During late spring and summer, reproductive adults fly substantial distances inland to establish nests in late-successional or old-growth coniferous forest. Most nest sites are found within 70.8 kilometers (40 miles) of the coast, but they range to a maximum distance of 106 kilometers (66 miles) (Marshall 1988).

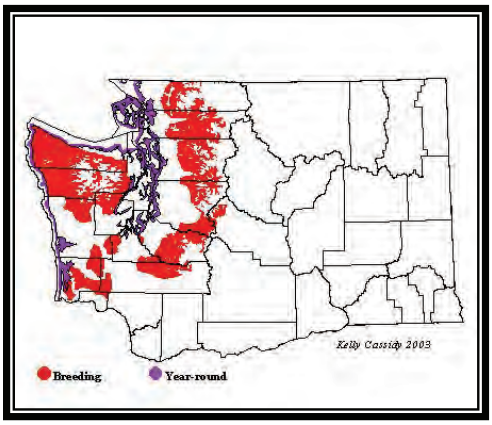


Figure 19. Map from Seattle Audubon Society showing habitats for feeding and nesting. (Source: Kelly Cassidy, 2003)

The USFW listed the marbled murrelet as a threatened species in Washington, Oregon, and California on September 28, 1992. Among other provisions, this rule requires protection for all occupied marbled murrelet sites. It also establishes detection areas: the one square mile

(2.59 square kilometers) section of land in which a marbled murrelet is detected plus the surrounding eight sections. A final rule for designating critical habitat for the marbled murrelet was published on May 24, 1996. It identified 32 critical habitat units encompassing approximately 3,907,660 (15,814 square kilometers) of federal and nonfederal lands, consisting primarily of old-growth forest, in Washington, Oregon, and California (USFWS 1996).

Northern Spotted Owl (*Strix occidentalis caurina*)

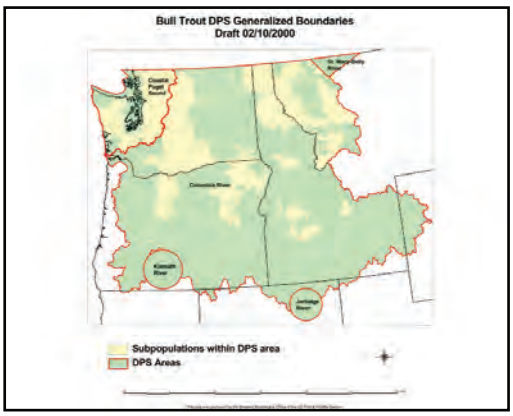
Spotted owls prefer old-growth or undisturbed stands of mature conifers for both nesting and roosting. They occupy relatively large home ranges, the size of which increase as the amount of old-growth forest decreases. Suitable habitat consists of multi-layered, mature forests with average canopy cover greater than 70 percent, containing relatively high densities of logs and snags.

Figure 20. Northern spotted owl. Source: USFWS.

The northern spotted owl was listed by the USFWS as a threatened species in 1990 and has been listed as endangered by Washington since 1999. To protect remaining critical late successional and old-growth forest habitat for the spotted owl and to reduce fragmentation, the USFWS designated several critical habitat units in 1991. A proposed 4(d) rule under the ESA would establish six northern spotted owl special emphasis areas in Washington in which incidental *take* prohibitions would continue to apply. These areas are designed to protect spotted owl habitat on nonfederal lands. The USFWS species lists for Skagit, Whatcom, and Snohomish counties indicate presence of this species (USFWS 2005a). Spotted owls may also occur within WRIA 3. (Thomas 2002 personal communication)

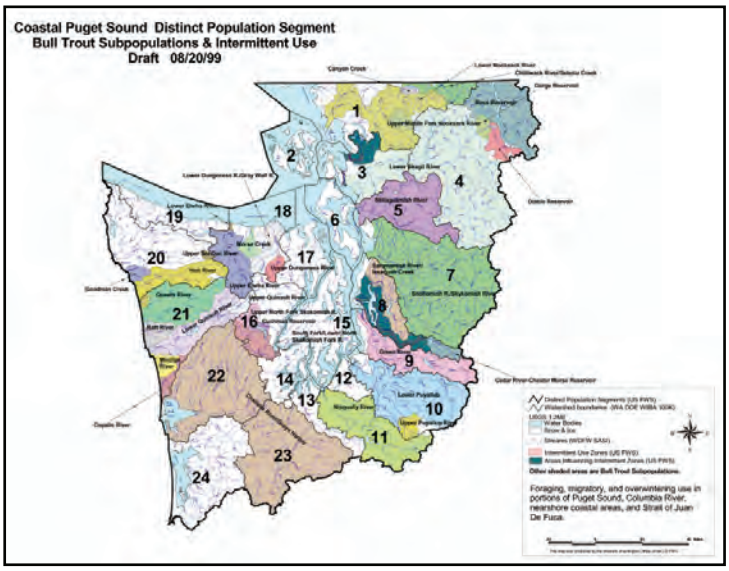
Bull Trout (*Salvelinus confluentus*)

Bull trout occur in four life-history forms: anadromous (associated with marine waters), resident (remains in the headwater areas), adfluvial (associated with lake areas), and fluvial (associated with river areas). Fluvial, anadromous, and resident adults can spawn in the same area (WDFW 1998). After spawning, fluvial adults move throughout the upper river areas and remain in pools throughout the winter, spring, and early summer. Bull trout return to their spawning staging areas in late summer. After spawning, anadromous adults begin the downstream migration from late fall through the winter and enter the estuary area in the spring, where they remain until late spring or early summer when they begin their upstream spawning run again.



Bull trout have more specific habitat requirements than other salmonids and are most often associated with undisturbed habitat having diverse cover and structure. Spawning and rearing activities are restricted primarily to relatively pristine, cold streams, often within headwater

reaches. Water temperature is also a critical factor for bull trout, where water temperatures exceed 15 degrees Celsius (°C) which limits distribution (Rieman and McIntyre 1993).



The Coastal-Puget Sound distinct population segment is located west of the Cascade Mountains in the State of Washington. It includes bull trout in the Puget Sound Management Unit and the Olympic Peninsula Management Unit. The Puget Sound Management Unit includes all watersheds within the Puget Sound basin and the marine near-shore areas of Puget Sound. The Olympic Peninsula Management Unit includes all watersheds within the Olympic Peninsula and the near-shore marine waters of the Pacific Ocean, Strait of Juan de Fuca, and Hood Canal (USFWS 2005b). More specifically, the Coastal/Puget Sound bull trout distinct population segment occurs in the following WRIAs: Nooksack (WRIA 1), lower Skagit-Samish (WRIA 3), upper Skagit (WRIA 4), Stillaguamish (WRIA 5), Snohomish (WRIA 7), Cedar-Sammamish (WRIA 8), Duwamish-Green (WRIA 9), Puyallup-White (WRIA 10), Nisqually (WRIA 11), Elwha-Dungeness (WRIA 18), Queets-Quinault (WRIA 21), lower Chehalis (WRIA 22), and upper Chehalis (WRIA 23). This population segment is segregated from the other subpopulations by the Pacific Ocean and the crest of the Cascade Mountain range. The population segment is significant to the species as a whole because it occurs in a unique ecological setting. No bull trout exist in coastal drainages south of the Columbia River (USACOE 2001a).

Land and water management activities and alterations degrade bull trout habitat and continue to threaten all of the bull trout population segments. These activities include river damming, forest management practices, livestock grazing, agriculture, and road building and mining (Beschta et al. 1987; Furniss et al. 1991; Meehan 1991; Nehlsen et al. 1991; Sedell and Everest 1991; Craig and Wissmar 1993; MBTSG 1998). Fish barriers, timber harvesting, agricultural practices, and urban development are also thought to be major factors affecting the Coastal/Puget Sound bull trout (Federal Register 1999).[7]

[7] A more thorough description of the natural and human factors affecting the natural and built environments is described in Chapter 5 of the Final Environmental Impact Statement for the Wild Salmonid Policy. This can be found on the Washington Department of Fish and Wildlife site at: http://wdfw.wa.gov/fish/wsp/wspeis.pdf .

The USFWS drafted a recovery plan for the Coastal-Puget Sound distinct population segment of bull trout; it is available on the following USFWS website (USFWS 2004b): <http://pacific.fws.gov/bulltrout/Recovery.html>.

The limiting factors affecting the Coastal/Puget Sound bull trout are briefly summarized in the bulleted list below. This synopsis of limiting factors has been compiled from those WRIAs for which a limiting factors analysis has been completed (Kerwin 1999; Haring 2000).

Figure 21. Bull trout. Source: WDFW

- Large percentages of tidal marshes, estuaries, and historical wetlands have been adversely affected or have lost tidal connectivity when converted to human use (e.g., agriculture, residential development, or roads).
- Estuarine and marine near-shore functions have been substantially affected by physical alteration of natural estuaries, alteration of near-shore ecological function due to extensive shoreline armoring, loss of shoreline large woody debris, loss of shoreline riparian shade, poor water and sediment quality, and loss of sediment influx from rivers.
- Cordgrass (*Spartina* sp.) invasions have eliminated native salt marsh vegetation, displaced native plants and animals, raised the elevation of the estuary substrate, and increased flooding.
- Poor water quality conditions have been associated with dredging impacts.
- Floodplain and side-channel habitats and the natural sinuosity of rivers have been lost, primarily due to the construction of dikes, railroads, levee systems, and roads, as well as earth filling associated with revetments, agriculture, and development.
- Gravel bar scalping and roads in riparian areas have affected the floodplains of some systems.
- Large percentages of floodplain forests along most of the main stem rivers, as well as riparian forests, have been harvested or lost as a result of surrounding agricultural and residential land uses, resulting in a dramatic decrease in large woody debris.
- Adequate large woody debris in streams is lacking, particularly larger pieces that are critical to developing pools, logjams, and other habitat diversity important to salmonids. Stream cleaning has contributed to the lack of large woody debris.
- Loss of riparian function due to removal or alteration of natural riparian vegetation has adversely affected water quality, lateral erosion, stream bank stability, and instream habitat conditions.
- Extensive commercial timber harvesting has resulted in increased sediment loads, reduced large woody debris input and recruitment potential, and altered precipitation runoff patterns. Landslides and debris flows associated with human land uses (e.g., timber practices, road building, and agriculture) are the primary sources of sedimentation.
- Naturally high rates of channel erosion, stream bank erosion, and substrate instability in geologically young basins have been further exacerbated by the loss of stream bank and riparian integrity, as well as alteration of natural hydrology.
- Substrate sediment transport processes have been altered by excess sediment contribution due to land use practices, and by preclusion of sediment transport due to dam

construction, resulting in stream morphology changes, channel instability, channel incision, and adverse effects on spawning success and benthic invertebrate production.

- Low summer stream flows have been exacerbated by the cumulative effects of ground water withdrawals and loss of wetlands.
- Low summer flows have permitted saline waters from Puget Sound to move upstream in the main stem Stillaguamish River.
- Seasonally high water temperatures and low dissolved oxygen levels have been exacerbated by low flows and loss of riparian cover.
- Nonpoint source pollution associated with agricultural practices, onsite septic systems, urban runoff, and forest practices has adversely affected water quality.
- Culverts, tide gates, and dikes impede or prevent fish passage.
- Substantial increases in peak flow frequency and magnitude have resulted from alterations in the age and type of surrounding forests, channelization, and increased stormwater runoff from deforested lands.
- Portions of the Coastal/Puget Sound bull trout distinct population segment occur within Olympic National Park and have high quality habitat conditions. However, most of this habitat is inaccessible to fish because of migration barriers in the lower stream reaches.

Water Howellia (*Howellia aquatilis*)

Water howellia is a self-pollinating wetland plant in the bellflower family (Camanulaceae). It is an aquatic annual that grows from 1 to 60 centimeters in height. Its submerged or floating stems are branched with narrow leaves 1 to 5 centimeters in length. The plant can produce two types of flowers: small flowers beneath the water's surface, and emergent white flowers 2 to 2.7 millimeters in length. Howellia reproduces from seed, and germination occurs only in areas of the wetlands that become seasonally dry, allowing seeds to be exposed to the air (Lesica 1990, 1992). The plant usually grows in ephemeral glacial pothole ponds and former river oxbows (Lesica 1992) partially surrounded by deciduous forest that are filled by spring rains and snow runoff and exhibit seasonal drying during the summer (the plant's growing season). Howellia grows in shallow water or along the edges of deep ponds (Shelly and Moseley 1988). The population size depends upon the extent of drying in these wetlands during the growing and germination season (Lesica 1992). In Washington, the plant has been historically reported in Clark, Mason, Thurston, and Spokane counties; however, it appears to have been extirpated in Mason and Thurston counties. Nearly all of the remaining populations are concentrated into two clusters near Spokane, Washington and in Latnah County, Idaho. A third site near Vancouver, Washington contains two small populations (Gamon 1992). Of the 47 known populations in Washington, 34 populations occur on Forest Service land, 11 are on private lands, one is on state land, and one is on Bureau of Land Management land (USFWS 1994b).

The water howellia was listed as threatened on July 14, 1994. The water howellia is threatened by the loss of wetland habitat and habitat changes due to timber harvesting, grazing, development, and competition with other plant species, reed canary grass in particular. In Washington, reed canary grass is considered a major threat to howellia because it is present in 87 percent of the pools that howellia occupies (USFWS 1994b). Purple loosestrife is also considered a threat to howellia; this species is found in the vicinity of the Spokane howellia meta population (West 1990). Critical habitat for water howellia was never designated, as formal designation was considered potentially threatening to the species because it could lead to

increased vandalism and *take* (as defined under the ESA). More recently, the USFWS increased sightings of water howellia in ephemeral and low elevation wetlands (Thomas 2002 personal communication). If these wetlands occur within the study area considered in this project, then there is a chance that water howellia may be present.

Golden Paintbrush (*Castilleja levisecta*)
Golden paintbrush is a perennial herb in the figwort family. It typically has 1-15 erect to spreading un-branched stems reaching a height of 12 inches. The stems and leaves of the plant are covered with soft sticky hairs. It is distinguished from other paintbrush by brilliant golden yellow floral bracts. The plant flowers from April to June, and is relatively inconspicuous when not in bloom. The plant has been observed growing in clumps in open grasslands at elevations below 328 feet. Populations are distributed throughout the Puget Trough on glacial outwash or glacio-lacustrine sediments where annual rainfall averages 31-53 inches. Low intensity fires that maintain native grassland habitat by limiting encroachment of trees and shrubs can maintain suitable habitat for the species (Agee 1993; Kruckeberg 1991; Sheehan and Sprague 1984). Historically the species occurred at over 30 sites in the Puget Trough and south into Oregon.

The plant has been extirpated from the areas in Oregon where it was historically found, and currently forms only ten extant populations (Sheehan and Sprague 1984), eight of which are located in Washington including: one in Thurston County, five on Whidbey Island, one on San Juan Island, and one on Lopez. These populations exist on a mix of public and privately owned lands. Populations of fewer than five plants are not considered viable. Primary threats to golden paintbrush include conversion of open grassland to agricultural or development, fire suppression, picking, resource extraction impacting suitable habitats, grazing by livestock or rabbits, or trampling. Direct human caused impacts include conversion of habitats for residential and commercial development, conversion to agriculture, and potentially impacts associated with road maintenance activities. On June 11, 1997, USFWS listed the golden paintbrush as threatened under the ESA.

5.5.1.3 USFWS Candidate Species

Mazama Pocket Gopher (*Thomomys mazama*)
Adult Mazama pocket gophers are reddish brown to black with lead-colored under parts. Lips, nose, and patches behind the ears are black, and the wrists are white. Adults range from 7 to 11 inches in total length, with tails that range from 2 to 3 inches (Hall 1981). The Mazama pocket gopher is associated with glacial outwash prairies in western Washington, an ecosystem of conservation concern (Hartway and Steinberg 1997). Ninety-seven percent of the Puget Sound basin grasslands have been altered by agricultural expansion, livestock grazing, fire suppression, exotic plant invasion, and urban and suburban sprawl. These Actions have severely reduced suitable pocket gopher habitat (CBD 2002). Pocket gophers are also threatened by pesticide and herbicide spraying. The Mazama pocket gopher (*Thomomys mazama*, including subspecies *couchi*, *glacialis*, *louiei*, *melanops*, *pugetensis*, *tacomensis*, *tumuli*, and *yelmensis*), is a candidate species for listing under the ESA, as identified by USFWS (2003).

Fisher (*Martes pennanti*)

The fisher is a medium-sized forest predator in the weasel family (*Mustelidae*). The fisher's body is light to dark brown with a face, neck and shoulders occasionally having a grayer color. The chest and underside often have irregular white patches. Fishers have long bodies and short legs with long bushy tails and range in size from 2.5 to four feet long. Fishers occur in the northern coniferous and mixed forests of Canada and the northern United States. Their range extends from the southern Yukon to the Labrador provinces in Canada southward to central California, Wyoming, the Great Lakes region, the Appalachian region, and New England. Over-trapping, predator pest control programs, and alterations of forested habitats by natural and predominantly anthropogenic means in the 1800s and early 1900s drastically reduced the fisher's range. In Washington, the fisher historically occurred on both the east and west sides of the Cascade crest. Historic habitats in the state likely included all low to mid-elevation wet and moderately wet forest habitats. There is historical evidence that fishers occurred throughout the Cascades, Olympic Peninsula, and southwestern and northwestern Washington (USFWS 2004a). More recent evidence (from 1955 through 1991) indicates that on the west side of the Cascade Mountains, fishers occurred from 328 to 5,900 feet in elevation and on the east side from 1,970 to 7,200 feet. Due to a lack of trapping reports or sightings, the fisher is now considered extirpated or reduced to scattered individuals in Washington (USFWS 2004a). The west coast population of the fisher (*Martes pennanti*) is a candidate for listing under the ESA, as identified by the USFWS (2004).

Streaked Horned Lark (*Eremophila alpestris strigata*)

The streaked horned lark is a small, ground-dwelling songbird with a feather-tufted head. Its back is heavily streaked with black, contrasting sharply with its deeply ruddy nape and yellow under parts. The streaked horned lark is active diurnally during all seasons of the year (CDFG 2003). It forages by walking on the ground searching for insects, snails, and spiders during the breeding season, adding grass and other plant matter to its diet during other seasons (Bent 1942). The lark builds grass-lined nests on the ground and in the open. The greatest threat to the streaked horned lark's survival is the dramatic loss of native grasslands. Puget Sound lowland prairies have been reduced from 150,000 to 4,000 acres (CBD 2002). Agricultural expansion, livestock grazing, urban and suburban sprawl, and fire suppression have caused the loss.

The streaked horned lark nests on the ground in sparsely vegetated sites in short-grass-dominated habitats. Historically, this type of habitat was found in prairies throughout western Oregon and Washington (CBD 2002). More recently, streaked horned larks have used manmade habitats for nesting, such as fallow agricultural fields, lightly to moderately grazed pastures, seasonal mudflats, airports, and dredged material islands (Gabrielson and Jewett 1940; Rogers 1999). Streaked horned larks are also found in dune habitats along the coast (Rogers 1999). The primary factors contributing to the loss and degradation of streaked horned lark habitat have been the conversion of grasslands to other uses such as agriculture and residential development, encroachment of woody vegetation due to fire suppression activities, and encroachment into prairies by nonnative plant species such as Scotch broom (*Cytisus scoparius*) and sod-forming grasses (*Holcus* sp. and *Arrhenatherum elatius*) (CBD 2002).

The streaked horned lark is a USFWS candidate species for listing under the ESA. The species is also protected by the federal Migratory Bird Treaty Act (16 U.S.C. 703 et seq.) and by state laws as a non-game species. Breeding habitat, however, receives little protection from these

laws. The lark was once a common nesting species in grasslands and prairies west of the Cascade Mountains from southern British Columbia through Washington and Oregon. The destruction of 95 percent of native grasslands on the west coast, however, caused cataclysmic population declines. The streaked horned lark is currently considered rare and has been extirpated from much of its range, particularly in Washington (USFWS 2002b). Although common around Puget Sound up to the 1950s, it is now extirpated in the San Juan Islands. A total of about 100 pairs remain, divided between south Puget Sound and islands near the mouth of the Columbia River (CBD 2002). In 2000, 58 streaked horned larks (51 males and 7 females) were detected at the 11 known breeding sites in the southern Puget Sound lowlands and the outer coast (MacLaren 2000).

Yellow-Billed Cuckoo (*Coccyzus americanus*)

The yellow-billed cuckoo is a medium-sized bird of about 12 inches (30 centimeters) in length, weighing about 2 ounces (60 grams). The species has a slender, long-tailed profile, with a stout and slightly down-curved bill, which is blue-black with yellow on the basal half of the lower mandible. Plumage is grayish-brown above and white below, with reddish-brown primary flight feathers. The tail feathers are black and white patterned. The legs are short and bluish gray, and adults have a narrow, yellow eye ring (paragraph adapted from USFWS 2005c). Western cuckoos (the western distinct population segment is west of the crest of the Rocky Mountains) breed in densely vegetated deciduous riparian habitats (particularly woodlands with cottonwoods (*Populus fremontii*) and willows (*Salix* sp.) (Ehrlich et al. 1988). Yellow-billed cuckoos feed exclusively on insects and have been documented timing their nesting activities to coincide with insect hatches (WDFW 2005). Yellow-billed cuckoos winter in South America, generally east of the Andes. The primary factor contributing to population decline is habitat loss. In the west, cuckoos are closely associated with broadleaf riparian (i.e., streamside) forests. Logging, cattle grazing, dams, water developments, and river channelization have eradicated many of the west's riparian forests. In most western states, 60 to 95 percent of the riparian forests have been destroyed (CBD 2005).

The yellow-billed cuckoo is a USFWS candidate species for listing under the ESA. The species is also protected by the federal Migratory Bird Treaty Act (16 U.S.C. 703 et seq.) and by state laws as a nongame species. Breeding habitat, however, receives little protection from these laws. In the Pacific Northwest, the species was fairly common locally in willow bottoms along the Willamette and Columbia rivers in Oregon, and in the Puget Sound lowlands and along the lower Columbia River in Washington (Gabrielson and Jewett 1940; Jewett et al. 1953; Roberson 1980; Marshall 1996). The last confirmed breeding records were in the 1930s and the species may now be extirpated from Washington.

Oregon Spotted Frog (*Rana pretiosa*)

The Oregon spotted frog is a medium to large aquatic frog (adults range from 2 to 4 inches in snout-to-vent length). The dorsal color is olive-brown to brick red with black spots that have ragged edges and light centers. The undersides of the legs and margin of the abdomen are orange-red to red (McAllister and Leonard 1997). The legs are relatively short and the toes are nearly fully webbed. The frog’s call is a series of six to nine low-pitched clucks. This species is highly aquatic and is rarely found away from water (McAllister and Leonard 1997). Extant populations occur in large shallow wetland systems associated with a stream or stream network.

Breeding habitat is in seasonally flooded margins of wetlands. Egg masses are placed in areas where they receive little or no shading from vegetation. Waters that remain aerobic and do not freeze to the sediments are necessary for winter survival in areas subject to freezing (McAllister and Leonard 1997). The historic range in Washington for this species includes the Puget Trough physiographic province and the southern extent of the Western Cascade physiographic province.

The Oregon spotted frog is a candidate species under the ESA. This species has declined dramatically from its original distribution because of the filling and alteration of wetlands. The four remaining populations are isolated and vulnerable to a wide variety of factors that may interfere with reproduction or survival. Until recently, only four populations had been reported in Washington: two in Thurston County and two in Klickitat County (WDNR 2003a). Recently, USFWS (2003) identified the Oregon spotted frog as potentially occurring in Pierce County (WRIA 10) and in Kitsap County (WRIA 15).

Mardon Skipper (*Polites mardon*)

The Mardon skipper is a small, tawny-orange butterfly with an adult wing span of 1 inch (USGS 2003). Males can be identified by reddish-orange spots on the upper side of the otherwise dark brown body. The forewing has a short, black stigma. The female is darker than the male, with spots that are lighter and more apparent (USGS 2003). On the female, the underside is similar to the upper side. Males perch on grasses to wait for receptive females. The chrysalids hibernate for the winter before taking flight. Mardon skippers have only one brood, which pupate from May through July (USGS 2003). Adult skippers feed mainly on flower nectar.

In the Puget lowlands, the Mardon skipper is found on glacial outwash prairies where it inhabits open grasslands (Larsen et al. 1995). In the southern Cascades, the Mardon skipper is found in open, fescue grasslands within Ponderosa pine savanna/woodland areas. Southern Cascade sites vary in size from small meadows of 0.5 acres (or less) to large grassland complexes (Larsen et al. 1995). Site conditions range from dry, open ridgetops to areas associated with wetlands or riparian habitats. Human structures, including roads and trails, logging landings, helicopter pads, buildings, towers, livestock corrals, trail destinations, and campgrounds, are often built in forest openings. Construction in these areas results in direct habitat loss and degradation of remaining habitat for the Mardon skipper. In Washington, roads, trails, and buildings have destroyed habitat at many previously pristine sites. The Mardon skipper is endemic to the Pacific Northwest. In Washington, the distribution includes small concentrations in the Tenino prairies and the south-central Cascades (Larsen et al. 1995). Suitable habitat consists of grasslands on glacial outwash prairies, as well as openings and ridgetops within Ponderosa pine stands. Idaho fescue (*Festuca idahoensis*) is the suspected host plant.

The Mardon skipper has been designated as a candidate species under the ESA. The skipper is known to occur in Washington. Mardon skippers were likely more widespread and abundant before the large-scale loss of their open, fescue-dominated grassland habitat. More than 95 percent of the original prairie grasslands are gone from western Washington (WDFW 2002d).

Whulge (Edith's) Checkerspot (*Euphydryas editha taylori*)

The Whulge (Edith's) checkerspot, also known as Taylor's checkerspot, is a medium-sized, colorfully checkered butterfly with a wingspan of less than 2.25 inches. It formerly occurred

throughout the extensive grasslands, prairies, and oak woodlands of Vancouver Island, the Puget Sound basin, and the Willamette valley (CBD 2002). Many butterflies have very specific requirements for larval food plants. Whulge (Edith's) checkerspot larvae have been documented feeding on members of the figwort or snapdragon family (Scrophulariaceae), including paintbrush *(Castilleja hispida*), as well as native and nonnative *Plantago* species in the plantain family (Plantaginacea) (Xerces Society et al. 2002; Guppy and Shepard 2001).

The Whulge (Edith's) checkerspot is threatened primarily by habitat loss and degradation. Grasslands covered hundreds of thousands of acres in the Puget Sound basin lowlands prior to European settlement. Today, less than three percent of that original landscape remains, and much of it is degraded. In the southern Puget Sound region, the species inhabits glacial outwash prairie habitat (USFWS 2002d). Host plants include members of the figwort or snapdragon family such as paintbrushes (*Castilleja* sp.) and owl's clover (*Orthocarpus* sp.). Whulge checkerspots also use native and nonnative plantains (*Plantago* sp.).

The Whulge (Edith's) checkerspot is a USFWS-designated candidate species for listing under the ESA. Locations in Washington that currently harbor the species are San Juan County (one population), Pierce County (two populations), and Thurston County (three populations, although one of them is likely extirpated).

5.5.1.4 NMFS Endangered Species

Humpback Whale (*Megaptera novaeangliae*)

The humpback has a bulky head with bumpy protuberances (tubercles), each with a bristle. Humpback whales grow to be about 52 feet long, weighing 30-50 tons. The females are slightly larger than males, as with all baleen whales. The four-chambered heart of the average humpback whale weighs about 430 pounds. Humpbacks come in four different color schemes, ranging from white to gray to black to mottled. There are distinctive patches of white on underside of the flukes. These markings are unique to each individual whale, like a fingerprint. The humpback's skin is frequently scarred and may have patches covered with diatoms. Humpback whales have 14-35 throat grooves that run from the chin to the navel. These grooves allow their throat to expand during the huge intake of water during filter feeding. They have small, round bumps on the front of the head (called knobs or tubercles), edging the jaws.
Humpbacks have huge, mottled white flippers with rough edges that are up to one-third of their body length; these are the largest flippers of any whale. The humpback's genus, Megaptera, means "huge-wings," referring to its flippers. The flippers may have barnacles growing on them. The deeply-notched flukes are up to 12 feet wide. Humpbacks have a small dorsal fin toward the flukes.

Humpback whales (like all baleen whales) are seasonal feeders and carnivores that filter feed tiny crustaceans from the water. Humpback whales feed upon krill, copepods, juvenile salmonids, Arctic cod, walleye pollack, pollack, cephalopods, and pteropods (Johnson and Wolman 1984). They are gulpers (not skimmers), filter feeders that alternatively swim then gulp a mouthful of plankton or fish. Concentrated masses of prey are preferable for this method of feeding. Humpbacks cooperate in hunting and have developed a method of rounding up highly concentrated masses of prey that is called bubble-net feeding. The hunting members of a pod

form a circle 10-100 feet across and about 50 feet under the water. Then the humpbacks blow a wall of bubbles as they swim to the surface in a spiral path. The cylindrical wall of bubbles makes the trapped krill, plankton, and/or small fish move to the surface of the water in a giant, concentrated mass which the humpbacks consume.
(http://www.enchantedlearning.com/subjects/whales/species/Humpbackwhale.shtml)
An average-sized humpback whale will eat 4,400-5,500 pounds of plankton, krill and small, schooling fish each day during the feeding season in cold waters (about 120 days). They eat twice a day.

There are significant genetic differences between the Alaska and California humpback feeding groups based on mitochondrial (Baker et al. 1990) and nuclear DNA analysis (Baker 1992). Results from photographic research also suggests a division between the summer feeding aggregations off the western United States (California, Oregon, and Washington) and those aggregations occurring farther north, with the Canadian border serving as an approximate boundary between the different populations (Calambokidis et al. 1996; 2000). Photo identification studies in Alaska also indicate that humpback whales use discrete, geographically isolated feeding areas that are revisited by the same individual year after year (Straley 1994).

Humpbacks feed during the summer in high-latitude waters and migrate into low-latitude tropical waters for the winter months where they breed and calf. Gestation averages 12 months and lactation continues for approximately one year (Rice 1967). Most calves are weaned at one year (Clapham 1997). The calving interval ranges from one to three years (Clapham 1997). Estimated age at sexual maturity for humpback whales is uncertain.

Causes of natural mortality in this species are not well understood (Dolphin 1987; Whitehead 1987). Strandings in coastal areas, especially on the Atlantic coast, have been documented, and in 1987 and 1988, 14 humpback whales died from ingestion of dinoflagellate saxitocin-infected mackerel. Anthropogenic factors in humpback mortality include historical whaling impacts, collisions with ships (vessel strikes), and entanglement with fishing gear. Noise-related impacts (associated with whale-watching vessels, oil and gas exploration, coastal development, low-flying aircraft, and fishing and recreational vessels) are believed to disturb humpback whales, as evidenced by avoidance behaviors or displacement, damage to hearing, and disruption of low-frequency communication between individuals. Habituation to vessel traffic may also contribute to vessel strikes (Swingle et al. 1993; Wiley et al. 1995).

The humpback whale was listed as endangered under the ESA in 1973. This status is applied to all stocks in United States waters.

Southern Resident Killer Whale (Orcinus orca)

Killer whales are toothed-whales that are black dorsally and white ventrally, with a conspicuous white oval patch located above and behind the eye. A highly variable gray or white saddle is usually present behind the dorsal fin. Killer whales grow to considerable size. The males can reach lengths of 25 feet or more and weigh 10,000 pounds. Females are slightly smaller, and sexual dimorphism also occurs in flipper size and height of the dorsal fin. On average, males are

not reproductively mature until 15 years of age, whereas females can reach sexual maturity as early as age 11 (Krahn et al. 2004).

The killer whale is one of the most widely distributed marine mammals, ranging throughout the Pacific and Atlantic oceans as far north as Iceland and as far south as Antarctica (NOAA 2005; Leatherwood and Dahlheim 1978; Heyning and Dahlheim 1988). There are two killer whale forms (ecotypes) found in Puget Sound: transients and residents. Transient killer whales travel in pods and hunt other marine mammals for food. Resident killer whales spend more time in Puget Sound, traveling in large, stable pods ranging from ten to approximately 60 whales (NMFS 2005). Resident populations are heavily reliant upon salmon as a food source. The dorsal fin of resident whales is rounded at the tip and falcate (curved and tapering). Resident whales have a variety of saddle patch pigmentations, with five different patterns recognized (Baird and Stacey 1988).

The southern resident killer whale assemblage contains three pods—J pod, K pod, and L pod—and is considered a stock under the Marine Mammal Protection Act. Their range during the spring, summer, and fall includes the inland waterways of Puget Sound, the Strait of Juan de Fuca, and the southern Georgia Strait. The west side of San Juan Island and Haro Strait is the most commonly used area among all three pods, but other regions (e.g., the south end of Vancouver Island) are used to varying extents by the pods (Krahn et al. 2004). Little is known about the winter movements and range of the southern resident stock. However, the assemblage has been recently documented in non-summer months in the coastal waters off Oregon, Washington, Vancouver Island, central California, and the Queen Charlotte Islands (Krahn et al. 2004).

Salmon, particularly Chinook, are considered the major prey of southern residents, although information on food habits outside the Puget Sound region is very limited. There have been recent reports of southern resident pods feeding along the Washington and California coasts during Chinook salmon runs (Krahn et al. 2004). Factors causing the population decline of southern residents are not well understood. Some potential causes of decline are reduced quantity and quality of prey; persistent pollutants that could cause immune or reproductive system dysfunction; oil spills; and noise and disturbance from vessels (NMFS 2005). Detailed life history information is available in the Biological Review Team's status review documents (NMFS 2002a, 2004) and the *Washington State Status Report for the Killer Whale* (Wiles 2004).

The NOAA Marine Fisheries Service listed Southern Resident killer whales as endangered on November 15, 2005. This was based on concerns regarding the population decline, the limited number of reproductive-age males, and the presence of females of reproductive age that are not having calves (NMFS 2005). This distinct population segment is at risk of extinction because of either small-scale impacts over time (e.g., reduced fecundity or subadult survivorship) or a major catastrophe (e.g., disease outbreak or oil spill). In addition, the small population size makes the southern resident distinct population segment more vulnerable to inbreeding depression (69 FR 245, December 22, 2004).

Leatherback Sea Turtle (*Dermochelys coriacea*)

The leatherback is the largest living turtle and is so distinctive as to be placed in a separate taxonomic family, Dermochelyidae. The carapace consists primarily of a 1.6-inch thick, tough, oil-saturated connective tissue distinguished by a rubber like texture. The adult skin is black and scaleless, and the undersurface is mottled pinkish-white and black. The average curved carapace length for adult turtles is 61 inches and weight ranges from 441 to 1,543 pounds (NMFS 2003).

The leatherback is typically associated with continental shelf habitats and pelagic environments. Reports of foraging adults in north Pacific waters document feeding on the jellyfish *Aurelia* species off the coast of Washington State (Eisenberg and Frazier 1983). There are clearly areas under United States jurisdiction that are predictably frequented by leatherback turtles (such as Monterey Bay, California), but specific feeding areas have not been identified. Roughly one-half the global population of adult females are believed to nest on the west coast of Mexico (Pritchard 1984). If so, the waters off the west coast of the United States may represent some of the most important foraging habitat in the entire world for the leatherback turtle (NMFS 2001a, 2001b). Aerial surveys of California, Oregon, and Washington waters suggest that most leatherbacks are found in continental slope waters, whereas fewer occur west of the continental shelf (NMFS 2001a, 2001b).

The leatherback was listed as endangered on June 2, 1970. It is currently estimated that 20,000 to 30,000 female leatherbacks exist worldwide. The collapse of these populations is attributed to an over harvesting of eggs and the turtles themselves, incidental catch in commercial fisheries, and habitat destruction. Along the Pacific coast of the United States, incidental catch poses a threat to leatherback turtles in pelagic foraging and transit areas, coastal feeding grounds, and migratory corridors that probably exist along the coast and south into Mexico. Entanglement and ingestion of marine debris also continues to pose a threat to leatherbacks.

5.5.1.5 NMFS Threatened Species

Steller Sea Lion (*Eumetopias jubatus*)

Steller sea lions range from California to northern Japan along the northern Pacific Rim (Loughlin et al. 1984). The Gulf of Alaska and the Aleutian Islands support concentrations of the species. Steller sea lions are not migratory, although outside of breeding season (May through July) they are known to distribute widely. Juveniles and adult males have particularly wide-reaching ranges.

Figure 22. Stellar sea lion. (Source: NOAA Photo Library)

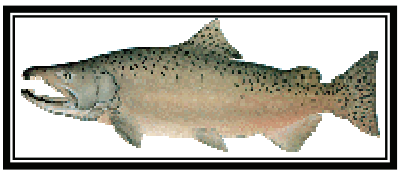
As marine carnivores, Steller sea lions eat a wide variety of fish, including pollack, flounder, herring, capelin, Pacific cod, salmon, rockfish, and sculpins, and invertebrates such as squid and octopus. Most of the top-ranked prey of sea lions are off-bottom, schooling species. Feeding occurs from the intertidal zone to the continental shelf. Steller sea lions gather on well-defined, traditionally used rookeries to pup and breed.

In April 1990, NMFS listed the Steller sea lion as threatened under the ESA. The population of the western stock (i.e., individuals found from Cape Suckling, Alaska, westward into the north Pacific) has shown an ongoing decline since the 1970s. The Steller sea lion is recognized as

depleted under the Marine Mammal Protection Act. Many theories have been proposed for the decline of Steller sea lion populations, in particular the western stock, including overfishing resulting in sea lions being out-competed for food resources, disease, killer whale predation, and environmental changes. However, a clear cause for the decline has not been established. The eastern stock is believed to be increasing in the northern portion of its range (Southeast Alaska and British Columbia). In the southern portion of its range, the eastern stock has been declining as a result of decreased prey availability, contaminants, and disease (Sydeman and Allen 1999).

Critical habitat was designated for the Steller sea lion in 1993 by NMFS. Critical habitat includes all rookeries, major haul-out sites, and aquatic feeding areas. There are no rookeries or major haul-out areas along the Washington coast. Rookeries and major haul-outs in the eastern Pacific occur along coastal California, Oregon, and Alaska. Occasional haul-outs may occur on islands offshore of the northern coast of Washington.

Chinook Salmon (*Oncorhynchus tshawytscha*)



The chinook salmon is the largest of the Pacific salmon, averaging 90 centimeters in length and 8 to 19 kilograms in weight. Because of their large size and inability to jump significant heights, adult chinook salmon prefer large, low-gradient rivers and streams for spawning. Consequently, the species has been significantly affected by the construction of dams in major river systems (Wydoski and Whitney 1979). Population decline can also be attributed to degradation of water quality and loss of spawning habitat from the effects of logging, road construction, and urbanization on streams and rivers (WDF et al. 1993). For a more detailed description of this important species, see Appendix E.

Chum Salmon (*Oncorhynchus keta*)

Hood Canal summer-run chum spawn from late August to late October (WDFW and PNPTT 2000). Spawning normally begins immediately above the tidal influence and extends upstream as far as good spawning gravels are accessible. Adults generally spawn in low gradient, lower main stem reaches of natal streams, typically in center channel areas due to the low flows encountered in the late summer and early fall. Chum salmon prefer to spawn in shallower, slower-running streams and side channels than sites preferred by other salmonid species. The females lay from 2,000 to 3,600 eggs in gravels ranging from 0.5 to four inches, although survival is higher in larger gravels two to four inches. Eggs incubate in reeds for five to six months, and fry emerge between January and May, depending on water temperature, dissolved oxygen, and gravel composition (Emmet et al. 1991). Successful incubation and rearing condition include:

- the presence of adequate large woody debris to reduce scour of incubating eggs and moderate peak winter flow velocities,
- the absence of excessive fines within spawning gravel,
- stable channel configuration, and
- access to floodplain and off-channel areas October (WDFW and PNPTT 2000).

After hatching, fry move rapidly downstream to sub-estuarine habitats. Chum salmon juveniles out-migrate to estuaries immediately after emergence, unlike the other salmonids that rear in freshwater for up to a year. Therefore, chum salmon are more dependent on habitat in the lower reaches of coastal rivers and estuaries than are other salmonids. Sub-estuary deltas support a diverse array of habitats (tidal channels, mudflats, marshes, and eelgrass meadows) that provide essential rearing and transition environments for this evolutionarily significant unit (69 FR 239, December 14, 2004). Juveniles rear in these habitats for days to weeks before entering the ocean, and returning adults stage in sub-estuaries before ascending natal streams to spawn. Juveniles feed primarily on plankton and epibenthic organisms, while subadults feed on similar items as well as larger prey (including fishes and squid) (69 FR 239, December 14, 2004). Most adults mature and spawn as three and four year old fish (WDFW and PNPTT 2000).

Alterations and loss of freshwater habitat for salmonids have been extensively documented in many regions. Large woody debris plays a significant role in creating and maintaining Pacific salmon spawning and rearing habitat. Many rivers have been cleared for navigation, and streams have been modified extensively to facilitate log drives. Some of the more adverse impacts on the estuarine and freshwater habitats used by chum resulted from stream work in the 1800s and early 1900s, when logs were transported down streams and stored in main stems of rivers, lakes, and estuaries. Factors listed as most significant to chum salmon include:

- water withdrawal, conveyance, storage, and flood control resulting in insufficient flows, stranding, juvenile entrainment, and instream temperature increases;
- logging and agriculture resulting in loss of large woody debris, increased sedimentation, loss of riparian vegetation, and habitat simplification;
- mining resulting in degraded habitat and pollution from gravel removal and dredging; and
- urbanization resulting in stream channelization, increased runoff, pollution, and habitat simplification.

5.5.1.6 NMFS Candidate Species

Coho Salmon (*Oncorhynchus kisutch*)

The coho salmon is an anadromous species found in many coastal streams. In general, river entry and spawn timing show considerable spatial and temporal variability. Despite this high variability, some regional patterns have been observed. Most Pacific coast coho salmon enter rivers in October and spawn from November through December and occasionally into January (Weitkamp et al. 1995). Coho typically spawn in relatively shallow water (less than a foot deep), in small streams that are fast-flowing (0.98 to 1.6 feet per second) (Laufle et al. 1986; Emmet et al. 1991). Spawning occurs in riffles with stable gravel substrates ranging in size from 0.4 to 7.9 inches, with less than 30 percent fine grained sediment (Reeves et al. 1989).

Early rearing habitat consists of shallow areas associated with backwater pools, beaver ponds, or side channels (Reeves et al. 1989). Beaver ponds and pools of all types are preferred for summer rearing (Laufle et al. 1986; Reeves et al. 1989). Overwinter habitat includes streams having mean temperatures below 44.6°F and abundant cover, mainly large woody debris (Reeves et al.

1989). Optimal rearing habitat contains a mixture of riffles and pools, abundant instream and streamside vegetation, and water temperatures that average 50°F to 59°F in summer (Laufle et al. 1986). Summer stream flows are an important factor in the survival of coho salmon (Emmet et al. 1991).

Coho salmon support an important commercial and recreational fishery. Coho population declines are attributed to environmental degradation and habitat changes. Logging, agriculture, urban development, and dams cause severe chemical and physical changes to the stream environment, resulting in a high mortality of coho salmon from egg to 1-year smolt.

The Puget Sound/Strait of Georgia coho salmon ESU includes the following WRIAs: Nooksack (WRIA 1), San Juan (WRIA 2), lower Skagit-Samish (WRIA 3), upper Skagit (WRIA 4), Stillaguamish (WRIA 5), Island (WRIA 6), Snohomish (WRIA 7), Cedar-Sammamish (WRIA 8), Duwamish-Green (WRIA 9), Puyallup-White (WRIA 10), Nisqually (WRIA 11), Chambers-Clover (WRIA 12), Deschutes (WRIA 13), Kennedy- Goldsborough (WRIA 14), east Kitsap (WRIA 15), Skokomish-Dosewallips (WRIA 16), Quilcene-Snow (WRIA 17), Elwha-Dungeness (WRIA 18), and a small portion of Lyre-Hoko (WRIA 19).

On July 25, 1995, NMFS determined that listing coho salmon was not warranted for the Puget Sound/Strait of Georgia evolutionarily significant unit. However, the Puget Sound/Strait of Georgia coho is currently designated as a candidate for listing because of concerns over specific risk factors. The Puget Sound/Strait of Georgia evolutionarily significant unit includes all naturally spawned populations of coho salmon from drainages of Puget Sound and Hood Canal, the eastern Olympic Peninsula (east of Salt Creek), and the Strait of Georgia from the eastern side of Vancouver Island and the British Columbia mainland (north to and including the Campbell and Powell rivers), excluding the upper Fraser River above Hope, British Columbia. The following Washington State counties lie partially or wholly within basins containing coho: Clallam, Grays Harbor, Island, Jefferson, King, Kitsap, Kittitas, Lewis, Mason, Pierce, San Juan, Skagit, Snohomish, Thurston, and Whatcom. The 1992 Washington State salmon and steelhead stock inventory identifies the presence of 46 coho stocks within the Puget Sound/Strait of Georgia ESU. Twenty of those stocks are classified as healthy, 16 are depressed, one is critical (Discovery Bay coho), and the status of nine is currently unknown.

No coho salmon critical habitat is proposed at this time.

5.5.1.7 NMFS Depleted Species

AT1 Group of Killer Whale (*Orcinus orca*)

The AT1 group of killer whales was first recognized as a separate group of killer whales in 1982, when a group of 22 transient-type whales were documented in Prince William Sound (Leatherwood et. al. 1984a, Heise et. al. 1992), through individual whales from the group had been photographed as early as 1978. AT1 transients are similar to other transient populations in the North Pacific in their dietary specialization on marine mammals (ford et al. 1998), their hunting strategy, that relies on passive listening and stealth (Barrett-Lennard et al. 1996) and their life history (Ford and Ellis 1999). The AT1 transients travel in groups of one to twelve, and

at least seasonally appear to specialize on hunting harbor seals and Dall's porpoises in Prince William Sound and the Kenai Fjords region (Saulitis et al. 2000). They behave much like the transients described in British Columbia waters; however, unlike other transients, that are resighted sporadically, most of the AT1 transients are resighted in Prince William Sound and Kenai Fjords every year. In addition, acoustic behavior (Saulitis 1993) and genetics (Barrett-Lennard 2000) indicate the AT1 group is a genetically distinct, socially isolated group of killer whales.

Eleven members of the AT1 group have not been seen since the 1989 Exxon Valdez oil spill; one of these individuals is known to have died and the rest are presumed dead (Matkin et al. 1999a). Sightings of the remaining individuals in the AT1 group have also declined in the years following the oil spill, and the population of one of their primary pretty species, the harbor seal, has declined in recent years (Frost et al. 1999).

The AT1 Transient stock of killer whales was designated as "depleted" under the MMPA. Therefore, the AT1 Transient stock of killer whales is classified as a strategic stock. At least 11 animals were alive in 1998, but it appears that as of 2004, only 8 individuals may be alive. Therefore, the AT1 group has been reduced to at least 50% (11/22) of its 1984 level, and has likely been reduced to 36% (8/22) of its 1984 level. The AT1 Transient stock of killer whales is not listed as "threatened" or "endangered" under the Endangered Species Act.

6. ENVIRONMENTAL EFFECTS

6.1 Discussion of General Effects

Section 6 discusses the environmental effects of the alternatives for the three actions evaluated in this EIS: approving Washington's request to incorporate WAC 173-26 (the guidelines) as an amendment to the WCZMP (Section 4.1, preferred alternative); (2) denying Washington's request (section 4.2); and (3) the "no action" alternative (section 4.3). The effects under the "no action" alternative are the same as those for alternative one, since OCRM taking no action would result in the Washington presuming concurrence.

Washington itself has already approved and started implementing the new guidelines through the SMA update process previously described in Section 3, however the changes have not been approved by OCRM, therefore, the State cannot use federal CZMA funds to implement the changes, (i.e., provide funding to the local governments to implement the revised SMPs), and the new guidelines can not be applied as enforceable policies for federal consistency purposes.

6.2 Criteria for Evaluating the Effects of Approving or Denying Amendments to the WCZMP

Under the new guidelines there are a number of new or improved program requirements that will apply to future amendments to SMPs. Implementation of these requirements will result in more informed land and water use decision making over and above the original guidelines, with fewer negative environmental consequences. However, the effects associated with the new guideline implementation will only be experienced a number of years after local SMPs have been modified

and adopted when future development is required to meet the new standards and procedures. In addition, many of the effects of approving or denying amendments to the WCZMP are secondary and dependent on separate, future, discretionary actions by a variety of entities (e.g., federal, state, local entities and American Indian tribes may make permitting decisions or impose conditions on permits under the program change or other state and federal laws that could positively or negatively affect coastal resources). In the meantime, other state laws such as the GMA, the critical areas ordinance standards, and implementation of the Salmon Recovery Plan will continue to affect land and water use. Eventually, the provisions of the various laws should be fully comprehensive and integrated. Therefore, the criteria for evaluating the effects of approving or denying the amendments to the WCZMP as described in the following sections are qualitatively limited, since many of the variables are unforeseeable and based on decisions peripherally related to the guidelines themselves.

6.3 Physical Environment

6.3.1 Physiography

6.3.1.1 Beach and Dune Management

Alternatives 1 and 3—Effects of Program Change Approval or No Action

The current guidelines do not explicitly address beach and dune management. However, the SMA identifies ocean coast dune lands as shorelines of statewide significance (RCW 90.58.020), which require a higher standard of management: “the interests of all the people shall be paramount in the management of shorelines of statewide significance.” These beaches are also subject to the Seashore Conservation Act of 1970, implemented by the Washington Parks and Recreation Commission. The proposed provisions will standardize local government approaches to regulation of dune modification. Local governments will choose whether to allow dune modification at all, and ensure that dune modification does not adversely affect the ecological functions of those dune lands, especially as a result of the no net loss of ecosystem functions and mitigation requirements. Alternatives 1 and 3 would ensure continued CZMA funding to implement shorelines of statewide significance and provisions regarding dune modification and the application of federal consistency to federal projects.

Alternative 2—Effects of Program Change Denial

OCRM’s denial of the changes to the WCZMP could result in limited negative effects to beaches and dunes. While Washington would continue to apply the revised state guidelines without federal approval, OCRM might be required to decertify the WCZMP. As a result, the State would not have a federally-approved coastal management plan, and would not be eligible to receive CZMA funding to implement the new beach and dune management guidelines or use them as its enforceable policies for federal consistency review purposes. Federal funding for shoreline management, including beach and dune management, would be reduced, and therefore implementation of the no net loss of ecological functions standard could be diminished, unless replaced by other sources. In addition, the State would lose the ability to use the federal

consistency provision to hold federally permitted activities to the same standards as state permitted projects and to seek improvements in federal activities affecting coastal resources.

6.3.1.2 Geologically Hazardous Areas

Alternatives 1 and 3—Effects of Program Change Approval and No Action

Unstable slopes are common along Puget Sound shorelines and on many steep slopes in general. Landslides are a statewide hazard, but are particularly a risk in western Washington where heavy winter rains saturate soil layers, encouraging landslides. In addition, development on shoreline geologically hazardous areas often leads to attempts to stabilize the base of the slope at the shoreline through the use of hard structures. Such structural stabilization has an adverse environmental effect on shoreline processes and habitats. Although the GMA requires that cities and counties "designate and protect" geologically hazardous areas through "Critical Areas Ordinances," the original SMA guidelines do not explicitly address geologically hazardous areas or provide specific standards of protection. The new guidelines at WAC 173-26 require that local governments restrict new development in geologically hazardous areas as defined by WAC 365-190-080[4] under the GMA and prohibit new development that would pose a hazard during its useful life or require shoreline stabilization (with certain exceptions). To the extent that new development on unstable slopes and other geologically hazardous areas is restricted or provided with mitigating design under the new guidelines, there should be lower rates of damage to structures and risk to people than at present. In addition, the new guidelines should result in lower rates of delivery of excessive sediment loads to streams, resulting in a net benefit to aquatic species. Alternatives 1 and 3 would ensure continued CZMA funding to implement the guidelines addressing geological hazards in new development and the application of federal consistency to federal projects.

Alternative 2—Effects of Program Change Denial

OCRM's denial of the changes to the WCZMP could result in limited negative effects to the human environment impacted by geological hazards. While Washington would continue to apply the revised state guidelines without federal approval, OCRM might be required to decertify the WCZMP. As a result, the State would not have a federally-approved coastal management plan, and would not be eligible to receive CZMA funding to implement the new geological hazard areas guidelines or use them as its enforceable policies for federal consistency review purposes. Funding to address development in geologically hazardous areas would be reduced, unless replaced by other sources. In addition, the State would lose the ability to use the federal consistency provision to hold federally permitted activities to the same standards as state permitted projects and federal activities could negatively affect coastal resources.

6.3.1.3 Flood Hazard Reduction

Alternatives 1 and 3—Effects of Program Change Approval and No Action

Flood hazard and flood damage remains a problem in most basins of western Washington and in eastern Washington, especially in the Yakima and Okanogan basins. During the 1990s, flood damage in Washington exceeded one billion dollars. It is estimated that most counties in the State experience one to two serious events per year, with annually increasing financial impacts due to increased urbanization in vulnerable areas. Neither the original nor new guidelines explicitly address flood hazard reduction. Flood hazards are managed under the cooperative federal-state-local program based on the National Flood Insurance Program administered by the Federal Emergency Management Agency, and regulated under both the CAO provisions of the GMA and Washington's Flood Plain Management Act (Chapter 86.16 RCW). However, the provisions of Section 221 (3) require that SMPs implement certain best management practices, including integrating flood hazard reduction measures into comprehensive strategies; preventing or removing development in flood-prone areas; and maintaining or restoring the riverine system's natural hydrological and geomorpholigical processes. These principles will supplement the relevant programs under the Flood Plain Management Act and GMA, and promote the integration of local program's FPMA and GMA-adopted SMP flood management provisions. Integration will foster more comprehensive and cost-effective approaches to flood hazard management, resulting in reduced public and private property damage, better integration of habitat conservation concerns into management plans, and a lower rate of riparian habitat loss and degradation. Alternatives 1 and 3 would ensure continued CZMA funding to implement the flood hazard reduction best management practices and the application of federal consistency to federal projects.

Alternative 2—Effects of Program Change Denial

OCRM's denial of the changes to the WCZMP could result in limited negative effects to the human environment impacted by flood hazard areas and flood damage. While Washington would continue to apply the revised state guidelines without federal approval, OCRM might be required to decertify the WCZMP. As a result, the State would not have a federally-approved coastal management plan, and would not be eligible to receive CZMA funding to implement the flood hazard reduction best management practices or use them as its enforceable policies for federal consistency review purposes. Funding to implement the best management practices would be reduced, unless replaced by other sources. In addition, without the authority to implement federal consistency, federal activities or federally permitted activities may not be consistent with the best management practices.

6.3.1.4 Shoreline Stabilization

Alternatives 1 and 3—Effects of Program Change Approval and No Action

The original guidelines include provisions that: address bulkhead location and construction; minimize damage to fish and shellfish habitats; consider impacts on public access to publicly owned shorelines; and provide protection to upland areas versus creating land by filling bulkheads. The new WAC 173-26 takes an approach that blends both prescriptive measures and performance standards to regulate shoreline erosion control and minimize adverse environmental

effects to shoreline processes and habitats. Overall, the new guidelines will foster increased use of softer approaches to shoreline stabilization, but will not eliminate all application of hard approaches, depending on the area involved. Future adverse physical, biological, and ecological effects to shorelines and beaches will be moderated in comparison with the past. In conjunction with other sections of the new guidelines which provide for greater setbacks from the shoreline, avoidance of geologically hazardous areas, and vegetation conservation, the net effect will be to reduce the need for shoreline stabilization, especially shoreline armoring, to protect new development. Alternatives 1 and 3 would ensure continued CZMA funding to implement the shoreline erosion control standards and the application of federal consistency to federal projects.

Alternative 2—Effects of Program Change Denial

Under Alternative 2, OCRM's denial of the changes to the WCZMP could result in limited negative effects to the human environment from shoreline stabilization. While Washington would continue to apply the revised state guidelines without federal approval, OCRM might be required to decertify the WCZMP. As a result, the State would not have a federally-approved coastal management plan, and would not be eligible to receive CZMA funding to implement the new shoreline stabilization guidelines or use them as its enforceable policies for federal consistency review purposes. Funding to implement the prescriptive measures and performance standards to regulate shoreline erosion control and minimize adverse environmental effects to shoreline processes and habitats would be reduced, unless replaced by other sources. In addition, the reduction in negative impacts from hardened shorelines would not be experienced for projects where the State would no longer have the ability to apply the federal consistency provision to hold federally permitted activities to the same standards as state permitted projects and to seek improvements in federal activities affecting coastal resources.

6.3.2 Aquatic and Nearshore Terrestrial Environments

6.3.2.1 Critical Saltwater Habitats

Alternatives 1 and 3—Effects of Program Change Approval or No Action

Original WAC 173-16 guidelines do not explicitly regulate critical saltwater habitats. Protection afforded under the original guidelines for critical saltwater habitats is considered patchy and inconsistent, based on the application of diverse local SMPs, Washington's Hydraulics Code (by the Department of Fish and Wildlife), and local watershed management and shellfish water quality programs. The new guidelines are essentially the same, however, they do include no net loss regulations for private development, which require SMPs to include (where applicable) protecting and restoring fish and wildlife habitats and riparian and estuarine ecosystems; establishing buffer zones; restoring lost salmonid habitat; improving water quality; and protecting fresh water and sediment inflow regiments. Additionally, the new guidelines clarify that governments must plan restoration by means other than regulation. Intertidal habitats would benefit the most, as these habitats are most likely to be affected by small, over-water, non-water dependent structures. The guidelines provide that docks, bulkheads, bridges, fill, floats, jetties, utility crossing, and other human-made structures shall not intrude into or over critical saltwater habitats, except under certain conditions, or when project mitigation would result in no net loss

of ecological function. Alternatives 1 and 3 would ensure continued CZMA funding to implement the no net loss regulations for private development and restoration planning, and the application of federal consistency to federal projects.

Alternative 2—Effects of Program Change Denial

OCRM's denial of the changes to the WCZMP could result in limited negative effects to critical salt water habitats. While Washington would continue to apply the revised state guidelines without federal approval, OCRM might be required to decertify the WCZMP. As a result, the State would not have a federally-approved coastal management plan, and would not be eligible to receive CZMA funding to implement the new guidelines for critical saltwater habitats or use them as its enforceable policies for federal consistency review purposes. Funding to implement the no net loss regulations for private development and restoration planning would be reduced, unless replaced by other sources. In addition, without the authority to implement federal consistency, federal projects would not be required to be consistent with the State's no net loss standard.

6.3.2.2 Critical Freshwater Habitats

Alternatives 1 and 3—Effects of Program Change Approval or No Action

The original guidelines do not explicitly regulate riverine corridors. The new guidelines' critical freshwater habitat provisions address general habitat values, establish no net loss of ecological functions as the regulatory standard, and require coordination with flood hazard and other requirements that directly affect freshwater habitats. Under the new guidelines, the rate of habitat degradation will slow state-wide over time, and should improve in discrete areas subject to redevelopment due to no net loss and mitigation requirements. This positive effect depends on the success of restoration actions and the regulation of new development, as well as coordination with other state and local programs, especially watershed management. Alternatives 1 and 3 would ensure continued CZMA funding to implement the freshwater habitat provisions and the application of federal consistency to federal projects.

Alternative 2—Effects of Program Change Denial

OCRM's denial of the changes to the WCZMP could result in limited negative effects to critical freshwater habitats. While Washington would continue to apply the revised state guidelines without federal approval, OCRM might be required to decertify the WCZMP. As a result, the State would not have a federally-approved coastal management plan, and would not be eligible to receive CZMA funding to implement the new guidelines for critical freshwater habitats or use them as its enforceable policies for federal consistency review purposes. Funding for shoreline management would be reduced, unless replaced by other sources. In addition, the State would lose the ability to apply the federal consistency provision to hold federally permitted activities to the same standards as state permitted projects and to seek improvements in federal activities affecting freshwater habitats.

6.3.2.3 Wetlands

Alternatives 1 and 3–Effects of Program Change Approval or No Action

Wetlands in Washington have been regulated under a variety of means and programs. None of these laws address wetlands in a comprehensive fashion. The federal Clean Water Act (implemented primarily through the USACOE's Section 404 permit program) only regulates the placement of fill in wetlands. The state GMA requires that cities and counties "designate and protect" wetlands through "Critical Areas Ordinances" but provides no specific standards of protection. Some local governments have adopted local wetlands ordinances. In 1990, DOE issued a model wetlands ordinance, use of which is voluntary. As a result the level of protection afforded to wetlands in Washington is highly variable across the State.

The new guidelines will bring greater consistency to the management of wetlands under the SMA and should reduce the rate of wetland loss and degradation. All local governments will have to address the same specific types of wetlands and the same set of issues in developing their SMP. The new guidelines provide statewide policy guidance, while allowing local governments' flexibility to develop regulations appropriate to the local landscape features. The new guidelines require that SMPs provide for no net loss of wetlands with respect to: certain forms of construction actions; vegetation removal; filling; or other actions which would result in a significant change of physical, chemical, or biological characteristics of wetlands. SMPs will be required to adhere to specific standards regarding: wetlands use regulations; wetland ratings or characterizations; alteration; buffers; mitigation; and compensatory mitigation. Alternatives 1 and 3 would ensure continued CZMA funding to implement the wetlands guidelines and the application of federal consistency to federal projects.

Alternative 2–Effects of Program Change Denial

OCRM's denial of the changes to the WCZMP could result in limited negative effects to wetlands. While Washington would continue to apply the revised state guidelines without federal approval, OCRM may be required to decertify the WCZMP. As a result, the State would not have a federally-approved coastal management plan, and would not be eligible to receive CZMA funding to implement the new wetland guidelines or use them as its enforceable policies for federal consistency review purposes. Funding to implement the wetland guidelines would be reduced, unless replaced by other sources. In addition, the State would lose the ability to apply the federal consistency provision to hold federally permitted activities to the same standards as state permitted projects and to seek improvements in federal activities affecting wetlands.

6.3.2.4 Water Quality

Alternatives 1 and 3–Effects of Program Change Approval or No Action

The current guidelines do not explicitly address water quality, although various sections of the guidelines clearly address protection of water quality (e.g. section 060 (1) agricultural practices, section 060 (8) residential development, section 060 (14) land filling, and section 060 (16) dredging). By requiring that local SMPs "prevent impacts to water quality that would result in a net loss of shoreline ecological functions" and "ensure mutual consistency between shoreline management provisions and other regulations that address water quality," the new guidelines will help integrate the diverse group of water quality management programs in the shoreline zone. This may lead to a net improvement in water quality. However, water quality in Washington is regulated and managed primarily through the Water Pollution Control Act (Chapter 90.48 RCW), Dairy Nutrient Management Act (Chapter 90.64 RCW), Puget Sound Water Quality Protection Act (Chapter 90.71 RCW), and Shellfish Protection Districts Act (Chapter 90.72 RCW). Alternatives 1 and 3 would ensure continued CZMA funding to help integrate and implement the guidelines with Washington's other water quality laws, and the application of federal consistency to federal projects.

Alternative 2--Effects of Program Change Denial

OCRM's denial of the changes to the WCZMP could result in limited negative effects to water quality. While Washington would continue to apply the revised state guidelines without federal approval, OCRM might be required to decertify the WCZMP. As a result, the State would not have a federally-approved coastal management plan, and would not be eligible to receive CZMA funding to implement the sections of the guidelines that address water quality guidelines or use them as its enforceable policies for federal consistency review purposes. Funding to implement the water quality section would be reduced, unless replaced by other sources. In addition, the State would lose the ability to apply the federal consistency provisions to hold federally permitted activities to the same standards as state permitted projects and to seek improvements in federal activities affecting water quality.

6.3.2.5 Shoreline Vegetation

Alternatives 1 and 3—Effects of Program Change Approval or No Action

WAC 173-16 of the original guidelines does not explicitly address shoreline vegetation conservation. However, various sections of the guidelines clearly state requirements or inducements for maintenance of vegetative buffers (e.g. section 050 [6] regarding marshes, bogs, and swamps, section 050 [9] regarding floodplains, section 060 [1] regarding agricultural practices, section 060 [3] regarding forest management practices, section 060 [8] regarding residential development, and section 060 [9] regarding utilities).

The vegetation conservation provisions at section 221 [5] constitute a new approach in shoreline management. The provisions aim "to protect and restore the ecological functions and ecosystem-wide processes performed by vegetation along shorelines" and, "[protect] against adverse effects to the public health, the land and its vegetation and wildlife, and the waters of the state and their aquatic life" (RCW 90.58.020). The vegetation conservation provisions will over-lay, and therefore affect, the way all shoreline modifications and shoreline uses are designed, built, and operated. The vegetation conservation areas are not necessarily closed to use as long as the

standard of no net loss is met. Over a period of decades the rate of habitat degradation on shorelines should slow statewide, and redeveloped areas should see improvement due to mitigation requirements. Alternatives 1 and 3 would ensure continued CZMA funding to implement the shoreline vegetation conservation provisions, and the application of federal consistency to federal projects.

Alternative 2—Effects of Program Change Denial

OCRM's denial of the changes to the WCZMP could result in limited negative effects to shoreline vegetation. While Washington would continue to apply the revised state guidelines without federal approval, OCRM might be required to decertify the WCZMP. As a result, the State would not have a federally-approved coastal management plan, and would not be eligible to receive CZMA funding to implement the new shoreline vegetation conservation guidelines or use them as its enforceable policies for federal consistency review purposes. Funding to implement the guidelines would be reduced, unless replaced by other sources. In addition, the State would lose the ability to apply the federal consistency provisions to hold federally permitted activities to the same standards as state permitted projects and to seek improvement in federal activities affecting shoreline vegetation.

6.3.3 Terrestrial and Aquatic Environment Uses

6.3.3.1 Agriculture

Alternatives 1 and 3—Effects of Program Change Approval or No Action

The original WAC 173-16 agricultural guidelines cite standard best management practices including: (1) local governments encourage vegetation buffer practices between tilled areas and associated water bodies to reduce surface runoff and siltation; (2) establish criteria for location of confined animal feeding operations, retention and storage ponds for feed lot wastes, and stock piles of manure solids in shorelines of the state; and (3) encourage erosion control measures, such as crop rotation, mulching, strip cropping and contour cultivation in conformance with US Department of Agriculture (USDA) guidelines and standards. The new guidelines concerning agriculture were completely revised to reflect 2002 legislation on applicability of the SMA to agriculture. Where agriculture exists today, master programs may not significantly limit changes in agricultural use. New agricultural uses will be required to assure no net loss of shoreline ecological functions and other applicable provisions of the SMP. Consequently, the adverse environmental effects of new agricultural development and the operations effects of newly developed agricultural land will be moderated. Alternatives 1 and 3 would ensure continued CZMA funding to implement the agricultural guidelines standards, and the application of federal consistency to federal projects.

However, the new guidelines do not apply to existing agriculture. Therefore, the adverse impacts associated with existing activities will continue to occur so long as those existing agricultural activities continue. Negotiations are underway between Washington's agricultural community and the state departments of Agriculture, Fish and Wildlife, and Ecology, as well as the Washington State Conservation Commission and staff from the Governor's Office,

representatives from federal agencies, local government, interested legislators, environmental groups, and Tribes. The goal of these negotiations, also known as the "Agriculture, Fish and Water" process is focused on voluntary compliance.

Alternative 2—Effects of Program Change Denial

OCRM's denial of changes to the WCZMP could result in limited negative effects to agriculture in Washington's coastal area. While Washington could continue to apply the revised state guidelines without federal approval, OCRM may be required to decertify the WCZMP. As a result, the State would not have a federally-approved coastal management plan, and would not be eligible to receive CZMA funding to implement the new agriculture guidelines or use them as its enforceable policies for federal consistency review purposes. Since the revised guidelines only apply to new agricultural uses by requiring no net loss of shoreline ecological function (along with other applicable provisions of the local SMPs), the adverse environmental effects of new agricultural development would not be addressed with federal support; in other words, any impacts from new or future agricultural activities will occur unless other sources offset loss of federal CZMA monies. Since the new guidelines do not apply to existing agriculture, the adverse impacts associated with existing activities will continue to occur, and are unlikely to be affected by OCRM's selection of Alternative 2. In addition, without the authority to implement federal consistency, federal projects would not be required to be consistent with the new state agricultural standards.

6.3.3.2 Forest Practices

Alternatives 1 and 3—Effects of Program Change Approval and No Action

Vegetation removal, road construction, and soil disturbance are the primary mechanisms by which forest practices influence riparian areas. These disturbances result in negative impacts to water flow, soil destabilization, erosion, sedimentation, stream temperature increases, loss of large woody debris, and negative fish and wildlife effects. The original guidelines for forest practices provide for replanting, prevention of debris accumulation, maintenance of scenic qualities, proper design and construction of roads and bridges, protection of public water supply quality, minimization of sedimentation, and maintenance of buffer strips. The new guidelines require local SMPs, where there is likely to be a conversion from forest to non-forest uses, to assure no net loss of shoreline ecological functions, and maintenance of the ecological quality of the watershed's hydrological system. In addition, SMPs must assure there are no significant adverse impacts to other shoreline uses, resource and values, such as navigation, recreation, and public access. The new guidelines rely on application of the Forest Practices Act in conjunction with the Forest and Fish Report[8] and restrictions on vegetation removal associated with

[8] In Washington State in the 1990's, state, county elected officials, interest groups, Indian tribes and landowners recognized the need to rewrite the rules governing forest practices on private lands to address listed threatened or endangered salmon species. In February 1999, the timber industry, government agencies and some tribes finally agreed to a proposeal called the Forests and Fish Report which had been developed by the Washington Environmental Council and the National Audubon Society that included new rules that would be low-risk for

conversion to non-forestry uses. Alternatives 1 and 3 would ensure continued CZMA funding to implement the no net loss of shoreline ecological function standard and the application of federal consistency to federal projects.

Alternative 2—Effect of Program Change Denial

OCRM's denial of the changes to the WCZMP could result in limited negative effects to forests in Washington's coastal area. While Washington could continue to apply the revised state guidelines without federal approval, OCRM may be required to decertify the WCZMP. As a result, the State would not have a federally-approved coastal management plan, and would not be eligible to receive CZMA funding to implement the new forest practices guidelines or use them as its enforceable policies for federal consistency review purposes. However, because the revised guidelines only apply to forestry uses by requiring no net loss of shoreline ecological function and maintenance of the ecological quality of the watershed's hydrological system, only the adverse environmental effects of areas converting from forest to non-forest uses would be negatively affected. Since the new guidelines do not apply to existing forest use areas, the adverse impacts associated with existing activities will continue to occur, and would unlikely be affected by OCRM's selection of Alternative 2. Where applicable, funding to implement the forestry standards would be reduced, unless replaced by other sources. In addition, without the authority to implement federal consistency, federal forestry projects that converted areas from forest to non-forest uses would not be required to be consistent with the WCZMP.

6.3.3.3 Sand and Gravel Mining

Alternatives 1 and 3—Effects of Program Change Approval or No Action

The original guidelines provide that when mining is conducted, "adequate protection against sediment and silt production should be provided;" and that it "should be done in conformance with the Washington State Surface Mining Act. In addition, "the removal of sand and gravel from marine beaches" should be "strictly control[ed] or prohibit[ed]." This section has been substantially revised under the new guidelines. The new guidelines state that an SMP accomplishes two purposes in addressing mining. First, it identifies where mining may be an appropriate use of the shoreline. Second, it ensures that when mining or associated activities in the shoreline are authorized, those activities will be properly sited, designed, conducted, and completed so that it will cause no net loss of ecological functions of the shoreline. The provisions of the mining section regarding no net loss of ecological functions, in conjunction with provisions regarding vegetation conservation, should result in a lower rate of habitat loss

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salmon. Instead of following the established rule change procedure, negotiators chose to employ the legislative process to alter the current rules. The proposed SH 2091 which establishes the Forests and Fish Report is the guiding document for the new rules. The legislation passed into law in May 1999. The legislation states, "When adopting permanent rules…the Forest Practices Board is strongly encouraged to follow the recommendations of the Forests and Fish report."

and degradation and other forms of environmental degradation including altering habitat parameters (e.g. flow patterns, sediment transport patterns) and an increase in suspended sediment. Alternatives 1 and 3 would ensure continued CZMA funding to implement the stronger mining standard and the application of federal consistency to federal projects.

Alternative 2—Effects of Program Change Denial

OCRM's denial of the changes to the WCZMP could result in negative effects to lands in the coastal area impacted by mining. While Washington would continue to apply the revised state guidelines without federal approval, OCRM might be required to decertify the WCZMP. As a result, the State would not have a federally-approved coastal management plan, and would not be eligible to receive CZMA funding to implement the new mining guidelines or use them as its enforceable policies for federal consistency review purposes. Funding to implement the mining standards would be reduced, unless replaced by other sources. In addition, without the authority to implement federal consistency, federal mining projects would not be required to be consistent with the WCZMA.

6.3.3.4 Residential Development

Alternatives 1 and 3—Effects of Program Change Approval and No Action

Washington's residential development guidelines have been substantially revised. Under the original guidelines, subdivision development must: be designed for the physical and environmental capabilities of the site; provide pedestrian shoreline access; preserve shoreline vegetation and control erosion; and use public water supplies in preference to on-site groundwater. In addition, over-water residential construction is generally not allowed. Under the new guidelines, SMPs are required to include policies and regulations that assure no net loss of shoreline ecological functions from residential development, including setback and buffer areas; density, shoreline armoring vegetation conservation requirements; and where applicable, on-site sewage system standards. New requirements for multi-unit residential development include providing community and/or public access; design; configuration and development of plans and subdivision that assure no net loss of ecological functions at full build-out; and preventing the need for new shoreline stabilization of flood hazard reduction measures. The rate of habitat elimination, cumulative impacts from shoreline armoring, stormwater runoff, septic systems, introduction of pollutant and vegetation modification and removal typical of the past will be diminished. Alternatives 1 and 3 would ensure continued CZMA funding to implement the improved residential development guidelines and the application of federal consistency for federal projects.

Alternative 2—Effects of Program Change Denial

OCRM's denial of the changes to the WCZMP could result in limited negative effects to the human environment from residential development. While Washington would continue to apply the revised state guidelines without federal approval, OCRM might be required to decertify the WCZMP. As a result, the State would not have a federally-approved coastal management plan,

and would not be eligible to receive CZMA funding to implement the new residential development guidelines. Funding for applying the residential development guidelines would be reduced, unless replaced by other sources. In addition, the State would lose the ability to apply the federal consistency provisions to hold federally permitted activities to the same standards as state permitted projects and to seek improvements in federal residential development activities affecting coastal resources. Potential negative effects of such federal projects could include not requiring setback and buffer areas; density and on-site sewage system standards; multi-unit residential development requirements, including public access and configuration; and allowing new, detrimental shoreline stabilization and flood hazard reduction structures.

6.3.3.5 Commercial and Industrial Development

Alternatives 1 and 3—Effects of Program Change Approval or No Action

For commercial development, the original guidelines provide that while

> priority should be given to those commercial developments which are particularly dependent on their location and/or use of the shorelines of the state and other development that will provide an opportunity for substantial numbers of the people to enjoy the shorelines of the state, new commercial developments on shorelines should be encouraged to locate in those areas where current commercial uses exist.

Existing industrial (defined as "ports and water-related industry") guidelines in WAC 173-16 provide for water-dependent industry; safe and appropriate public access and public facilities; encouragement for cooperative use of docking, parking, cargo handling, and storage facilities; consideration of regional and statewide needs for port facilities; and environmental compatibility. For both categories, the new guidelines have been revised to comply with the no net loss of shoreline ecological functions standard, while the requirement for restoration has been removed. New commercial and industrial development will be held to this higher standard regarding effects on shoreline habitat, and will therefore result in lower levels of environmental impacts from development, including changes in basin hydrology; loss of riparian habitat; loss of woody debris and other instream structures; degradation of stream channels; reduction of water quality; habitat fragmentation; and introduction of exotic pests. Alternatives 1 and 3 would ensure continued CZMA funding to implement the no net loss shoreline ecological functions standard for commercial and industrial developments, and the application of federal consistency to federal projects.

Alternative 2—Effects of Program Change Denial

OCRM's denial of the changes to the WCZMP could result in limited negative effects from commercial and industrial development. While Washington would continue to apply the revised state guidelines without federal approval, OCRM might be required to decertify the WCZMP. As a result, the State would not have a federally-approved coastal management plan, and would not be eligible to receive CZMA funding to implement the new commercial and industrial development no net loss standards or use them as its enforceable policies for federal consistency

review purposes. Funding for shoreline management, including the application of new commercial and industrial development standards, will be reduced, unless replaced by other sources. In addition, the State would lose the ability to use the federal consistency provision to hold federally permitted activities to the same standards as state permitted projects and to seek improvements in federal activities, potentially resulting in a range of impacts from changes in basin hydrology to habitat fragmentation.

6.3.3.6 Utilities

Alternatives 1 and 3—Effects of Program Change Approval and No Action

The placement of utilities typically results in the clearing of utility corridor and a moderate amount of grading (cutting and filling). Underground utilities require trenching and backfilling. Many utility corridors are easements which run across rangelands, farmlands, or timberlands, and the long term effects are associated with fundamental land use. The original guidelines address the restoration of utility corridors upon completion of construction; underground placement where feasible; and integration with public access corridors. The new guidelines at WAC 173-26 provide clarity and consistency with the overall principles; and require that SMPs have provisions that utility facilities are designed and located to assure no net loss of shoreline ecological function. In addition, they include specific provisions in shoreline areas regarding design, location, and preservation of landscape function, and no significant impacts to other shoreline resources and values. These higher standards will be applied for siting utility corridors, which should result in fewer adverse effects from newly established corridors, preserve the natural landscape, and minimize conflicts with present and planned land and shoreline uses while meeting the needs of future populations in areas planned to accommodate growth. Alternatives 1 and 3 would ensure continued CZMA funding to implement the utility facility standards and the application of federal consistency to federal projects.

Alternative 2—Effects of Program Change Denial

OCRM's denial of the changes to the WCZMP could result in limited negative effects to the human environment impacted by utilities. While Washington would continue to apply the revised state guidelines without federal approval, OCRM might be required to decertify the WCZMP. As a result, the State would not have a federally-approved coastal management plan, and would not be eligible to receive CZMA funds to implement the new utilities guidelines or use them as its enforceable policies for federal consistency review purposes. Funding for shoreline management would be reduced, unless replaced by other sources. In addition, the State would lose the ability to use the federal consistency provision to hold federally permitted activities to the same standards as permitted projects and to seek improvements in federal activities affecting coastal resources.

6.3.3.7 Transportation and Parking

Alternatives 1 and 3—Effects of Program Change Approval or No Action

Section WAC 173-16 "road and railroad design and construction," of the original guidelines under the "Transportation and Parking" provisions, states that: (1) transportation corridors should be "located away from shore lands" except as necessary for port facilities; (2) roadways should be sited, designed and constructed so as to minimize adverse environmental effects; (3) "loops or spurs of old highways with high aesthetic quality should be kept in service as pleasure bypass routes;" and (4) land use and transportation plans should be coordinated.

These provisions have been revised in the new guidelines for clarity and consistency with overall principles. The standard for no net loss of shoreline ecological function has been added, and the requirement for restoration has been removed. SMPs must include policies and regulations "to provide safe, reasonable, and adequate circulation systems to shorelines… consistent with the master program public access policies, public access plan, and environmental protection provision…[and]…systems for pedestrian, bicycle, and public transportation where appropriate." In addition, parking facilities are not allowed to cause a net loss of shoreline ecological functions or adversely impact existing or planned water-dependent uses. Under the new transportation and parking facilities standard the rate of habitat elimination and degradation typical of the past should be reduced. Alternatives 1 and 3 would ensure continued CZMA funding to implement the transportation and parking provisions and the application of federal consistency to federal projects.

Alternative 2—Effects of Program Change Denial

OCRM's denial of the changes to the WCZMP could result in limited negative effects to the human environment from transportation and parking projects. While Washington would continue to apply the revised state guidelines without federal approval, OCRM might be required to decertify the WCZMP. As a result, the State would not have a federally-approved coastal management plan, and would not be eligible to receive CZMA funding to implement the new transportation and parking guidelines or use them as its enforceable policies for federal consistency review purposes. Funding for implementing the transportation and parking guidelines would be reduced, unless replaced by other sources. In addition, the State would lose the ability to apply the federal consistency provision to hold federally permitted activities to the same no net loss standard as state permitted projects and to seek improvements in federal transportation and parking projects affecting the coastal resources.

6.3.3.8 Historical and Cultural Resources

Alternatives 1 and 3—Effects of Program Change Approval or No Action

There are no significant differences between the original guidelines (WAC 173-16) and the new guidelines (WAC 173-26) concerning archaeological and historic resources. The State has introduced a new principle to prevent the destruction of or damage to any site having historic cultural, scientific, or educational values. The new guidelines require that in preparing SMPs local governments shall provide for the protection of archaeological, historical, and cultural features. Shoreline permits shall require site inspections or evaluations in areas of known cultural resources, and shall require notification and work-stoppage if cultural artifacts are found. The new guidelines essentially reiterate the intent of Washington's RCW 27.44 (Indian Graves

and Records) and RCW 27.53 (Archaeological Sites and Resources) and their implementing rules which are already applicable to development in shorelines. Alternatives 1 and 3 would ensure continued CZMA funding to implement the historic and archaeological standards and the application of federal consistency to federal projects.

Alternative 2—Effects of Program Change Denial

OCRM's denial of the changes to the WCZMP could result in limited negative effects to historic and archaeological resources. While Washington would continue to apply the revised state guidelines without federal approval, OCRM might be required to decertify the WCZMP. As a result, the State would not have a federally-approved coastal management plan, and would not be eligible to receive CZMA funding to implement the historic and archaeological standards or use them as its enforceable policies for federal consistency purposes. Funding to implement the standards would be reduced, unless replaced by other sources. In addition, without the authority to implement federal consistency, federal projects would not be required to be consistent with the WCZMP.

6.3.3.9 Recreational Development

Alternatives 1 and 3—Effects of Program Change Approval and No Action

Washington's original guidelines (WAC 173-16) encourage a broad variety of recreational features and facilities, linked by transportation corridors (e.g., hiking, biking, vehicular), in which health and environmental effects are addressed through siting and design. The new guidelines state that SMPs should assure that shoreline recreational development is given priority, and that the facilities should be located, designed, and operated in a manner consistent with the environmental designation in which they are located. In addition, they should not result in net loss of shoreline ecological functions or ecosystem-wide processes. The general provisions of the no net loss of ecological functions requirement should reduce the impacts associated with recreational development, including human disturbance of wildlife, vegetation alteration as a result of trampling, firewood gathering, off-road-vehicle use, dispersed camp sites, landscaping, and trail development, soil erosion, and the construction of roads. Alternatives 1 and 3 would ensure continued CZMA funding to implement the shoreline recreational development guidelines and the application of federal consistency to federal projects.

Alternative 2—Effects of Program Change Denial

OCRM's denial of the changes to the WCZMP could result in limited negative effects to the human environment from a potential reduction in the amount of future recreational development. While Washington would continue to apply the revised recreational development guidelines without federal approval, OCRM might be required to decertify the WCZMP. As a result, the State would not have a federally-approved coastal management plan, and would not be eligible to receive CZMA funding to implement the new recreational development guidelines or use them as its enforceable policies for federal consistency review purposes. Funding for shoreline management overall would be reduced, unless replaced by other sources. In addition, without

the authority to implement federal consistency, federal recreational projects would not be required to meet the no net ecological loss standard.

6.3.3.10 Public Access

Alternatives 1 and 3—Effects of Program Change Approval and No Action

The original guidelines broadly addressed public access in the Recreation section (WAC 173-16-060 (21), stating that "[p]riority will be given to developments…which provide recreational uses and other improvements facilitating public access to shorelines." Public access is generally addressed in other sections as well, creating a network of public access requirements and inducements. The new guidelines at WAC 173-26 require potentially ecologically degrading public access improvements be designed to minimize adverse impacts and in other sections, discuss requirements and inducements for the provisions of public access for specific kinds of shoreline development. New public access siting, development, and operation would in large part be eliminated. Incremental improvements to public access will also occur to the extent that new development approvals must require public shoreline access. Alternatives 1 and 3 would ensure continued CZMA funding to implement the public access requirements and the application of federal consistency to federal projects.

Alternative 2—Effects of Program Change Denial

OCRM's denial of the changes to the WCZMP could result in limited negative effects to the environment from public access areas. While Washington could still apply the revised state guidelines without federal approval, OCRM might be required to decertify the WCZMP. As a result, the State would not have a federally-approved coastal management plan, and would not be eligible to receive CZMA funding to implement the new public access guidelines or use them as its enforceable policies for federal consistency review purposes. Unless the federal funding is replaced by other sources, and lacking the ability to apply federal consistency using the revised enforceable policies, there are likely to be continued negative effects from public access areas that may otherwise be addressed during future projects such as impacts from not practicing minimization techniques for public access improvements and operation.

6.3.3.11 Piers and Docks

Alternatives 1 and 3—Effects of Program Change Approval and No Action

"Piers and docks" in Washington's guidelines refer to commercial, industrial, and public piers and docks, and small facilities associated with single family residences. The original guidelines provide general policy guidance regarding floating docks, preference for open-pile piers, priority for community docks over single-use docks, cumulative effects of single-use docks, and water quality. The new guidelines provide distinct policy guidance regarding commercial and public piers and docks, and small facilities associated with a single family residence, including performance standards. First, single family residence docks are now classified as a water-

dependent use. Second, the State now allows only new piers and docks for water-dependent uses or public access. Third, where new piers or docks are allowed, local SMPs must require new residential developments of two or more dwellings to provide either joint use or community dock facilities. Fourth, all piers and docks are required to be designed and constructed to avoid or minimize and mitigate impacts to ecological functions, including critical areas resources such as eelgrass beds and fish habitats, and processes such as currents and littoral drift. Application of the revised guidelines for piers and docks will substantially reduce or mitigate the adverse effects of new pier and dock construction and operation by minimizing the number and size of new structures, applying new design techniques which reduce adverse effects, and by requiring mitigation for remaining adverse effects. Alternatives 1 and 3 would ensure continued CZMA funding to implement the docks and piers guidelines and the application of federal consistency for federal projects.

Alternative 2—Effects of Program Change Denial

OCRM's denial of the changes to the WCZMP could result in limited negative effects to the shoreline environment from commercial, industrial and public piers and docks. While Washington would continue to apply the revised state guidelines without federal approval, OCRM might be required to decertify the WCZMP. As a result, the State would not have a federally-approved coastal management plan, and would not be eligible to receive CZMA funding to implement the new piers and docks guidelines or use them as its enforceable policies for federal consistency review purposes. Funding to implement the docks and piers guidelines would be reduced, unless replaced by other sources. Without the ability to apply the new guidelines to federal projects through federal consistency, there may be negative effects to shoreline areas affected by new commercial or industrial-sized piers and docks because the new guidelines set extensive performance standard requirements for these facilities, including restrictions that limit new pier and dock development, and environmental considerations for such critical resource areas as eel grass beds and fish habitats, and processes such as currents and littoral drift.

6.3.3.12 Marinas

Alternatives 1 and 3—Effects of Program Change Approval and No Action

Negative effects of marinas and boating facilities include accidental fuel and oil spills; boat maintenance wastes and debris; anti-fouling bottom paints, bacterial contamination from human and fish wastes, and marine debris and litter. The original guidelines address marina siting and permitting issues, reducing negative impacts to fish and shellfish, aesthetic compatibility with adjacent areas, flushing capacity of embayments for overnight and long-term moorage facilities, and operational procedures to minimize accidental fuel spillage. The revised guidelines at WAC 173-26 additionally require marinas to be created with no net loss of shoreline ecological functions. Boating facilities (marinas) can be located "only at sites with suitable environmental conditions, shoreline configuration, access and neighboring uses," and should mitigate visual and ecological impacts, including those associated with parking and live-aboard boaters.

Alternatives 1 and 3 would ensure continued CZMA funding to implement the marina standards and the application of federal consistency for federal projects.

Alternative 2—Effects of Program Change Denial

OCRM's denial of the changes to the WCZMP could result in limited negative effects to shoreline environment from marinas. While Washington would continue to apply the revised state guidelines without federal approval, OCRM might be required to decertify the WCZMP. As a result, the State would not have a federally-approved coastal management plan, and would not be eligible to receive CZMA funding to implement the marinas guidelines or use them as its enforceable policies for federal consistency review purposes. Funding to implement the guidelines would be reduced, unless replaced by other sources. In addition, without the authority to implement federal consistency, federal projects would not be required to be consistent with the WCZMP.

6.3.3.13 Instream Structural Uses

Alternatives 1 and 3—Effects of Program Change Approval and No Action

The original guidelines did not explicitly address in-stream structures or dams. The new guidelines require that in-stream structures "provide for the protection and preservation, of ecosystem-wide processes, ecological functions, and cultural resources." Protection and preservation apply to fish and fish passages, wildlife and water resources, shoreline critical areas, hydrogeological processes, and natural scenic vistas. In addition, the new guidelines require previously lacking coordination between local SMPs and established regulatory programs. This should result in a reduced rate of riparian and aquatic habitat loss; decreased alteration of sedimentation patterns, stability of stream banks and streambeds and loss of water quality; less fluctuation in stream and reservoir water temperatures and water levels above and below the dam; and a decrease in loss of spawning habitat. Alternatives 1 and 3 would ensure continued CZMA funding to implement the in-stream structure standards and the application of federal consistency to federal projects.

Alternative 2—Effect of Program Change Denial

OCRM's denial of the changes to the WCZMP could result in limited negative effects to the submerged aquatic and littoral environment affected by in-stream structural uses. While Washington would continue to apply the revised state guidelines without federal approval, OCRM might be required to decertify the WCZMP. As a result, the State would not have a federally-approved coastal management plan, and would not be eligible to receive CZMA funding to implement the new in-stream structural uses guidelines or use them as its enforceable policies for federal consistency review purposes. Funding to implement the new standards would be reduced, unless replace by other sources. In addition, without the authority to implement federal consistency, federal projects could continue to result in negative impacts, such as higher rates of riparian and aquatic habitat loss, alteration of sedimentation patterns, decreased

stability of stream banks and streambeds, loss of water quality, and loss of spawning habitat, among other impacts discussed above.

6.3.3.14 Dredging and Dredged Material Disposal

Alternatives 1 and 3—Effects of Program Change Approval or No Action

Review and approval of dredging activities in Washington is generally managed under policies and guidelines established by the DMMP, a coordinated state-federal consortium. DMMP regulations state that SMPs shall minimize damage to ecological values; provide a long-range plan for disposal; allow deposition in-water only for habitat improvement purposes or where land deposition is more detrimental; and discourage dredging for the purpose of obtaining fill material. The new guidelines at WAC 173-26 add the standard of compliance with no net loss of shoreline ecological functions. However, the SMA is not the principal regulatory programs affecting dredging and dredged material disposal. The new guidelines will have minimum positive impacts, but should align local master programs with other state and federal regulatory programs that primarily address dredging and dredged material disposal in Washington's coastal area. Alternatives 1 and 3 would ensure continued CZMA funding to implement the no net loss of shoreline ecological functions for dredging activities, and the application of federal consistency to federal projects.

Alternative 2—Effects of Program Change Denial

OCRM's denial of the changes to the WCZMP could result in limited negative effects to the human environment. The State would continue to implement the revised state guidelines without federal approval, however, there may be negative effects for any state or local dredging or dredge disposal programs that receive funding under the CZMA since the WCZMP would no longer continue to be a federally-approved program, and therefore would not be eligible to receive CZMA funding to implement the new guidelines. Nor would the State be able to use the original guidelines as enforceable policies to review projects previously subject to federal consistency requirements. However, other state and federal regulatory programs will continue to be the primary authorities for regulating dredging and dredged material disposal in Washington's coastal areas, therefore any negative effects from selecting Alternative 2 would be very limited.

6.3.3.15 Fill

Alternatives 1 and 3—Effects of Program Change Approval and No Action

Cumulative adverse environmental effects associated with land filling may include: intertidal habitat loss through direct burial leading to stress on fish and wildlife populations dependent on shallow water habitats; disruption of long-shore drift patterns leading to beach starvation, changes in the composition of intertidal fauna, increase shoreline erosion of downdrift properties; and interference with public access and use of navigable waters. The original WAC 173-16 provides policy guidance on land filling, and performance standards with respect to protection of ecological values, minimization of hazards, erosion prevention, and water quality.

The new guidelines are essentially the same as the original guidelines; basically providing policy guidance on land filling, and performance standards linked to section 200 (2)(c) regarding protection of ecological values. Application of the new guidelines may result in further reductions in landfill, slowing the rate of shallow subtidal and intertidal habitat elimination and degradation. Alternatives 1 and 3 would ensure continued CZMA funding to implement the fill standards and the application of federal consistency to federal projects.

Alternative 2—Effects of Program Change Denial

OCRM's denial of the changes to the WCZMP could result in limited negative effects to the coastal human environment affected by landfill. While Washington would continue to apply the revised state guidelines without federal approval, OCRM might be required to decertify the WCZMP. As a result, the State would not have a federally-approved coastal management plan, and would not be eligible to receive CZMA funding. Funding to implement the land filling standards would be reduced, unless replaced by other sources. In addition, the State would not be able to apply the guidelines as enforceable policies to review projects previously subject to federal consistency requirements.

6.3.3.16 Aquaculture

Alternatives 1 and 3—Effects of Program Change Approval and No Action

Principal environmental impacts of aquaculture in Washington include water quality degradation, habitat alternation by introduced species; and land use conflicts between residential land and aquaculture. While aquaculture is a "preferred, water-dependent use" under the original guidelines, permitting of aquaculture projects is not allowed to "significantly interfere with navigation…impair the aesthetic quality of Washington shorelines…[or]…degrade water quality." Furthermore, the original guidelines provide that since shellfish resources and other conditions suitable for aquaculture only occur in limited areas, "proposed developments and activities should be evaluated for impact on productive aquaculture areas," and "[i]dentified impacts should be mitigated through permit conditions and performance standards." The new guidelines repeat the former provisions, but also require that permitting of aquaculture projects "should not…significantly impair ecological functions." Based on the addition of the no net loss of ecological function standard, new aquaculture facilities should, overall, have less of an impact on other species than in the past. Other provisions of the new guidelines, especially those relating directly and indirectly to water quality, will tend to alleviate the adverse effects of shoreline development and activities upon aquaculture. The land use conflicts between residential land uses and aquaculture have not been addressed under the new guidelines and will remain unaffected. Alternatives 1 and 3 would ensure continued CZMA funding to implement the aquaculture guidelines and the application of federal consistency for federal projects.

Alternative 2—Effects of Program Change Denial

OCRM's denial of the changes to the WCZMP could result in limited negative effects to the shoreline environment from aquaculture. While Washington would continue to apply the revised

state guidelines without federal approval, OCRM might be required to decertify the WCZMP. As a result, the State would not have a federally-approved coastal management plan, and would not be eligible to receive CZMA funding to implement the aquaculture guidelines or use them as its enforceable policies for federal consistency review purposes. Funding to implement the aquaculture policies would be reduced, unless replaced by other sources. In addition, without the authority to apply federal consistency, federal aquaculture projects would not be required to be consistent with the no net loss of ecological function standard.

6.4 Sociological Environment

6.4.1 Impacts to Local Governments

The SMA created a "cooperative program" (RCW 90.58.050) between state and local governments to specifically address managing the shorelines of the State. While local governments (i.e., county, city, and town) have primary responsibility for managing land use within their jurisdiction, the SMA places requirements upon local governments to help achieve statewide interests. Local governments with shoreline property experience an additional financial burden in meeting these statewide interests. Costs are incurred for inventories, studies and analyses, the public participation process, updates and revisions to codes. While not covering all costs of local governments associated with SMA implementation, local governments receive both financial and technical assistance grants through the Washington State Legislature and federal CZMA funds. In an effort to assist local governments and ease the financial burden through the upcoming round of SMP improvement, financial assistance is being awarded, and the WDOE has developed a phased development and approval program for local jurisdictions over a ten-year period (RCW 90.58.080). In addition, various technical assistance and guidance documents are provided to local governments.
(*See*: http://www.ecy.wa.gov/programs/sea/grants/smp/index.html and http://www.ecy.wa.gov/programs/sea/landscape-tool/home/landscape_home.html.)

Those counties that are experiencing higher growth rates than others (e.g., King, Pierce, Snohomish, etc.) may also experience greater pressure during development of the new guidelines from conflicting interests (e.g., greater pressure for conversion of rural lands for commercial or housing projects, more demand for sand, gravel and timber for construction materials, competition for space along waterfronts, additional roads and drainage problems). Counties with highly built environments may find it more difficult to achieve mitigation and restoration requirements associated with growth or achieve no net loss of ecological function to modified environments. Several counties have already demonstrated their ability to address these challenges. For example, counties implementing the provisions of the GMA have produced products that address such concepts as "best available science" and critical areas that are the same as those identified in the guidelines (*see* http://www.kitsapgov.com/dcd/lu_env/cao/cao.htm). Local governments that participate in the planning and regulatory process to implement the new guidelines will most likely experience administrative and financial impacts. However, these are likely to be offset by significant environmental benefits since shoreline uses will create fewer negative environmental impacts under the new guidelines.

WDOE completed an "Evaluation of Probable Benefits and Costs" associated with the amended guidelines in response to the Administrative Procedures Act (http://www.ecy.wa.gov/biblio/0006043.html). The study estimated that it would cost all 250 local governments under the SMA jurisdiction approximately $18.8 million to update their SMPs. Ultimately, the study concluded that the benefits of achieving improved vegetation conservation and setbacks, shoreline stabilization, and improvements to fisheries habitat will offset any probable, additional regulatory costs. (Ecology Pub. 00-06-043, p. 17).

6.4.2 Benefits and Cost Impacts

The economic benefits-costs formula for the proposed program change is not how much it will cost to implement the new provisions of the SMPs on an annual basis using federal, state, or local government funds vs. how much is protected and saved (from a particular environmental account, amount of public access provided in a given particular year, how many permits are processed, etc.). This type of balance sheet would differ from year to year. The probable long-term benefits of the new guidelines will include the ability to plan and manage shoreline development more expertly based on the inputs of agreed upon science and principles; and in a more coordinated and integrated manner because of the process outlined in the guidelines. A useful baseline must be established early in the inventory and analysis stage. Future long-term benefits will include a decline in the rate of destructive habitat change from a variety of future shoreline uses managed; the increased ability to protect species in their habitats because of better information and decision making, including conditions or restrictions on permits that achieve both growth and protection achievements (the balance identified in the SMA); mitigation and restoration projects associated with future development; residents who build on sound slopes and firm foundations; clean water; and healthy fish. On a broad scale, these take into consideration both environmental and social benefits.

The types of benefits derived from good management have social and economic value as well as incurring cost of implementation and loss or change of opportunity. For some, the changes will result in an incremental increase in the cost of doing business. For example, new development and construction proposals may require the inclusion of vegetative buffers along designated shorelines, even in urban and residential areas. To lose 30, 50 or 100 feet along a river bank would represent a foregone development opportunity and value. However the potential offsetting benefits scenarios include reduced pollution loads to the waterways, greater open space and floodplains, reduced needs for stabilization benefits, and the developers' contributions towards meeting community or statewide societal goals in protecting fish and wildlife habitats. This issue is further explored in the WDOE Benefits and Costs Assessment produced in response to the development of a version of the new guidelines and is found at (http://www.ecy.wa.gov/biblio/0006043.html) and incorporated by reference. All forms of guidance, regulations or restrictions, whether through Home Owners Association covenants, building codes with height limitations, or conditions on substantial development permits, produce both benefits and costs. The SMA and guidelines are designed to achieve both specific (i.e., reduce percent of impervious surface associated with development) and broad (i.e., no net loss of ecological function) goals. However, when developing SMPs, local governments must accommodate reasonable and appropriate uses while both minimizing resultant damage to the ecology and environment, and protecting private property rights.

A study recently completed by the Washington State Department of Community, Trade and Economic Development's Growth Management Services analyzed the potential economic benefits to developers who meet the requirements of the GMA and requirements of SEPA.[9] The study found that nine out of 15 local governments integrating growth management and environmental review produced more than $500 million in new investment in their communities. Another $1.756 billion in investment was strongly influenced by local planning decisions through the integration process, and local agencies and developers utilizing the new planning tools avoided more than $1.3 million in direct environmental costs. The developers liked the increased certainty on meeting the requirements. Other benefits of combining environmental review and planning included:

- Streamlined SEPA procedures;
- Ability to predict cumulative impacts;
- Efficient use of tax money in land use and infrastructure planning, in the permit process, and in providing public facilities and services;
- A more predictable future for the community;
- A reduction in time and cost to developers to obtain permits for many projects;
- Greater certainty about which developments are likely to be permitted in various locations and what conditions may be required to minimize impacts; and
- Greater environmental protection resulting from consideration of the cumulative impacts of all development in the area on the built and natural environment.

6.4.3 Small Business Impacts

In November 2003, WDOE published a "Small Business Economic Impact Statement" (SBEIS)(Ecology Publication #03-06-036) for the then new guidelines. The SBEIS can be found at http://www.ecy.wa.gov/biblio/0306036.html and is incorporated by reference as part of this analysis. The impact statement was developed in accordance with Washington State law (Regulatory Fairness Act (RCW 19.85)). Businesses are not required to comply with the guidelines. Local governments use the guidelines to produce or revise land use ordinances, comprehensive master plans, and conditions on permits that require compliance; these are the regulatory products.

The SBEIS points out that the guidelines provide both procedural and substantive directions for local governments in revising SMPs, but because they provide minimum standards for SMPs, there is an indirect regulatory effect on users and uses within the SMA jurisdiction of 200 feet inland from boundary waters. While both large and small businesses would be affected through increased compliance costs associated with such requirements as shoreline investigation,

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[9] A publication, SEPA and the Promise of the GMA: Reducing the Cost of Development, that describes 15 case studies on SEPA/GMA integration is available by calling 360.725.3000

monitoring, and mitigation, the concern is whether there is a disproportionate impact on small business. The SBEIS also studies the potential impacts associated with meeting shoreline land use restrictions such as vegetative buffers and the reduction of useable land. Small businesses that deal with development and construction, shoreline stabilization contractors, agriculture, mining, and marine transportation would most likely be affected because of the work they conduct in the shorelines of the state. The study points out that there are potential actions that could be taken by local governments to minimize impacts to small businesses:

> The SMA does not apply to any one group or type of business or industry but rather applies to any use made of the shorelines of the state. Taken statewide, all groups and types of businesses could probably be found to be represented somewhere in the shoreline, however since shorelines comprise only about two percent of the State's total land base, very few businesses would be found predominantly in the shoreline. Various businesses that qualify as water dependent are affected most directly. (SBEIS, p. 22).

6.5 Effects Related to Environmental Sustainability

The WDOE and local governments producing SMPs face an important task in developing instruments to assist in improving management of shoreline environments. The goal as defined by the Legislature and Washington residents is to reduce the consequences of growth to the environment and work towards improving ecological functions where and when possible. The accelerated population growth rates experienced in western Washington over the last three decades is expected to continue as well as increased demand and prices for shoreline property. Washington State's natural resources will most likely continue to decline through land conversions, increased loss of vegetative cover accompanied by an increased percentage of impermeable surfaces, and a struggle between balancing public good and protecting private property rights.

The cumulative impacts of numerous small scale projects on coastal resources must be addressed through land use planning and regulation, coordinated efforts, soundly developed information on which to base land use decision making, and learning from experience. Development over the last 30 years has led to degradation of waterways and listing once abundant species as endangered or threatened, even though efforts have been made to prevent or minimize such degradation. Washington's Legislature and governmental agencies have felt the necessity to pass new laws such as the GMA and Watershed Planning Act as well as demand new standards of existing laws such as the SMA which plays a key role in managing development along the state's shoreline. At the federal level, the WCZMP has received supplemental funds through CZM grants since 1976 to assist the State in achieving the goals expressed in the SMA. It is this type of management tool that helps achieve policy goals and objectives and addresses the direct impacts associated with actual growth and development proposals. The burden has largely been placed on local governments. However, participation in SMP development is a shared responsibility of the citizens of the community, agencies and organizations, interest groups, technical experts and others to develop master programs that look at all the facts and interests; designate environments in a way that will guide as well as regulate growth; and modify or pass new ordinances that limit what development may or may not do in those environments, while still protecting private property rights. If future SMPs achieve the intent and objectives of the

new SMA guidelines, Washington's shoreline environment residents and species will be better off.

6.6 Cumulative Effects

Chapter 5 and previous sections of Chapter 6 of this EIS have discussed in part the status and trends for Washington's shorelines as they have developed under WAC 173-16, as experiencing varying degrees of degradation. The following discussion of cumulative impacts is drawn largely from Chapter 7, Integrated Analysis, of the WDOE's Integrated Analysis.

The new guidelines have been developed to address the cumulative impacts of intense growth and environmental degradation of the Washington's coastal zone. Washington's four million plus coastal population is expected to increase by another one million people within the next 15 years. Cumulative impacts will continue to multiply unless the tools and requirements of the new guidelines are fully implemented and improved upon in subsequent revisions. Following is a discussion of various federal, state and local programs that will help address cumulative effects under the preferred alternative.

Riparian habitats have been altered or degraded by forestry and agricultural practices, and clearing for various urban and suburban lands uses. Stream channel hydrology and ecology have been altered for the worse and degraded. Wetlands loss continues, possibly at undiminished rates.[10] Estuarine water quality is variable, and in places is substandard. Overall, more commercial shellfish beds are being downgraded than are being upgraded due to on-going pollutions problems. As more and more people build larger and larger houses on and near unstable slopes, the problems associated with landsliding have become greater. Nearly two miles of Puget Sound shorelines have been armored each year, adversely affecting beach and nearshore habitats, and the creatures which depend on those habitats for all or a portion of their life cycle.

What goes undocumented, however, is what Washington's shorelines would have become without the SMA (and other resource management and environmental protection legislation). Two examples of activities ended or substantially moderated by the passage of the SMA and adoption of WAC 173-16 are over-water structures (as exemplified by multi-family residential construction in Seattle) and beach fills (as exemplified by residential beach filling on the shores of Hood Canal in Mason County).

It is important to realize that from any perspective, the newly adopted WAC 173-26 is not a panacea. Development will continue to occur on Washington's shorelines, and therefore some localized habitat loss and degradation will continue to occur at specific locations even while the standard of no net loss for ecological functions is met for a broader local area. The rate of

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[10] Some wetland scientists are of the opinion that in certain respects wetlands loss rates have slowed, but that wetlands degradation continues unabated. Sufficient monitoring data is not available to make an unequivocal statement, and especially not a quantitative statement.

development is driven largely by population growth and the state of the economy. Population growth provides the demand, and a robust economy provides the means to meet the demand. A robust economy tends to result not only in more development, but more expansive development projects. The conditions in the Puget Sound region of Washington during the 1990s bear this statement out.

The rate and severity of shoreline habitat loss and degradation is moderated or mitigated for by land use, environmental, and pollution control laws and regulations. The SMA functions in conjunction with a number of other state laws, the most important of which includes the Seashore Conservation Act, the Hydraulics Code, SEPA, and the GMA. Reading the above impact analyses could give the impression that WAC 173-26 will be only marginally effective in reducing the rate of habitat loss and degradation, and other undesirable environmental consequences of specific shoreline development and activities. The integrated effect of WAC 173-26 as a whole, across the landscape, however, is anticipated to have a synergistic effect, producing overall environmental benefits substantially greater than the sum of the parts over a period of decades.

To the extent that WAC 173-26 is more effective than was WAC 173-16 at moderating environmental impacts—and everything else being equal—future adverse effects on the shoreline environment at specific project sites will certainly be less than under WAC 173-16, and may be nil. To the extent that WAC 173-26 is better integrated and coordinated with other land use, environmental, and pollution control laws and regulations than WAC 173-16 was, future adverse effects on the environment at specific project sites will be less.

WAC 173-26 contains a number of concepts wholly or explicitly lacking in WAC 173-16:

- Addressing cumulative impacts as a part of master program development;
- Vegetation conservation for the protection of shoreline habitats;
- Explicit management of geologically hazardous areas, and to do so in concert with requirements of the GMA;
- Explicit management of critical salt water habitats, and to do so in conjunction with shoreline management of adjacent areas;
- Explicit management or riverine corridors, and to do so especially in conjunction with protection of hydrologic and ecologic values;
- Explicit management for flood hazard reduction; and
- The mandate to allow no net loss of ecological functions as a result of development activity or operations.

Four provisions of WAC 173-26 stand out in this respect:

- The requirement for local governments to include identification of degraded shorelines in their comprehensive shoreline inventories, and to include in their amended SMP measures for restoration for those ecologically degraded shorelines, will provide long-term guidance for not just the local jurisdiction, but any organization seeking to affect habitat restoration.

- The requirements for vegetation conservation which apply more-or-less across-the-board to most shoreline developments will likely result in lower rates of habitat loss and degradation from new development than any other element of the new guidelines.

- The requirement that new development shall result in no net loss of ecological functions will, more than any other new element of the new guidelines, result in lower rates of habitat loss and degradation from new development.

- The requirement that local governments, in preparing their amended SMPs, subject those plans to analysis of cumulative effects, and to plan and mitigate for those cumulative effects by allocating the burden of addressing those impacts.

Taken as a whole, the cumulative effects of these new provisions, plus the refined measures for implementing traditional components of the guidelines for development and implementation of local SMPs, will result in substantially reduced adverse environmental effects of shoreline development and redevelopment, and positive environmental results over time on a regional basis.

On the other hand, many of the measures new to the revised Shoreline Management Guidelines are not new practices. In some respects, the changes simply bring the guidelines into consistency with practices already required by other laws, regulations, or agreements. In these instances, the apparent environmental benefits and effect of the guidelines will be less than it might seem by simply comparing the proposed WAC 173-26 with the previous WAC 173-16. Notably, these areas of overlap (and source of the overlap) include flood hazard reduction (GMA; Flood Plain Management Act); water quality protection (Water Pollution Control Act; Dairy Nutrient Management Act; Puget Sound Water Quality Protection Act; Shellfish Protection Districts Act); dredging and DMMP under the federal Clean Water Act); agricultural practices (Agriculture Fish Water Negotiations); forest practices (Forest Practices Act); geological hazards (GMA); and requirements for shoreline buffers (GMA, Agriculture Fish Water negotiations).

In April 2003 the Legislature adopted and the Governor signed a bill (SSB 6012) amending the SMA to set a schedule for local governments to amend their SMPs in accordance with the provisions of the new guidelines. The update adoption schedule is spread out over a period of nine years beginning in 2005, and in general, the schedule of SMP update adoption is consistent with SSD Activity, i.e., counties in which a high level of permitting activity occurs are among the jurisdictions required to first update and adopt new master programs.

The beneficial environmental results of the new guidelines at a project scale will begin to be seen over the next decade in a few local jurisdictions. Substantial cumulative beneficial effects at a landscape scale will not be apparent for many decades.

7. Existing Regulatory Framework

7.1 Impacts to Endangered and Threatened Species

One of the main issues in Washington during the last decade has been the continued degradation of fresh and saltwater habitats. A number of species have been listed as endangered and threatened under both federal and state statutes. Some species listed are listed nationally (e.g., the American bald eagle (*Haliaeetus leucocephalus*), the Humpback whale (*Megaptera novaeanglia*)), but others, especially fish species are site specific to the Washington environment (e.g., the Puget Sound Bull trout (*Salvelinus confluentus*), the Puget Sound Chinook salmon (*Oncorhynchus tshawytscha*)) and rely heavily on habitats found only in Washington. Once a species is listed, special laws protect the species to avoid illegal take and the destruction of habitat.

7.1.1 Endangered Species Act Consultation

Section 7 of the Endangered Species Act (ESA) requires federal agencies to ensure that any action they authorize, fund, or carry out is not likely to jeopardize the continued existence of listed species or result in the destruction or adverse modification of its critical habitat. Federal agencies must consult with the USFWS and NMFS (collectively - the Services) regarding the effects of their actions on certain listed species. After a period of informal consultations, OCRM initially determined that its approval of the new state guidelines and subsequent incorporation of completed local SMPs is a reviewable action by the Services. Consequently, OCRM submitted a programmatic Biological Assessment to the Services with a request to initiate formal consultation pursuant to Section 7(a)(2) of the ESA in April of 2005. The BA is entitled *Washington State Shoreline Master Program Guidelines Programmatic Biological Assessment*, and was prepared by Herrera Environmental Consultants, March 2005. Chapter 5 of that Biological Assessment is incorporated by reference.

NMFS evaluates the effects of proposed federal actions on listed species by applying the standards of § 7(a)(2) of the ESA as interpreted through joint NMFS and USFWS regulations and policies. When NMFS issues a biological opinion (BO), it uses the best scientific and commercial data available to determine whether a proposed federal action is likely to either jeopardize the continued existence of a listed species or destroy or adversely modify the designated critical habitat of a listed species.

The Services' ESA implementing regulations define "jeopardize the continued existence of" as "...to engage in an action that reasonably would be expected, directly or indirectly, to reduce appreciably the likelihood of both the survival and recovery of a listed species in the wild by reducing the reproduction, numbers, or distribution of that species." Section 7(a)(2)'s requirement that federal agencies avoid jeopardizing the continued existence of listed species is often referred to as the "jeopardy standard." The ESA likewise requires that federal agencies refrain from adversely modifying designated critical habitat.

On April 23, 2009, NMFS responded to OCRM's initiation of consultation with a letter stating that "[b]ased on NMFS review of the Ecology SMP guidelines, the BA and the NEPA EIS, we find that OCRM's approval of the State SMP guidelines, in and of itself, will not have direct or indirect effects to listed species under the ESA." NMFS further concluded that "[t]he SMP guidelines are broad enough that the potential for effects ultimately comes down to local jurisdictional implementation of the guidelines in the development or amendment of their own

plans." NMFS concluded that formal ESA consultation on OCRM's proposed approval of Washington's Shoreline Master Program Guidelines was not required because OCRM's action will not affect listed species. In a letter to NMFS dated October 9, 2009, OCRM adopted NMFS' conclusions as its own and withdrew its request for formal consultation. In a letter sent to USFWS on October 9, 2009, OCRM adopted NMFS' conclusion that "OCRM's approval of the guidelines, in and of itself, will not have direct or indirect effect on listed species under the ESA", and withdrew its request to USFWS for ESA consultation pursuant to section 7(a)(2) of the ESA.

7.1.2 Guidelines and Species

Even though the SHB has ruled that the guidelines can not direct local governments to require specific standards (e.g., the exact distance associated with vegetative buffers as minimum requirements) in order to meet ESA standards used in recovery plans, the local governments still must develop standards that meet the intent of the guidelines (*see* WAC 173-26-221(5)). While a specific standard is not invoked (e.g., 100-foot vegetation setback from ordinary mean high water mark (OMHW)), the guidelines process (use of available scientific and technical information, information from Washington State Fish and Wildlife, protect ecological function) will come very close to ensuring a useful vegetation conservation standard even though it may vary among different jurisdictions.

As described above, the new guidelines contain new provisions that will require the SMPs to address SMA goals and policies, including the protection, restoration and preservation of valuable and fragile natural resources and protection against adverse effects to the land and its vegetation and wildlife, and the water and its aquatic life. The new guidelines provide some specific information for listed species that convey certain responsibilities to SMPs. The guidelines define "priority species" as:

> "species requiring protective measures and/or management guidelines to ensure their persistence at genetically viable population levels.[11] Priority species are those that meet any of the criteria listed [including]…Species listed under the federal ESA as either proposed, threatened, or endangered." WAC 173-26-020(25).

The guidelines also address the needs of "critical" saltwater and freshwater habitats; floodplains; mining; and restoration activities.

7.1.2.1 Critical Saltwater Habitats (*See* WAC 173-26-221(2)(c)(iii))

> Critical saltwater habitats include 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, <u>and areas with which priority species have a primary association.</u> Critical saltwater habitats require

[11] "Genetically viable population levels" is not defined in the Guidelines.

a higher level of protection due to the important ecological functions they provide. Ecological functions of marine shorelands can affect the viability of critical saltwater habitats. Therefore, effective protection and restoration of critical saltwater habitats should integrate management of shorelands as well as submerged areas.

The management planning should address the following, where applicable:

- Protecting a system of fish and wildlife habitats with connections between larger habitat blocks and open spaces and restoring such habitats and connections where they are degraded;
- Protecting existing and restoring degraded riparian and estuarine ecosystems, especially salt marsh habitats;
- Establishing adequate buffer zones around these areas to separate incompatible uses from the habitat areas;
- Protecting existing and restoring degraded near-shore habitat;
- Protecting existing and restoring degraded or lost salmonid habitat;
- Protecting existing and restoring degraded upland ecological functions important to critical saltwater habitats, including riparian vegetation;
- Improving water quality;
- Protecting existing and restoring degraded sediment inflow and transport regimens; and
- Correcting activities that cause excessive sediment input where human activity has led to mass wasting.

Local governments, in conjunction with state resource agencies and affected Indian tribes, should classify critical saltwater habitats and protect and restore seasonal ranges and habitat elements with which federal-listed and state-listed endangered, threatened, and priority species have a primary association and which, if altered, may reduce the likelihood that a species will maintain its population and reproduce over the long term.

7.1.2.2 Critical Freshwater Habitats (*See* WAC 173-26-221(2)(c)(iv))

Many ecological functions of river and stream corridors depend both on continuity and connectivity along the length of the shoreline and on the conditions of the surrounding lands on either side of the river channel. Environmental degradation caused by development such as improper storm-water sewer or industrial outfalls, unmanaged clearing and grading, or runoff from buildings and parking lots within the watershed, can degrade ecological functions downstream. Likewise, gradual destruction or loss of the vegetation, alteration of runoff quality and quantity along the corridor resulting from incremental flood plain development can raise water temperatures and alter hydrographic conditions and degrade other ecological functions, thereby making the corridor inhospitable for priority species and susceptible to catastrophic flooding, droughts, landslides and channel changes. These conditions also threaten human health, safety, and property. Long stretches of river and stream shorelines have been significantly altered or degraded in this manner. Therefore, effective management of river and stream corridors depends on:

(I) Planning for protection, and restoration where appropriate, along the entire length of the corridor from river headwaters to the mouth; and
(II) Regulating uses and development within the stream channel, associated channel migration zone, wetlands, and the flood plain, to the extent such areas are in the shoreline jurisdictional area, as necessary to assure no net loss of ecological functions associated with the river or stream corridors, including the associated hyporheic zone, results from new development.

As part of a comprehensive approach to management of critical freshwater habitat and other river and stream values, local governments 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 the corridor's ecological functions and ecosystem-wide processes.

7.1.2.3 Flood Hazard Reduction (*See* WAC 173-26-221(2)(c)(iii))

Allow new structural flood hazard reduction measures in shoreline jurisdiction only when it can be demonstrated by a scientific and engineering analysis that they are necessary to protect existing development, that nonstructural measures are not feasible, <u>that impacts to ecological functions and priority species and habitats can be successfully mitigated so as to assure no net loss</u>, and that appropriate vegetation conservation actions are undertaken consistent with WAC 173-26-221(5).

7.1.2.4 Shoreline habitat and natural systems enhancement projects (*See* WAC 173-26-231(3)(g))

Shoreline habitat and natural systems enhancement projects include those activities proposed and conducted specifically for the purpose of establishing, restoring, or <u>enhancing habitat for priority species</u> in shorelines.

Master programs should include provisions fostering habitat and natural system enhancement projects. Such projects may include shoreline modification actions such as modification of vegetation, removal of non-native or invasive plants, shoreline stabilization, dredging, and filling, provided that the primary purpose of such actions is clearly restoration of the natural character and ecological functions of the shoreline. Master program provisions should assure that the projects address legitimate restoration needs and priorities and facilitate implementation of the restoration plan developed pursuant to WAC 173-26-201(2)(f).

7.1.2.5 Shoreline Use: Mining (*See* WAC 173-26-241(3)(h))

(ii) Master programs shall include policies and regulations for mining, when authorized that accomplish the following:
(A) New mining and associated activities shall be designed and conducted to comply with the regulations of the environment designation and the provisions applicable to critical areas where relevant. Accordingly, meeting the no net loss of

ecological function standard shall include avoidance and mitigation of adverse impacts during the course of mining and reclamation. It is appropriate, however, to determine whether there will be no net loss of ecological function based on evaluation of final reclamation required for the site. Preference shall be given to mining proposals that result in the creation, restoration, or enhancement of habitat for priority species.
(D)(II) The mining and any associated permitted activities will not have significant adverse impacts to habitat for priority species nor cause a net loss of ecological functions of the shoreline.

7.1.2.6 Shorelines of Statewide Significance (*See* WAC 173-26-221(3)(a))

Recognize and take into account state agencies' policies, programs, and recommendations in developing use regulations. For example, if an anadromous fish species is affected, the Washington State Departments of Fish and Wildlife and Ecology and the Governor's Salmon Recovery Office, as well as affected Indian tribes, should, at a minimum, be consulted.

These include specific references to local governments taking state or federal listed species into account when revising their SMPs. The underlying premise is the need to protect, minimize damage to, and restore where possible the critical habitats of these species. While priority species are not specifically mentioned throughout, the goal to achieve no net loss of ecological functions when regulating shoreline uses and shoreline modifications is a dominating theme throughout the guidelines. The need for consultation with affected parties is also recognized. Taken together, these requirements along with the requirement to accommodate reasonable uses of the shoreline will challenge local governments administratively, technically, and financially. The degree to which they can meet these challenges will determine their ability to provide some assurance that the goals of the ESA can also be met.

7.1.3 Washington State's Salmon Recovery Effort

Washington is undertaking a comprehensive statewide strategy dealing with endangered species listing. While the jurisdiction of the SMA covers most of the important water bodies in the state, it was clear that no single piece of legislation would be totally effective in protecting or restoring in critical habitats in support of species rehabilitation. It is within this context that the impacts associated with the guidelines must also be viewed. Neither the SMA or the GMA, nor both taken together can successfully accomplish all aspects of species protection. The Forest Practices Act, National Pollution Discharge Elimination System (NPDES) discharge permits, land acquisition programs, and several other laws and regulations must be considered from a comprehensive and integrated manner. Washington instituted and developed a suite of programs including the Governor's Salmon Recovery Office. The Shared Strategy Response driven by the voter motto: "Extinction is Not an Option" has generated a complex set of activities, mostly

voluntary, some funded, to address the problems associated with salmon recovery.[12] Federal, state, and tribal governments are dealing with hatchery issues, storm water drainage and non-point sources of pollution, while local governments address growth management and a host of issues not directly addressed through the SMA and its guidelines.

An example of how King County is addressing the issue along with its neighboring counties can be viewed at: http://www.metrokc.gov/exec/esa/king_county.htm. The WRIA 8 (Lake Washington/ Cedar/Sammamish Watershed) Chinook Salmon Conservation Plan released July 2005 identifies an array of opportunities for collaborative partnerships including the need to collaborate on updating SMPs.

7.1.4 Additional Opportunities for Collaborative Partnerships

In addition to the actions on the comprehensive and start lists, there are a number of opportunities for local jurisdictions to collaborate on actions and for public/private partnerships within and across WRIAs. A preliminary list of collaborative land use actions includes:

- Promote regional (cross-jurisdictional) stormwater planning and facilities construction.

- Work with WDOE to explore the feasibility of a WRIA-wide NPDES permit in the future. King County has initiated discussions on this idea. The city of Seattle is encouraging jurisdictions to work together on their stormwater and drainage code amendments to reduce costs for local agencies, resolve similar stormwater management issues, and negotiate together on similar issues with Ecology on NPDES permits.

- Promote demonstration projects of low impact development features, monitoring of such projects, and cross-jurisdiction training for planners, developers, and others on technical, financial, and marketing aspects of low impact development projects .

- Promote salmon-friendly bulkhead, shoreline, and dock demonstration projects on public property in most jurisdictions around Lake Washington and Lake Sammamish. Such projects will gather practical experience and demonstrate how these altered dock and bulkhead designs can actually work. Use findings from

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[12] Much of the Shared Strategy Response is described on Washington State Agency web sites. WDFW has numerous articles, slide shows, and documents available for review. It is beyond the scope of this DEIS to attempt to describe this very complex and multi-faceted program for purposes of OCRM's federal action for Guideline incorporation. The point is that there are many actions and activities that have been set in motion from regulations and critical area ordinances to volunteer restoration activities and education programs.

these projects to promote proposals for expedited permitting for local, state, federal permits related to shoreline structures.

- Collaborate on SMP updates, and other regulatory and policy revisions, using the WRIA 8 conservation strategy as part of Best Available Science. Seattle's "Restore our Waters" strategy includes coordination among twelve city departments to establish priorities to address habitat, water quality, and flows in an urban setting, and illustrates the potential for similar priority setting and coordination across jurisdictions and between public and private partners.

- Encourage jurisdictions to cooperate on flexible development tools such as mitigation banking and transferable development rights. Such tools require cooperation between subareas and jurisdictions to benefit both developed and undeveloped areas.

- Develop consistent guidelines for landscaping certification programs.

- Share lessons learned about enforcement, and related education about laws and their purposes, to improve enforcement across jurisdictions.

- Fund and provide technical support for maintenance of public and private lands which have been set aside for protection of natural functions. As the number of protected lands increases, the need increases for sharing information and staff, based on models which work efficiently and over long time periods to steward and monitor these lands to insure that their ecological functions remain intact (e.g., Cascade Land Conservancy in Redmond Ridge).

- Research extent and impact of withdrawals, including exempt wells and illegal withdrawals. This will require collaboration among Ecology, local health and permitting agencies, water suppliers, developers, and homeowner associations.

8. Other Environmental Considerations and Requirements

8.1 Unavoidable Adverse Environmental or Socio-Economic Impacts

Like the original guidelines, the new guidelines require SMPs to cover a wide range of elements addressing various demands of growth and shoreline development, including economic development, circulation, land conservation, and public access. Designations of high intensity environment or shoreline residential environment either anticipate or encourage growth in those environments. Any designation other than 'natural environment' that goes beyond preserving natural areas will result in unavoidable adverse impacts. However, all impacts must be reduced or mitigated in order to achieve the new no net loss of ecological functions standard. Some areas will likely become more developed, but under more controlled conditions. Population and industrial growth may become denser in specific designated environments. The cost of development may be incrementally increased to meet more stringent standards and requirements associated with development in shorelines of statewide significance.

The new guidelines grandfather existing uses of the shoreline such as existing agriculture operations. These and other exemptions will not improve an already degraded baseline on which to judge future guideline accomplishments unless those existing uses of the shoreline actively include best management practices, mitigate adverse impacts from use, and participate in restoration measures. Education and outreach programs may help in this regard. For example, the web pages for salmon recovery and the WCZMP provide instructions on how individuals and organizations can help achieve environmental protection and improvement.

The guidelines stipulate that there is to be no net loss of shoreline ecological functions. As a result, the guidelines may maintain existing environmental baseline conditions or result in a long-term beneficial effect on habitat and species. Despite having a long-term beneficial effect on habitat and species, mitigation or restoration activities often entail activities that have short-term adverse impacts. For example, wetland mitigation sites often take several years before they provide an equivalent level of habitat complexity and array of ecological functions. Unless mitigation sites are constructed prior to the proposed developments they are associated with, there may be a lag period after a wetland impact occurs and before a mitigation site is established. During this time the net quantity of wetland available and the net ecological functions provided are reduced. Wetland mitigation activities also generate short-term adverse impacts that can affect sensitive species and habitats via sedimentation, reduced water quality, destruction of existing habitat and vegetation and associated biological communities, placement of fill, soil compaction, and noise and visual disturbance.

Similarly, in order to restore a shoreline site with contaminated soils either these soils would have to be removed or they would need to be contained. This would prevent ongoing or continuing contamination and improve the quality of habitat and associated ecological functions. However, removal of these soils could temporarily result in sedimentation and re-suspension of contaminants into nearby or surrounding water bodies. Containment of the soils would require installation of a containment structure or barrier, which would require excavation and disturbance of soils, or placement of a cap over the contaminated site. This in turn would require placement of fill within the shoreline environment which could result in both short- and long-term impacts. Overall these activities will provide positive impacts and are regulated by a number of permits (such as the hydraulics code) and conditions to minimize the adverse impacts.

Impacts from existing shoreline uses will continue as they are exempt and grandfathered into the SMA. To the degree they have caused the degradation problems to the aquatic environment described in this EIS and various assessments and studies conducted by agencies and organizations, they will continue to cause degradation problems until such time as stormwater drainage problems, farming practices along the shoreline, road culverts are repaired or replaced, etc., and are addressed through means and measures other than the guidelines (i.e., Shared Strategy restoration projects, non-point source pollution requirements, change in sewer system - septic wells to waste treatment plants, etc.).

8.2 Irreversible and Irretrievable Commitment of Resources

Federal action to approve the amendment should not result in any irreversible or irretrievable commitment of resources. The guidelines are state requirements developed in accordance with state law and are currently being implemented into SMPs by local government. The federal action is not responsible for, and is unlikely to increase, the growth and development that is occurring in Washington's coastal zone.

The guidelines are a management tool to guide and help regulate certain activities and uses found along Washington's shorelines. The new guidelines represent a step forward in the State's thinking on how to best manage growth impacts to protect clearly identified statewide interests along the shoreline. It is likely that new improvements will be made to them if new circumstances and understanding arise. The SMA and the guidelines are not the only management tools available to state and local governmental agencies to use for the protection of natural resources.

Federal approval will permit the WDOE to utilize federal grant funds to help with some of the implementation costs for local government participants, to conduct future studies and assessments on the impact and effectiveness of guideline implementation, and to search for new and improved measures as needed. Denying approval of the changes to the WCZMP would not change the outcome of guideline implementation, only delay to some degree the eventual impacts associated with local government decision making under their new SMPs and remove federal consistency requirements. Ultimately this would not be advantageous to environmental resources even with any perceived limitations embodied in the guidelines.

As the guidelines become embodied in local SMPs during the next decade, there will be further degradation of some coastal ecosystems, particularly in the urban and rural environments as growth continues and lands and water resources are modified. While future impacts should result in less degradation than under the original guidelines and SMPs, there will continue to be irreversible and irretrievable losses of coastal resources associated with the cumulative change to land and water uses.

8.3 Compliance with other Environmental and Administrative Review Requirements

OCRM's action to approve the amendment to the WCZMP as described in this EIS is subject to a number of additional authorities. OCRM is responsible for ensuring federal actions comply with these and other relevant authorities. A brief discussion on how these laws and executive orders are met through this action is described below.

8.3.1 Endangered Species Act (16 USC 1531 et seq.)

On June 30, 2005, OCRM initiated consultation with USFWS and NMFS pursuant to section 7(a)(2) of the ESA regarding its approval of Washington's update to the Shoreline Management Act guidelines for developing SMPs. OCRM provided the resource agencies with a Biological Assessment of its proposed action which had been prepared as a result of many previous discussions. NMFS analyzed the BA submitted by OCRM and in response to OCRM's initiation of consultation concluded:

> Based on NMFS' review of the Ecology SMP guidelines, the BA and the NEPA EIS, we find that OCRM's approval of the State SMP guidelines, in and of itself, will not have direct or indirect effects to listed species under the ESA, or to essential fish habitat under the MSA. The SMP guidelines are broad enough that the potential for effects ultimately comes down to local jurisdictional implementation of the guidelines in the development or amendment of their own plans." (Letter in Appendix F)

In a letter dated October 9, 2009, OCRM adopted NMFS's findings from its April 23, 2009 letter. OCRM withdrew its request to NMFS and USFWS for formal consultation pursuant to section 7(a)(2) of the ESA. (Letters in Appendix F.) For purposes of NEPA and ESA compliance, OCRM no longer relies on the analyses contained in the BA, except as explicitly provided herein. The sole purpose of the BA and OCRM's reliance upon it is to describe the listed species in the affected area and, to this end, OCRM incorporates by reference Part 5 of the BA. OCRM has adopted NMFS determination that OCRM's approval of the Guidelines as part of the Washington coastal management plan will have no direct or indirect effects on species listed pursuant to the ESA.

8.3.2 Magnuson-Stevens Fishery Conservation and Management Act

Under the Magnuson-Stevens Fishery Conservation and Management Act (MSA), federal agencies are required to consult with NMFS regarding any actions that may adversely affect designated Essential Fish Habitat (EFH). Many of the issues regarding the level of protection needed for EFH concern the effects of fishing activities on sea floor habitats (EFH FEIS). The WCZMP guidelines do not directly address fishery management plans or EFH areas in the outer continental shelf that are regulated by Fishery Management Councils. However, there are many nearshore areas that may be affected by land and water use plans and standards such as those proposed under this amendment. The guidelines specifically designate critical areas including critical saltwater habitats (e.g., kelp beds, eelgrass beds, spawning and holding areas for forage fish, shellfish beds), and others equivalent to EFH with the proviso that the standards of protection must be at least equivalent to the CAOs established by the GMA. The guidelines provide considerably more protection to EFH resources in the marine and freshwater environments than the original guidelines.

OCRM consulted with NMFS under the MSA, and in a letter dated April 23, 2009, NMFS stated that, "we find that OCRM's approval of the State SMP guidelines, in and of itself, will not have direct or indirect effects…to essential fish habitat under the MSA." In a letter sent to NMFS on October 9, 2009, OCRM adopted these findings as its own.

8.3.3 Marine Mammal Protection Act

The Marine Mammal Protection Act (MMPA) prohibits, with certain exceptions, the taking of marine mammals in United States waters and by U.S. citizens on the high seas, and the importation of marine mammals and marine mammal products into the U.S. Congress defines "take" as "harass, hunt, capture, or kill, or attempt to harass, hunt, capture or kill any marine mammal." Under the MMPA, the Secretary of Commerce is responsible for ensuring the protection of cetaceans (whales porpoises, and dolphins) and pinnipeds (seals and sea lions;

walruses excepted). The Secretary of the Interior is responsible for ensuring the protection of sea otters, polar bears, walruses, and manatees. OCRM finds that federal approval of the SMA guidelines will not result in the taking or importation of marine mammals and marine mammal products as covered under the MMPA.

8.3.4 Environmental Justice

Under Executive Order (EO) 12898, entitled *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, NOAA is required to analyze the environmental effects (health, economic and social) of proposed actions, including such effects on minority and low-income communities, when such analysis is required by NEPA. On February 11, 1994, President Clinton issued EO 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations (59 FR 7629). This EO, along with its accompanying cover memo, calls on federal agencies to incorporate environmental justice considerations as part of their missions. It directs them to address, as appropriate, the disproportionately high and adverse human health or environmental effects of their actions, programs, or policies on minority and low income populations. The cover memo specifically mentions NEPA twice, providing opportunities to incorporate environmental justice as part of the NEPA process. The fundamental objective of the EO is summarized in its first section, which states:

> To the greatest extent practicable and permitted by law...each federal agency shall make achieving environmental justice a part of its mission by identifying and addressing disproportionately high adverse human health or environmental effects of its programs, policies and activities on minority and low-income populations in the United States.

In addition, Section 4-4 of EO 12898 identifies subsistence issues as a particular concern for environmental justice populations, since these populations frequently rely on food that they grow, hunt, collect, or otherwise obtain through noncommercial means. Therefore, as part of its NEPA analysis, NOAA must consider whether approval of the guidelines will have disproportionately high adverse health, economic or social impacts on minority and low-income populations in western Washington.

Generally speaking, statewide land use laws and regulations are not intended to have disproportional effects on minority or low-income populations, but the actual implementation may result in what some might consider as adverse impacts. For example, land along shorelines is usually higher priced and often considered to be a desirable place to live. As the price of land increases, it provides an opportunity for those low-income residents who currently own property to sell and make a profit, or the higher taxes may make it more difficult for them to live along the shoreline and force them out. With respect to positive impacts, the guidelines include new requirements for public access and recreational development that will increase opportunities for all social classes and interests to access the shoreline.

Northwest Indian tribes are concerned about the manner in which the new guidelines address the protection of threatened salmon species and their critical habitat. The tribes have well-

established treaty rights to salmon for subsistence and cultural reasons. Although tribal lands are excluded from the WCZMP, Washington tribes have attempted to work with WDOE over the years to incorporate principles of sound land use management on their lands. The WCZMP, chapter 3, further describes the obligations associated with protecting treaty rights and stating that, "numerous federal courts have reaffirmed the basic principle that the tribes' right to harvest fish carries with it the right to have protected habitat" (WDOE, Managing Washington's Coast, Pub. #00-06-029, p. 63 – available on the DOE web site. It is acknowledged that more intensive review of local SMPs by concerned, interested, and affected parties will be required to ensure the requirements of the guidelines (inventories, science, participation, etc.) have made every effort to produce an effective SMP with viable habitat functions important to the tribes.

8.3.5 Executive Order 12866

Implementation of the WCZMP guidelines is a state action and not a federal regulatory requirement. OCRM's action does not constitute a Significant guidance document as defined by EO 12866 (as amended by EO 13422 of January 18, 20007) (1) because: (a) it will not lead to an annual of $100 million or more, or adversely affect in a material way, the economy, a sector of the economy, productivity, competition, jobs, the environment, public health or safety, or State, local or tribal governments or communities; (b) it will not create a serious inconsistency or otherwise interfere with an action taken or planned by another agency; (c) it will not materially alter the budgetary impact of entitlements, grants, user fees, or loan programs or the rights and obligations of recipients thereof; or (d) it will not raise novel legal or policy issues arising out of legal mandates, the President's priorities, or the principles set forth in this EO; and (2) because it does not include (a) Guidance documents on regulations issued in accordance with the formal rulemaking provisions of 5 U.S.C. 556, 557; (b) Guidance documents that pertain to a military or foreign affairs functions of the United States, other than procurement regulations and regulations involving the import or export of non-defense articles and services; (c) Guidance documents on regulations that are limited to agency, organization, management or personnel matters; or (d) any other category of guidance documents exempted by the Administrator of the Office of Information and Regulatory Affairs.

8.3.6 Executive Order 13084: Consultation and Coordination with Indian Tribal Governments

The federal government has a trust responsibility to American Indian and Native Alaskan Governments in protecting tribal self-determination, tribal autonomy, and the tribal way of life. Actions taken through the CZMA by OCRM, and through the WCZMP by Washington may impact tribal government interests. Therefore, OCRM is required to engage in government-to-government consultation with tribes as part of the review and approval of the WCZMP amendment. This requirement is set forth in EO 13084, *Consultation and Coordination with Indian Tribal Governments* (63 Fed. Reg. 27655-27657 (Tuesday, May 9, 1998)); the *Memorandum on Government-to-Government Relations With Native American Tribal Governments* (April 29, 1994)(59 Fed. Reg. 22951- 22952 (Wednesday, May 4, 1994)); and the *American Indian and Alaska Native Policy of the U.S. Department of Commerce* (March 30, 1995). Throughout much of the state amendment process beginning in 1999, representatives of OCRM and NOAA's Office of General Counsel have held meetings with the Northwest Indian

Fisheries Commission representing the treaty tribes of western Washington. Tribal interests have greatly increased with the listing of salmonids as endangered or threatened species and concerned if the guidelines go far enough in providing greater certainty for the species' survival and recovery. The role of the SMA and its guidelines in providing a higher level of protection to streams and marine habitats vital to the survival and productivity of fish populations is of major concern to tribal governments. They expressed a clear preference for the state's "Path B" alternative that provided biological standards with higher levels of protection for salmon habitat. Many tribal representatives have been working through the WRIA process in their areas to accomplish Salmon Conservation Planning.

8.3.7 National Historic Preservation Act (NHPA)

Under Section 106 of the NHPA, OCRM is required to take into account the effects of its approval of the SMP Guidelines as part of the Washington Coastal Management Program on historic resources. NOAA believes that its approval of the guidelines will not negatively impact registered sites or eligible sites and will provide measures to protect future sites including archaeological sites. The guideline on archeological and historic resources continues the requirements of the original WAC 173-16-060(20) guideline to protect existing and known sites as well as require work stoppage if archaeological resources are uncovered. Site inspection by professional archaeologists and affected Indian tribes, as appropriate, is also a requirement. OCRM's approval will only have two results: (1) providing funding to the State for implementation of an existing state law; and (2) triggering the State's ability to use the SMP Guidelines and the approved local programs for the purposes of applying the Federal consistency provisions of the CZMA. First, OCRM provides CZMA funds to Washington to develop new and revised local SMPs. This is largely a planning exercise. OCRM's approval of the Guidelines will provide funding to the state and local governments (through the state) to develop local SMPs that include policies that are consistent with protective principles and standards that require consideration and notification regarding archaeological sites, and will not affect any historic properties.

Second, under the CZMA, Federal activities can be reviewed for consistency with a state's enforceable coastal policies once OCRM has approved those policies as part of the state's Federally-approved program. However, Federal activities and projects that will now have to abide by the revised SMP Guidelines (through the applicable SMPs) will still have to go through their own Section 106 compliance. Therefore, OCRM's approval of incorporation of the SMP Guidelines does not have any potential to negatively affect historic properties.

9. Consultation and Coordination

9.1 Environmental Assessment

In preparing this analysis, OCRM worked extensively with WDOE Shorelands and Environmental Assistance staff members. WDOE staff supplied a great deal of the information on the past implementation of the SMA and WAC 173-16 guidelines as well as prepared formal assessments on state approval of the new WAC 173-26 guidelines. From 1994 through 2004, OCRM provided CZM funding to WDOE conduct extensive consultation with federal and state

agencies, local governments, affected parties, public interest groups and others. Numerous meetings and public hearings were held in various parts of the state to solicit comments throughout the development process. In addition, the consulting firm, Herrera Environmental Consultants of Seattle, Washington, had numerous personal communications with representatives of state and federal agencies, tribes, and nongovernmental organizations in preparing OCRM's BA submitted for formal consultations under the ESA.

9.2 Scoping

OCRM held scoping meetings in Seattle, Mount Vernon and WDOE Headquarters in Lacey, WA on February 22-24, 2006. Two individuals provided verbal comments and OCRM received four written comments from the Wise Use Movement, the Northwest Indian Fisheries Commission, the Olympic Environmental Council, and Protect the Peninsula's Future. All comments were appreciated and helped to identify potential areas of concern that needed to be addressed. While OCRM felt that some of the comments requested information and analyses that went beyond the scope of needs of the impact statement or agency capabilities, the comments were nonetheless excellent and reflect the types of concerns citizens and interests groups have for the environmental health of the state's coastal resources. No comment expressed opposition to the approval of the guidelines, only a hope that they begin to make a difference in the protection and restoration of the resources that have been on the decline from the impacts of growth.

9.2.1 Aquaculture

The Olympic Environmental Council, Protect the Peninsula's Future, and Wise Use Movement expressed concern that the aquaculture guideline (WAC 173-26-241(3)(b)) does not go far enough in protecting water quality or potentially endangered and threatened species.

The aquaculture guideline recognizes that there are real and potential environmental issues associated with culturing or farming of food fish, shellfish, or other aquatic plants and animals. It also recognizes marine aquaculture as a statewide interest and that there is no outright ban on finfish farming. Comments suggested that, in an effort to minimize environmental damage, there either be a ban of fish farming in Washington's marine waters or that fish are raised in upland sites where effluent can be treated before discharge.

The principle change in the new guidelines goes significantly beyond the original guidelines in identifying potential additional siting requirements for locating new aquaculture facilities:

> "Aquaculture *should not* be permitted in areas where:
> - it would result in a net loss of ecological functions, adversely impact eelgrass and macroalgae, or
> - significantly conflict with navigation and other water-dependent uses.
>
> Aquaculture facilities *should be* designed and located so as:
> - not to spread disease to native aquatic life,
> - establish new nonnative species which cause significant ecological impacts, or
> - significantly impact the aesthetic qualities of the shoreline.

Impacts to ecological functions shall be mitigated according to the mitigation sequence described in WAC 173-26-020." (Emphasis added)

Other provisions of the guideline recognize that there are additional conditions the potential aquaculture operator must meet in order to successfully rear species (i.e., water quality, temperature, flows, oxygen content, adjacent land uses, wind protection, commercial navigation restrictions, and salinity). Further, other laws will also apply to the siting of any future facility such as the Marine Mammals Act, ESA, Washington and Environmental Protection Agency water quality standards, and other checks and balances.
(*see* http://www.leg.wa.gov/RCW/index.cfm?section=77.125.030&fuseaction=section)

While some pre-site selection planning processes can help ensure the above requirements are met (i.e., sites to avoid navigation issues or eelgrass beds), it is often necessary to wait until there is a request for an aquaculture permit before specific decisions can be made. It is not simple or inexpensive to obtain the required permits to conduct aquaculture operations. The guideline recognizes that, as an emerging issue and in a formative stage, aquaculture operations may require some latitude in developing pilot or demonstration projects in order to more fully understand potential consequences. Such projects can be used to improve best management practices or for modification or termination of further operations.

OCRM finds that reasonable concern over potential environmental consequences associated with aquaculture operations exist in the guidelines to meet the requirements expressed by both the SMA and the federal CZMA to protect coastal resources while satisfying the demands of sound economic development. It is the responsibility of local governments through SMPs and state agencies to determine if sites that meet the guideline criteria are available in coastal waters.

9.2.2 Greater Protection for Listed Fish Species

The Northwest Indian Fisheries Commission recommended including three additional alternatives in the DEIS. First, they recommended an alternative that supplements the guidelines with additional standards or procedures that would help avoid ESA Section 7 jeopardy opinions during SMP approval or for future developments. Second, they recommended an alternative containing conservation standards to help achieve recovery of listed species of fish through preservation of existing habitat and the restoration of degraded habitat. Third, they requested an alternative to the existing mitigation standards that would strengthen the provisions, avoiding loopholes and uncertainty.

OCRM has reviewed the more protective guideline known as Part IV or Path B (*see* Section 4.4.4) that was rejected by Washington State authorities (i.e., the Shorelines Hearing Board and State Legislature). Its purpose was to provide more definitive standards that, if satisfied at the time of approval, local governments would receive a "non-jeopardy" or "incidental take" decision from USFWS and NMFS, thus allowing the continued implementation of the SMP without further objection. Since the Path B alternative was determined by the State to be a violation of State administrative law, this alternative was no longer considered a viable alternative for OCRM to review. The federal CZMA does not convey authority to OCRM to set standards for state land use policies. OCRM may only ensure that the requirements of the Clean

Water Act and Clean Air Act are incorporated into the state CZM programs for participation purposes. Guideline implementation is a state mandate to local governments and not a federal mandate to the state. The federal role is a supportive role in the state administration of the WCZMP. The protection of threatened species is more fully explored in section 8.

With respect to a recovery and restoration alternative, OCRM feels that this is but one component of the approval of the guidelines and that the guidelines go a considerable way in requiring the protection and restoration of the ecological functions of shoreline natural resources. Restoration is more explicit in the requirements than the original guidelines. The guidelines require "that local governments include within their SMP, a 'real and meaningful' strategy to address restoration of shorelines" (WAC 173-26-186(8)). The new guidelines specify in considerable detail how the policies in a SMP must promote 'restoration' of impaired shoreline ecological functions (WAC 173-26-201(2)(f)). (*See* Ecology Publication #04-06-022 for further WDOE guidance on the requirements.) The new guidelines define restoration:

> "Restore", "Restoration" or "ecological restoration" means the reestablishment or upgrading of impaired ecological shoreline processes or functions. This may be accomplished through measures including but not limited to re-vegetation, removal of intrusive shoreline structures and removal or treatment of toxic materials. Restoration does not imply a requirement for returning the shoreline area to aboriginal or pre-European settlement conditions." (WAC 173-26-20(27)).

The original guidelines neither defined restoration nor provided any substantive guidance on this important element of upgrading SMPs. Because the new guidelines define, require, and are explicit regarding restoration, it is not considered necessary to consider any number of permutations to this provision that was developed through an extensive consultation process. While the guidelines allow local governments discretion when applying the guidelines to local circumstances as provided by the SMA and WAC 173-26, it is clear that there are certain requirements that must be met. WDOE in its State Review Checklist (Appendix C) requires a Restoration Plan that:

- identifies degraded areas, impaired ecological functions, and potential restoration sites;
- establishes restoration goals and priorities, including SMP goals and policies that provide for restoration of impaired ecological functions;
- identifies existing restoration projects and programs;
- identifies additional projects and programs needed to achieve local restoration goals, and implementation strategies including identifying prospective funding sources;
- sets timelines and benchmarks for implementing restoration projects and programs; and
- provides mechanisms or strategies to ensure that restoration projects and programs will be implemented according to plans and to appropriately review the effectiveness of the projects and programs in meeting the overall restoration goals. WAC 173-26-186(8)(c); 201(2)(c)&(f).

For critical freshwater habitats: incentives to restore water connections impeded by previous development. WAC 173-26-221(2)(c)(iv)(C)(III).

For **SSWS**, identification of where natural resources of statewide importance are being diminished over time, and master programs provisions that contribute to the restoration of those resources. WAC 173-26-251(3)(b)

It is also recognized that restoration of habitats is the responsibility of many interests and the SMA is but one component of what is required for habitat protection and restoration to include the provisions of the GMA. In the "Statewide Strategy to Recover Salmon – Extinction is not an Option" (Sept. 1999), it states:

> "Although there are many laws with mandates that either directly or indirectly attempt to protect or restore salmon and their habitats, the troubling status of these fish is an indication that our existing regulatory framework and implementing agencies have been unable to protect salmon populations and their ecosystems. Some of the failures are due to the complexity and difficulty in addressing ecosystems — interconnections are either ignored or not well understood. Decisions may have been made in the past that favor development or the status quo because of scientific uncertainty or the inability to resolve conflicts between economic development and environmental protection. Other problems arise due to lack of enforceability, coordination, comprehensiveness, resources for implementation, data and scientific information, and public support. Fortunately, salmon are very adaptive and have incredible survival skills.
>
> Following are some examples of current laws that affect salmon:
>
> - Laws dealing with land and water use and development — state: Environmental Policy Act, GMA, Floodplain Management Act, Forest Practices Act, Water Pollution Control Act, Hydraulic Project Approval, Aquatic Lands Act, Water Code and Water Resources Act; federal: NEPA, Clean Water Act, Federal Reclamation Act, CZMA, Rivers and Harbors Act, Food Security Act, Federal Power Act, Wild and Scenic Rivers Act, and many more.
>
> - Laws pertinent to fish and wildlife protection — In addition to some of the above, such as SEPA and Hydraulic Project Approval: the federal Fish and Wildlife Coordination Act, The Northwest Power Act, the Magnuson-Stevens Fishery Conservation Act, The ESA, and the Marine Mammal Protection Act.
>
> - Recently enacted legislation — Three acts passed in the last year were designed specifically to improve conditions for salmon recovery. These key pieces of legislation recognized the need for comprehensive, scientifically based, coordinated, collaborative, incentive-based and locally implemented solutions:
>
> - Salmon Recovery Planning Act (ESHB 2496): Passed in 1998, the Act provides the framework for developing restoration projects. It requires a limiting factors analysis for habitat restoration be completed, and establishes a funding mechanism for local habitat restoration projects. It also creates the Governor's Salmon Recovery Office. The office's primary purpose is to coordinate and assist in the development of salmon recovery plans for Evolutionary Significant Units

(ESUs) and submit those plans to NMFS, USFWS and appropriate tribal governments. The Salmon Recovery Office is obligated to prepare a *State of the Salmon* Report by December 2000. The bill also calls for the creation of an Independent Science Panel to provide scientific review of salmon recovery efforts in the state. The panel will provide independent and objective scientific advice to inform decision-making, separated as much as possible from economic, historic, cultural or political factors. This will help increase the level of credibility and public trust in Washington's salmon strategy and regional conservation/restoration responses.

- Watershed Planning Act (ESHB 2514): This legislation, created in 1998, encourages voluntary planning by local governments, citizens, and tribes for water supply and use, water quality, and habitat at the WRIA or multi-WRIA level. Grants are available to conduct assessments of water resources and develop goals and objectives for future water resource management.

- Salmon Recovery Funding Act (2E2SSB 5595): This legislation further developed concepts established in ESHB 2496. A Salmon Recovery Funding Board is established to localize salmon funding in one board. This Board will make decisions about base level allocations across regions, and will deliver funds for projects and activities based on a science-driven, competitive process. The legislation further clarified what must be considered in a Statewide Strategy to Recover Salmon, and directs the Governor, with the assistance of the Salmon Recovery Office, to submit this document to NMFS and USFWS.

- Pacific Salmon Treaty — This Treaty is negotiated among Washington, Oregon, Alaska, tribes, and the federal governments of the U.S. and Canada. The outcomes of these discussions impact fish stocks and harvest in both western Washington and the Columbia Basin.

Addressing habitat protection and restoration in Washington requires more than a single program, piece of legislation, or entity. The new guidelines require better information, coordination, impact minimization, net loss of ecological functions, mitigation and restoration for improvements, and integration with other land use plans, as described in WAC 173-26. Issues must be addressed on a watershed basis with multi-party involvement. Consequently, it is felt that an alternative to specifically deal with preservation and restoration of salmon habitat is not necessary or required for consideration in the approval of WCZMP guidelines that cover a multitude of program provisions, shoreline modifications and shoreline uses.

The DEIS attempts to describe potential, mostly indirect impacts associated with overall guideline implementation, but does not seek to develop more definitive or environmentally protective standards. Under the CZMA, OCRM provides the WDOE with funds that support program enhancement and change, and technical studies to better understand certain coastal management issues to improve decision-making. The CZMA does not grant OCRM the authority to set policies for any participating coastal state.

9.2.3 Emergency Repairs

Another comment suggested that some adverse impacts to habitat occur in response to declared emergency operations such as a major flooding event. Repairs not subject to environmental review or permitting requirements have resulted in bank hardening and changing channel profiles with negative consequences to important habitat. It was suggested that the guidelines provide for greater control over emergency repairs and be designed to limit inadvertent adverse impacts from those repairs. This point is true for many places and environments in which disasters have been declared, where emergency measures have been taken to further protect life and property, where provisions of law are sometimes held in abeyance (e.g., preparation of an EIS under NEPA or SEPA) on the emergency work to be done. The guidelines do, however, go a long way to minimize environmental harm to stream and channel beds before any emergency occurs and could help form the basis for emergency restoration planning. The guideline on flood hazard reduction (WAC 173-26-221(3)), a designated critical area, is comprehensive and a significant improvement over the original guideline. It requires that:

- New development within the channel migration zone or floodway be limited to uses and activities listed in WAC 173-26-221(3)(b) and (3)(c)(i).
- New structural flood hazard reduction measures allowed only where demonstrated to be necessary, and when non-structural methods are infeasible and mitigation is accomplished, landward of associated wetlands and buffer areas except where no alternative exists as documented in a geotechnical analysis. WAC 173-26-221(3)(c)(ii) & (iii)
- Removal of gravel for flood control allowed only if biological and geomorphological study demonstrates a long-term benefit to flood hazard reduction, no net loss of ecological functions, and extraction is part of a comprehensive flood management solution. WAC 173-26-221(3)(c)(v)
- Prohibition on new structural shoreline stabilization and flood control works except where there is documented need to protect an existing primary structure (provided mitigation is applied) or to protect ecological functions. WAC 173-26-211(5)(b)(ii)(C).

OCRM feels that alternative analysis is not required for this particular provision and that the issue is not with the scope of the guidelines but with disaster emergency powers and planning.

9.2.4 Develop Baseline Conditions

The comment was made that the DEIS should develop a baseline (i.e., conditions from 1850, 1976) characterizing shoreline conditions during pre-SMA conditions, at the time of implementation, and currently in order to help quantify preservation, protection and restoration or enhancement efforts. While OCRM feels that this request cannot adequately be fulfilled at this time and is not necessary for analysis of adoption of the guidelines, it is an excellent suggestion. In a report published by WDOE entitled: “Enforcement Report on Policy and Trends” (Pub # 04-01-009, p. 43), Ecology states that they do “not have a meaningful inventory of shoreline resources to indicate the status of the resources over time.” As the State moves toward requiring sound science on which to base decisions, the need for broader data that

transcends what is known by local jurisdictions will become more important. Perhaps the most meaningful activity to assist with establishing baseline conditions is the guideline that addresses the inventory and analyses of shoreline conditions (WAC 173-26-201(3)(c)-(d) with the goal to ensure that, "whenever possible, inventory methods and protocols are consistent with those of neighboring jurisdictions and state efforts." If successful, meaningful baselines will be established on many issues of concern including shoreline uses, critical areas, and degraded areas.

More specifically, the comment asked for a 20-year analysis of SMP changes that have resulted in changed environmental designations, which in turn resulted in decreases in "environmental protection." While the WCZMP that was approved in 1976 listed four "recommended" environments (urban, rural, conservancy and natural), local governments added other environments including aquatic environments, rural residential, shoreline residential, suburban, semi-rural and urban divided into residential, commercial and industrial as they deemed appropriate to local conditions and preferences (FEIS, Appendix 5.(C)). The new guidelines (WAC 173-26-211) consider the six categories of environment designations as "basic" environments and allow parallel environments and different designation system. Local governments must go through a thorough and specific process for designating environments. Unassigned areas are automatically designated as "rural conservancy" or "urban conservancy" (i.e., most protective developed environments) until such time as they are officially designated through a SMP amendment process. Because a reasonable process for shoreline environment designation exists along with specific criteria to be met, it is not deemed necessary to make judgments as to the more protective or less protective nature of the designations. To include this in environmental analysis as future designations can only be speculative at this stage. It is clearly understood and accommodated by the SMA that the environmental protection afforded to natural resources will be greater in a natural environment than in an urban environment. However, even in the urban area the new guidelines require no net loss, mitigation and restoration as conditions for future development in the urban area.

9.2.5 Alternatives to Shoreline Uses and Modification Standards

The Wise Use Movement requested OCRM look at more stringent standards to each of the shoreline uses and modifications listed in WAC 173-26-241 and 231. For example, in identifying preferences under "shoreline uses" only preference would be given to "water dependent uses" and suggested that "water-related uses" and "water-enjoyment uses" should be prohibited, like mining, etc. While it is true that for each standard adopted by WDOE one could have an alternative that is more or less protective of the environment, OCRM can not rewrite the WCZMP under the CZMA. In many cases, there would be legal constraints to making a number of the changes suggested by the comments, that is, such changes would be contrary to state statutes and rules. OCRM feels that such alternatives do not need to be considered and are not included as valid alternatives available to OCRM.

One additional alternative was requested that suggests OCRM review an alternative that would have WDOE include additional environmental and land use controls supporting the regulations of the coastal zone such as the GMA, the Hydraulic Code, the Watershed Planning Act, the Salmon Recovery Planning Act and others. This suggestion has merit and is an alternative

WDOE could consider in the future. It is an alternative option for the Washington State Legislature to decide and not OCRM to require because it may represent a lesser environmentally significant impact alternative. The concept of consistency with other land use plans like the GMA is given considerable weight in RCW 176-26-191(1)(e) and states in relevant part:

> The SMA addresses the issue of consistency in RCW 90.58.340, which states:
>
> All state agencies, counties, and public and municipal corporations shall review administrative and management policies, regulations, plans, and ordinances relative to lands under their respective jurisdictions adjacent to the shorelines of the state so as to achieve a use policy on said land consistent with the policy of this chapter, the guidelines, and the master programs for the shorelines of the state. The department may develop recommendations for land use control for such lands. Local governments shall, in developing use regulations for such areas, take into consideration any recommendations developed by the department as well as any other state agencies or units of local government (1971 ex.s. c 286 § 34.)

Pursuant to the statutes cited above, the intent of these guidelines is to assist local governments in preparing and amending master programs that fit within the framework of applicable comprehensive plans, facilitate consistent and efficient review of projects and permits, and effectively implement the SMA. The focus remains on the shorelines and their significant waters with secondary emphasis on the broader lands and waters adjacent to those shorelines.

In the absence of a proposal to amend the WCZMP to incorporate other laws into the program, the guidelines provide sufficient direction to integrate provisions of the Watershed Plans, the GMA and others in support of integrated and comprehensive planning and management. This does not preclude such a proposal being submitted by WDOE in the future should they find it advantageous to comprehensive management objectives.

10. Response to Comments on the Draft EIS

The Draft EIS was circulated to the public on February 29, 2008, and the Notice of Availability was published on March 20, 2008 (F.R. 73, no.47). In addition, two public meetings were held in Washington Lacey and Seattle, Washington on April 10 and April 11, 2008, respectively. No members of the public attended the meetings. Comments were received from the following entities:

Department of the Army, Corps of Engineers, Northwestern Division
State of Washington Department of Ecology
State of Washington Department of Archaeology and Historic Preservation

The comments letters are reproduced in Appendix G. OCRM has summarized the comments and provided responses below. As a result of these comments, certain factual corrections were made in the Final EIS. OCRM did not receive any new information that would lead the Agency to modify the alternatives including the proposed alternative or to develop and evaluate alternatives

not previously given serious consideration. OCRM believes its response to the comments offer explanation as to why the comments do not warrant further agency response.

Comment 1: The Corps requested that OCRM provide language in the programmatic EIS clarifying that federal agencies are not subject to requirements of state management programs, other than to be consistent to the maximum extent practicable, and are not required to obtain state or local SMA permits.

Response: OCRM agrees with the Corps' comment and rationale for this statement, and has provided the clarifying language in section 3.2.2 Program Authorities and Organization, of the FEIS.

Comment 2: The State of Washington Department of Ecology (WA DOE) requested that the guidelines should include a section for dealing with toxic/hazardous chemicals known to exist at proposed construction sites, or found during construction or excavation activities, and that when such toxics are known or encountered, Ecology Headquarters or applicable Regional Office should be notified. Further, the Southwest Regional Office will offer to add language to proposals where toxic/hazardous chemicals are an issue.

Response: OCRM does not disagree that it would be useful for the guidelines to include such a section, however, it is incumbent upon the state to revise its guidelines to address these concerns. This is not an issue that can be addressed by OCRM.

Comment 3: The WADOE stated: "Remove and properly dispose of any treated timbers at a permitted facility. Dock & Pier replacements and stabilization efforts usually require the removal of creosoted timbers or other timbers treated to prevent degradation."

Response: This comment was ambiguous in its intent as to whether it was a recommendation for a revision to a state guideline or policy. In any case, since the comment was made by a Washington State agency, OCRM's response is that it is incumbent upon the state to revise its guidelines to address these concerns, and it is not an issue that can be addressed by OCRM as part of the EIS process.

Comment 4: The WA DOE noted that on Page 63, a factual error was made about the combination of the Department of Ecology and Fish and Wildlife into one agency in 1994.

Response: OCRM notes the error and has corrected the text on Page 63.

Comment 5: The State of Washington Department of Archaeology and Historic Preservation (WA AHP) noted that in addition to its comments, it anticipated formal consultation under the National Historic Preservation Act (NHPA).

Response: OCRM, in consultation with the Advisory Council on Historic Preservation, determined that OCRM's approval of Washington's program change request are a type of activity that will not have the potential to cause effects on historic properties, and that OCRM

has no further obligations under Section 106 (36 CFR 800.3(a)(1)). The letter responding to the WA AHP is attached at Appendix H.

Comment 6: WA AHP believes that professional archaeological surveys should be accomplished for those shoreline areas that are proposed for any development, and offered digital information, predictive models, and other tools it has available to other interested agencies.

Response: It is OCRM's understanding, based on the State's revised guidelines, that local governments are required to issue permits in areas documented to contain archaeological resources and to require a site inspection or evaluation by a professional archaeologist, including with affected Indian tribes. OCRM found these requirements to be consistent with WA AHP's recommendation.

Comment 7: WA AHP encouraged OCRM to develop more proactive efforts to identify archaeological and historic resources and encourage their incorporation into the most recent Amendment No. 4.

Response: OCRM's approval of the new guidelines is a broad based and coast-wide for local government, and is not the type of project that lends itself to individual identification and analysis of archaeological and historic resources. The appropriate time for identification and consideration of archaeological and historic resources will occur during local plan adoption and implementation.

Comment 8: WA AHP requested copies of any correspondence or comments from concerned tribes or other parties received during the Section 106 consultation process.

Response: As indicated in OCRM's response to Comment 5 above, OCRM has determined that no further action is required under Section 106. However, we would note that in general, OCRM has not received any comments from tribes or other interests raising concerns about archaeological or historic resources.

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12. List of Agencies and Persons Consulted

Discussions pertinent to development of this EIS involved input from the various staff within the NMFS and NOAA including the NOAA General Counsel for Ocean Services, and state staff from the Washington Department of Ecology.

13. References

Note: Much of the information used in this DEIS was taken from WDOE in its assessments of guideline impacts, and a BA prepared for OCRM by Herrera Environmental Consultants for the conduct of endangered species consultations. Their information contributions are gratefully acknowledged.

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14. List of Recipients

The following individuals and organizations that are being sent a copy of this document include:

Federal Government Agencies
Advisory Council on Historic Preservation
Army Corps of Engineers
  Portland District
  Seattle District
Environmental Protection Agency, Hqs
  Region 10, Seattle
Federal Emergency Management Agency, Bothell
Fish and Wildlife Service,
  Region 1, Portland
NOAA Marine Fisheries Service,
  Northwest Regional Office, Seattle

Regional Agencies
Cowlitz-Wahkiakum Council of Governments, Kelso
Grays Harbor Council of Governments, Aberdeen
Hood Canal Coordinating Council, Quilcene
Puget Sound Regional Council, Seattle
Thurston Regional Planning Council, Olympia

Washington State Agencies
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Commerce, Trade and Economic Development, Department of
Archaeology & Historic Preservation
Growth Management Division
Governors Salmon Recovery Office
Ecology, Department of,
Environmental Coordination Section
Library
Fish and Wildlife, Department of
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Tribal Governments
Chehalis Confederated Tribes
Cowlitz Tribe
Duwamish
Elwha Klallam Tribe
Hoh Tribe
Jamestown S' Klallam Tribe
Kalispel Tribe
Lummi Tribe
Makah Tribe
Muckleshoot Tribe
Nisqually Tribe
Nooksack Tribe
Port Gamble S'Klallam Tribe
Puyallup Tribe
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Samish Tribe
Sauk-Suiattle Tribe
Shoalwater Bay Tribe
Skokomish Tribe
Spokane Tribe
Squaxin Island Tribe
Stillaguamish Tribe
Suquamish Tribe
Swinomish Tribe
Tulalip Tribes
Upper Skagit Tribe

Northwest Indian Fisheries Council

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Lakewood, city of.
Milton, city of.
Orting, city of.
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Tacoma, city of.
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La Conner, town of.
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Granite Falls, town of.
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Lake Stevens, city of.
Lynnwood, city of
Marysville, city of.
Monroe, city of.
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Snohomish, city of.
Stanwood, city of.
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Building Industry Association of Washington
Columbia-Pacific Resource Conservation & Development
Northwest Indian Fisheries Commission
Olympic Environmental Council
Port of Grays Harbor
Protect the Peninsula's Future
Puget Sound Energy
Sierra Club
Washington Environmental Council
Washington State Farm Bureau
Wise Use Council

Individuals
Marlies Wierenga (Scoping Meeting)
Steve Hall (Scoping Meeting)

C. Attachments

1. Appendix A: Shoreline Management Act Guidelines Section 173-26 RCW
2. Appendix B: Shoreline Management Act of 1971, Chapter 90.58 RCW
3. Appendix C: WDOE Shoreline Master Program Submittal Checklist
4. Appendix D: Brief History of Washington's Shoreline Management Act and Guidelines
5. Appendix E: Description of Selected ESA Listed Salmonid Species
6. Appendix F: Endangered species Act Consultation Correspondence
7. Appendix G: comments Received on DEIS
8. Appendix H: OCRM Response to Washington State Department of Archaeology and Historic Preservation

Appendix A

Chapter 173-26 WAC

SHORELINE MASTER PROGRAM GUIDELINES

Appendix A

Chapter 173-26 WAC

SHORELINE MASTER PROGRAM GUIDELINES

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(1) Authority.

RCW 90.58.090 authorizes and directs the department to adopt "guidelines consistent with RCW 90.58.020, containing the elements specified in RCW 90.58.100" for development of local master programs for regulation of the uses of "shorelines" and "shorelines of statewide significance." RCW 90.58.200 authorizes the department and local governments "to adopt such rules as are necessary and appropriate to carry out the provisions of" the Shoreline Management Act.

(2) Purpose.

The general purpose of the guidelines is to implement the "cooperative program of shoreline management between local government and the state." Local government shall have the primary responsibility for initiating the planning required by the Shoreline Management Act and "administering the regulatory program consistent with the policy and provisions" of the Act. "[T]he department shall act primarily in a supportive and review capacity with an emphasis on providing assistance to local government and insuring compliance with the policy and provisions" of the Act. RCW 90.58.050.

In keeping with the relationship between state and local governments prescribed by the Act, the guidelines have three specific purposes: to assist local governments in developing master programs; to serve as standards for the regulation of shoreline development in the absence of a master program along with the policy and provisions of the Act and, to be used along with the policy of RCW 90.58.020, as criteria for state review of local master programs under RCW 90.58.090.

(3) Effect.

(a) The guidelines are guiding parameters, standards, and review criteria for local master programs. The guidelines allow local governments substantial discretion to adopt master programs reflecting local circumstances and other local regulatory and non-regulatory programs related to the policy goals of shoreline management as provided in the policy statements of RCW 90.58.020, WAC 173-26-176 and WAC 173-26-181. The policy of RCW 90.58.020 and these guidelines constitute standards and criteria to be used by the department in reviewing the adoption and amendment of local master programs under RCW 90.58.090 and by the growth management hearings board and shorelines hearings board adjudicating appeals of department decisions to approve, reject, or modify proposed master programs and amendments under RCW 90.58.190.

(b) Under RCW 90.58.340, the guidelines, along with the policy of the Act and the master programs, also shall be standards of review and criteria to be used by state agencies, counties, and public and municipal corporations in determining whether the use of lands under their respective jurisdictions adjacent to the shorelines of the state are subject to planning policies consistent with the policies and regulations applicable to shorelines of the state.

(c) The guidelines do not regulate development on shorelines of the state in counties and cities where approved master programs are in effect. In local jurisdictions without approved master programs, development on the shorelines of the state must be consistent with the policy of RCW 90.58.020 and the applicable guidelines under RCW 90.58.140.

(d) As provided in RCW 90.58.060, the department is charged with periodic review and update of these guidelines to address technical and procedural issues that arise as from the review of Shoreline Master Programs (SMPs) as well as compliance of the guidelines with statutory provisions. As a part of this process Ecology will compile information concerning the effectiveness and efficiency of these guidelines and the master programs adopted pursuant thereto with regard to accomplishment of the policies of the Shoreline Management Act and the corresponding principles and specific requirements set forth in these guidelines.

WAC 173-26-176 General Policy Goals of the Act and Guidelines for Shorelines of the State.

(1) The guidelines are designed to assist local governments in developing, adopting, and amending master programs that are consistent with the policy and provisions of the Act. Thus, the policy goals of the Act are the policy goals of the guidelines. The policy goals of the Act are derived from the policy statement of RCW 90.58.020 and the description of the elements to be included in master programs under RCW 90.58.100.

(2) The policy goals for the management of shorelines harbor potential for conflict. The Act recognizes that the shorelines and the waters they encompass are "among the most valuable and fragile" of the state's natural resources. They are valuable for economically productive industrial and commercial uses, recreation, navigation, residential amenity, scientific research and education. They are fragile because they depend upon balanced physical, biological, and chemical systems that may be adversely altered by natural forces (earthquakes, volcanic eruptions, landslides, storms, droughts, floods) and human conduct (industrial, commercial, residential, recreation, navigational). Unbridled use of shorelines ultimately could destroy their utility and value. The prohibition of all use of shorelines also could eliminate their human utility and value. Thus, the policy goals of the Act relate both to utilization and protection of the extremely valuable and vulnerable shoreline resources of the state. The Act calls for the accommodation of "all reasonable and appropriate uses" consistent with "protecting against adverse effects to the

public health, the land and its vegetation and wildlife, and the waters of the state and their aquatic life" and consistent with "public rights of navigation." The Act's policy of achieving both shoreline utilization and protection is reflected in the provision that "permitted uses in the shorelines of the state shall be designed and conducted in a manner to minimize, in so far as practical, any resultant damage to the ecology and environment of the shoreline area and the public's use of the water." RCW 90.58.020.

(3) The Act's policy of protecting ecological functions, fostering reasonable utilization and maintaining the public right of navigation and corollary uses encompasses the following general policy goals for shorelines of the state. The statement of each policy goal is followed by the statutory language from which the policy goal is derived.

(a) The utilization of shorelines for economically productive uses that are particularly dependent on shoreline location or use.

RCW 90.58.020:

> *"The 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."*
> *"It is the policy of the state to provide for the management of the shorelines by planning for and fostering all reasonable and appropriate uses."*
> *"[U]ses shall be preferred which are…unique to or dependent upon use of the state's shoreline."*
> *"Alterations of the natural condition of the shorelines of the state, in those limited instances when authorized, shall be given priority for single family residences and their appurtenant structures, ports, shoreline recreational uses including but not limited to parks, marinas, piers, and other improvements facilitating public access to shorelines of the state, industrial and commercial developments which are particularly dependent on their location on or use of the shorelines of the state and other development that will provide an opportunity for substantial numbers of the people to enjoy the shorelines of the state."*

RCW 90.58.100:

> *"(2) The master programs shall include, when appropriate, the following:*
> *(a) An economic development element for the location and design of industries, transportation facilities, port facilities, tourist facilities, commerce and other developments that are particularly dependent on their location on or use of the shorelines of the state;…*
> *(d) A circulation element consisting of the general location and extent of existing and proposed major thoroughfares, transportation routes, terminals, and other public utilities and facilities, all correlated with the shorelines use element.*
> *(e) A use element which considers the proposed general distribution and general location and extent of the use on shorelines and adjacent land areas for housing, business, industry, transportation, agriculture, natural resources, recreation, education, public buildings and grounds, and other categories of public and private uses of the land;…"*

(b) The utilization of shorelines and the waters they encompass for public access and recreation.

RCW 90.58.020:

> *"[T]he public's opportunity to enjoy the physical and aesthetic qualities of natural shorelines of the state shall be preserved to the greatest extent feasible consistent with the overall best interest of the state and the people generally.*
> *"Alterations of the natural conditions of the shorelines of the state, in those limited instances when authorized, shall be given priority for…development that will provide an opportunity for substantial numbers of people to enjoy the shorelines of the state."*

RCW 90.58.100:

> *"(2) The master programs shall include, when appropriate, the following:*
> *(b) A public access element making provisions for public access to publicly owned areas;*
> *(c) A recreational element for the preservation and enlargement of recreational opportunities, including but not limited to parks, tidelands, beaches, and recreational areas;"*
> ***
> *(4) Master programs will reflect that state-owned shorelines of the state are particularly adapted to providing wilderness beaches, ecological study areas, and other recreational activities for the public and will give appropriate special consideration to same."*

(c) Protection and restoration of the ecological functions of shoreline natural resources.

RCW 90.58.020:

> *"The 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."*
> *"This policy contemplates protecting against adverse effects to the public health, the land and its vegetation and wildlife, and the waters of the state and their aquatic life…"*
> *"To this end uses shall be preferred which are consistent with the control of pollution and prevention of damage to the natural environment."*
> *"Permitted uses in the shorelines of the state shall be designed and conducted in a manner to minimize, insofar as practical, any resultant damage to the ecology and environment of the shoreline area…."*

RCW 90.58.100:

"(2) The master programs shall include, when appropriate, the following:
(f) A conservation element for the preservation of natural resources, including but not limited to scenic vistas, aesthetics, and vital estuarine areas for fisheries and wildlife protection;
(g) An historic, cultural, scientific, and educational element for the protection and restoration of buildings, sites, and areas having historic, cultural, scientific, or educational values;"

(d) Protection of the public right of navigation and corollary uses of waters of the state.
RCW 90.583.020:

"This policy contemplates protecting…generally public rights of navigation and corollary rights incidental thereto."
"Permitted uses in the shorelines of the state shall be designed and conducted in a manner to minimize, insofar as practical, any interference with the public's use of the water."

(e) The protection and restoration of buildings and sites having historic, cultural and educational value.
RCW 90.58.100:

"(2) The master programs shall include, when appropriate, the following:
(g) An historic, cultural, scientific, and educational element for the protection and restoration of buildings, sites, and areas having historic, cultural, scientific, or educational values;"

(f) Planning for public facilities and utilities correlated with other shorelines uses.
RCW 90.58.100:

"(2) The master programs shall include, when appropriate, the following:
(d) A circulation element consisting of the general location and extent of existing and proposed major thoroughfares, transportation routes, terminals, and other public utilities and facilities, all correlated with the shoreline use element."

(g) Prevention and minimization of flood damages.
RCW 90.58.100:

"(2) The master programs shall include, when appropriate, the following:
(h) An element that gives consideration to the state-wide interest in the prevention and minimization of flood damages."

(h) Recognizing and protecting private property rights.
RCW 90.58.020:

"The legislature further finds that much of the shorelines of the state and the uplands adjacent thereto are in private ownership;…and, therefore coordinated planning is necessary…while, at the same time, recognizing and protecting private rights consistent with the public interest."

(i) Preferential accommodation of single family uses.
RCW 90.58.020:

"Alterations of the natural condition of the shorelines of the state, in those limited instances when authorized, shall be given priority for single family residences and their appurtenant structures…."

RCW 90.58.100:

"(6) Each master program shall contain standards governing the protection of single family residences and appurtenant structures against damage or loss due to shoreline erosion. The standards shall govern the issuance of substantial development permits for shoreline protection, including structural methods such as construction of bulkheads, and nonstructural methods of protection. The standards shall provide for methods which achieve effective and timely protection against loss or damage to single family residences and appurtenant structures due to shoreline erosion. The standards shall provide a preference for permit issuance fore measures to protect single family residences occupied prior to January 1, 1992, where the proposed measure is designed to minimize harm to the shoreline natural environment."

(j) Coordination of shoreline management with other relevant local, state, and federal programs.
RCW 90.58.020:

"In addition [the legislature] 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."
"…and therefore, coordinated planning is necessary in order to protect the public interest associated with the shorelines of the state…"
"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."

RCW 90.58.100:

"In preparing the master programs, and any amendments thereto, the department and local governments shall to the extent feasible:
(a) Utilize a systematic interdisciplinary approach which will insure the integrated use of the natural and social sciences and the environmental design arts;
(b) Consult with and obtain the comments of any federal, state, regional, or local agency having any special expertise with respect to any environmental impact;
(c) Consider all plans, studies, surveys, inventories, and systems of classification made or

being made by federal, state, regional, or local agencies, by private individuals, or by organizations dealing with pertinent shorelines of the state;
(d) Conduct or support such further research, studies, surveys, and interviews as are deemed necessary;
(e) Utilize all available information regarding hydrology, geography, topography, ecology, economics, and other pertinent data;
(f) Employ, when feasible, all appropriate modern scientific data processing and computer techniques to store, index, analyze, and manage the information gathered."

WAC 173-26-181 Special Policy Goals of the Act and Guidelines for Shorelines of State-Wide Significance.

In accordance with RCW 90.58.020, the "department, in adopting guidelines for shorelines of state-wide significance, and local government, in developing master programs for shorelines of state-wide significance, shall give preference to uses in the following order of preference which:

(1) Recognize and protect the state-wide interest over local interest;
(2) Preserve the natural character of the shoreline;
(3) Result in long term over short term benefit;
(4) Protect the resources and ecology of the shoreline;
(5) Increase public access to publicly owned areas of the shorelines;
(6) Increase recreational opportunities for the public in the shoreline;
(7) Provide for any other element as defined in RCW 90.58.100 deemed appropriate or necessary."

WAC 173-26-186 Governing Principles of the Guidelines.

The governing principles listed below are intended to articulate a set of foundational concepts that underpin the guidelines, guide the development of the planning policies and regulatory provisions of master programs, and provide direction to the department in reviewing and approving master programs. These governing principles, along with the policy statement of RCW 90.58.020, other relevant provisions of the Act, the regulatory reform policies and provisions of RCW 34.05.328, and the policy goals set forth in WAC 173-26-175 and WAC 173-26-180 should be used to assist in the interpretation of any ambiguous provisions and in the reconciliation of any conflicting provisions of the guidelines.

(1) The guidelines are subordinate to the Act. Any inconsistency between the guidelines and the Act must be resolved in accordance with the Act.

(2) The guidelines are intended to reflect the policy goals of the Act, as described in WAC 173-26-176 and WAC 173-26-181.

(3) All relevant policy goals must be addressed in the planning policies of master programs.

(4) The planning policies of master programs (as distinguished from the development regulations of master programs) may be achieved by a number of means, only one of which is the regulation of development. Other means, as authorized by RCW 90.58.240, include, but are not limited to: the acquisition of lands and easements within shorelines of the state by purchase, lease, or gift, either alone or in concert with other local governments; and accepting grants, contributions, and appropriations from any public or private agency or individual. Additional other means may include, but are not limited to, public facility and park planning, watershed planning, voluntary salmon recovery projects and incentive programs.

(5) The Policy goals of the Act, implemented by the planning policies of master programs, may not be achievable by development regulation alone. Planning policies should be pursued through the regulation of development of private property only to an extent that is consistent with all relevant constitutional and other legal limitations (where applicable, statutory limitations such as those contained in Ch. 82.02 RCW and RCW 43.21C.060) on the regulation of private property. Local government should use a process designed to assure that proposed regulatory or administrative actions do not unconstitutionally infringe upon private property rights. A process established for this purpose, related to the constitutional takings limitation, is set forth in a publication entitled, "State of Washington, Attorney General's Recommended Process for Evaluation of Proposed Regulatory or Administrative Actions to Avoid Unconstitutional Takings of Private Property," first published in February 1992. The attorney general is required to review and update this process on at least an annual basis to maintain consistency with changes in case law by RCW 36.70A.370.

(6) The territorial jurisdictions of the master program's planning function and regulatory function are legally distinct. The planning function may, and in some circumstances must, look beyond the territorial limits of shorelines of the state. RCW 90.58.340. The regulatory function is limited to the territorial limits of shorelines of the state, RCW 90.58.140(1), as defined in RCW 90.58.030(2).

(7) The planning policies and regulatory provisions of master programs and the comprehensive plans and development regulations, adopted under RCW 36.70A.040 shall be integrated and coordinated in accordance with RCW 90.58.340, RCW 36.70A.480, RCW 34.05.328(1)(h), and 1995 wash. laws ch. 347, §1.

(8) Through numerous references to and emphasis on the maintenance, protection, restoration, and preservation of

"fragile" shoreline "natural resources," "public health," "the land and its vegetation and wildlife," "the waters and their aquatic life," "ecology," and "environment," the Act makes protection of the shoreline environment an essential statewide policy goal consistent with the other policy goals of the Act. It is recognized that shoreline ecological functions may be impaired not only by shoreline development subject to the substantial development permit requirement of the Act but also by past actions, unregulated activities, and development that is exempt from the Act's permit requirements.

The principle regarding protecting shoreline ecological systems is accomplished by these guidelines in several ways, and in the context of related principles. These include:

(a) Local government is guided in its review and amendment of local master programs so that it uses a process that identifies, inventories, and ensures meaningful understanding of current and potential ecological functions provided by affected shorelines.

(b) Local master programs shall include policies and regulations designed to achieve no net loss of those ecological functions.

(i) Local 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 government shall design and implement such regulations and mitigation standards in a manner consistent with all relevant constitutional and other legal limitations on the regulation of private property.

(ii) Local master programs shall include regulations ensuring that exempt development in the aggregate will not cause a net loss of ecological functions of the shoreline.

(c) For counties and cities containing any shorelines with impaired ecological functions, master programs shall include goals and policies that provide for restoration of such impaired ecological functions. These master program provisions shall identify existing policies and programs that contribute to planned restoration goals and identify any additional policies and programs that local government will implement to achieve its goals. These master program elements regarding restoration should make real and meaningful use of established or funded non-regulatory policies and programs that contribute to restoration of ecological functions, and should appropriately consider the direct or indirect effects of other regulatory or non-regulatory programs under other local, state, and federal laws, as well as any restoration effects that may flow indirectly from shoreline development regulations and mitigation standards.

(d) 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. To ensure no net loss of ecological functions and protection of other shoreline functions and/or uses, master programs shall contain policies, programs, and regulations that address adverse cumulative impacts and fairly allocate the burden of addressing cumulative impacts among development opportunities. Evaluation of such cumulative impacts should consider:

(i) current circumstances affecting the shorelines and relevant natural processes;
(ii) reasonably foreseeable future development and use of the shoreline; and
(iii) beneficial effects of any established regulatory programs under other local, state, and federal laws.

It is recognized that methods of determining reasonably foreseeable future development may vary according to local circumstances, including demographic and economic characteristics and the nature and extent of local shorelines.

(e) The Guidelines are not intended to limit the use of regulatory incentives, voluntary modification of development proposals, and voluntary mitigation measures that are designed to restore as well as protect shoreline ecological functions.

(9) To the extent consistent with the policy and use preference of 90.58.020, this chapter (WAC 173-26), and these principles, local governments have reasonable discretion to balance the various policy goals of this chapter, in light of other relevant local, state, and federal regulatory and non-regulatory programs, and to modify master programs to reflect changing circumstances.

(10) Local governments, in adopting and amending master programs and the department in its review capacity shall, to the extent feasible, as required by RCW 90.58.100(1):

(a) Utilize a systematic interdisciplinary approach which will insure the integrated use of the natural and social sciences and the environmental design arts;
(b) Consult with and obtain the comments of any federal, state, regional, or local agency having any special expertise with respect to any environmental impact;
(c) Consider all plans, studies, surveys, inventories, and systems of classification made or being made by federal, state, regional, or local agencies, by private individuals, or by organizations dealing with pertinent shorelines of the state;
(d) Conduct or support such further research, studies, surveys, and interviews as are deemed necessary;
(e) Utilize all available information regarding hydrology, geography, topography, ecology, economics, and other pertinent data;
(f) Employ, when feasible, all appropriate, modern scientific data processing and computer techniques to store, index, analyze, and manage the information gathered.

(11) In reviewing and approving local government actions under 90.58.090, the department shall insure that the state's interest in shorelines is protected, including compliance with the policy and provisions of 90.58.020.

WAC 173-26-191 Master program contents.

(1) Master program concepts.

The following concepts are the basis for effective shoreline master programs.

(a) Master program policies and regulations.

Shoreline master programs are both planning and regulatory tools. Master programs serve a planning function in several ways. First, they balance and integrate the objectives and interests of local citizens. Therefore, the preparation and amending of master programs shall involve active public participation, as called for in WAC 173-26-201(3). Second, they address the full variety of conditions on the shoreline. Third, they consider and, where necessary to achieve the objectives of chapter 90.58 RCW, influence planning and regulatory measures for adjacent land. For jurisdictions planning under chapter 36.70A RCW, the Growth Management Act, the requirements for consistency between shoreline and adjacent land planning are more specific and are described in WAC 173-26-191(1)(e). Fourth, master programs address conditions and opportunities of specific shoreline segments by classifying the shorelines into "environment designations" as described in WAC 173-26-211.

The results of shoreline planning are summarized in shoreline master program policies that establish broad shoreline management directives. The policies are the basis for regulations that govern use and development along the shoreline. Some master program policies may not be fully attainable by regulatory means due to the constitutional and other legal limitations on the regulation of private property. The policies may be pursued by other means as provided in RCW 90.58.240. Some development requires a shoreline permit prior to construction. A local government evaluates a permit application with respect to the shoreline master program policies and regulations and approves a permit only after determining that the development conforms to them. The regulations apply to all uses and development within shoreline jurisdiction, whether or not a shoreline permit is required, and are implemented through an administrative process established by local government pursuant to RCW 90.58.050 and 140 and enforcement pursuant to RCW 90.58.210-230.

(b) Master program elements.

RCW 90.58.100(2) states that the master programs shall, when appropriate, include the following elements:

> *(a) An economic development element for the location and design of industries, industrial projects of statewide significance, transportation facilities, port facilities, tourist facilities, commerce, and other developments that are particularly dependent on their location on or use of shorelines of the state;*
> *(b) A public access element making provision for public access to publicly owned areas;*
> *(c) A recreational element for the preservation and enlargement of recreational opportunities, including, but not limited to, parks, tidelands, beaches, and recreational areas;*
> *(d) A circulation element consisting of the general location and extent of existing and proposed major thoroughfares, transportation routes, terminals, and other public utilities and facilities, all correlated with the shoreline use element;*
> *(e) A use element which considers the proposed general distribution and general location and extent of the use on shorelines and adjacent land areas for housing, business, industry, transportation, agriculture, natural resources, recreation, education, public buildings and grounds, and other categories of public and private uses of the land;*
> *(f) A conservation element for the preservation of natural resources, including, but not limited to, scenic vistas, aesthetics, and vital estuarine areas for fisheries and wildlife protection;*
> *(g) An historic, cultural, scientific, and educational element for the protection and restoration of buildings, sites, and areas having historic, cultural, scientific, or educational values;*
> *(h) An element that gives consideration to the statewide interest in the prevention and minimization of flood damages; and*
> *(i) Any other element deemed appropriate or necessary to effectuate the policy of this chapter.*

The Growth Management Act (chapter 36.70A RCW) also uses the word "element" for discrete components of a comprehensive plan. To avoid confusion, "master program element" refers to the definition in the Shoreline Management Act as cited above. Local jurisdictions are not required to address the master program elements listed in the Shoreline Management Act as discrete sections. The elements may be addressed throughout master program provisions rather than used as a means to organize the master program.

(c) Shorelines of statewide significance.

The Shoreline Management Act identifies certain shorelines as "shorelines of statewide significance" and raises their status by setting use priorities and requiring "optimum implementation" of the act's policy. WAC 173-26-251 describes methods to provide for the priorities listed in RCW 90.58.020 and to achieve "optimum implementation" as called for in RCW 90.58.090(4).

(d) Shoreline environment designations.

Shoreline management must address a wide range of physical conditions and development settings along shoreline areas. Effective shoreline management requires that the shoreline master program prescribe different sets of environmental protection measures, allowable use provisions, and development standards for each of these shoreline segments.

The method for local government to account for different shoreline conditions is to assign an environment designation to each distinct shoreline section in its jurisdiction. The environment designation assignments provide the framework for implementing shoreline policies and regulatory measures specific to the environment designation.

WAC 173-26-211 presents guidelines for environment designations in greater detail.

(e) Consistency with comprehensive planning and other development regulations.

Shoreline management is most effective and efficient when accomplished within the context of comprehensive planning. For cities and counties planning under the Growth Management Act, chapter 36.70A RCW requires mutual and internal consistency between the comprehensive plan elements and implementing development regulations (including master programs). The requirement for consistency is amplified in WAC 365-195-500:

> *Each comprehensive plan shall be an internally consistent document and all elements shall be consistent with the future land use map. This means that each part of the plan should be integrated with all other parts and that all should be capable of implementation together. Internal consistency involves at least two aspects:*
> *(1) Ability of physical aspects of the plan to coexist on the available land.*
> *(2) Ability of the plan to provide that adequate public facilities are available when the impacts of development occur (concurrency).*
> *Each plan should provide mechanisms for ongoing review of its implementation and adjustment of its terms whenever internal conflicts become apparent.*

The Growth Management Act also calls for coordination and consistency of comprehensive plans among local jurisdictions. RCW 36.70A.100 states:

> *. . . The comprehensive plan of each county or city that is adopted pursuant to RCW 36.70A.040 shall be coordinated with, and consistent with, the comprehensive plans adopted pursuant to chapter 36.70A RCW of other counties or cities with which the county or city has, in part, common borders or related regional issues.*

Since master program goals and policies are an element of the local comprehensive plan, the requirement for internal and inter-governmental plan consistency may be satisfied by watershed-wide or regional planning.

Legislative findings provided in Laws of 1995, chapter 347, section 1 (See RCW 36.70A.470 Notes) state:

> *The legislature recognizes by this act that the Growth Management Act is a fundamental building block of regulatory reform. The state and local governments have invested considerable resources in an act that should serve as the integrating framework for all other land-use related laws. The Growth Management Act provides the means to effectively combine certainty for development decisions, reasonable environmental protection, long-range planning for cost-effective infrastructure, and orderly growth and development.*

And, RCW 36.70A.480(1) (The Growth Management Act) states:

> *For shorelines of the state, the goals and policies of the Shoreline Management Act as set forth in RCW 90.58.020 are added as one of the goals of this chapter as set forth in RCW 36.70A.020. The goals and policies of a shoreline master program for a county or city approved under chapter 90.58 RCW shall be considered an element of the county or city's comprehensive plan. All other portions of the shoreline master program for a county or city adopted under chapter 90.58 RCW, including use regulations, shall be considered a part of the county or city's development regulations.*

Furthermore, RCW 36.70A.481 states:

> *Nothing in RCW 36.70A.480 shall be construed to authorize a county or city to adopt regulations applicable to shorelands as defined in RCW 90.58.030 that are inconsistent with the provisions of chapter 90.58 RCW.*

The Shoreline Management Act addresses the issue of consistency in RCW 90.58.340, which states:

> *All state agencies, counties, and public and municipal corporations shall review administrative and management policies, regulations, plans, and ordinances relative to lands under their respective jurisdictions adjacent to the shorelines of the state so as to achieve a use policy on said land consistent with the policy of this chapter, the guidelines, and the master programs for the shorelines of the state. The department may develop recommendations for land use control for such lands. Local governments shall, in developing use regulations for such areas, take into consideration any recommendations developed by the department as well as any other state agencies or units of local government (1971 ex.s. c 286 § 34.)*

Pursuant to the statutes cited above, the intent of these guidelines is to assist local governments in preparing and

amending master programs that fit within the framework of applicable comprehensive plans, facilitate consistent, efficient review of projects and permits, and effectively implement the Shoreline Management Act. It should be noted the Ecology's authority under the Shoreline Management Act is limited to review of Shoreline Master Programs based solely on consistency with the SMA and these guidelines. It is the responsibility of the local government to assure consistency between the master program and other elements of the comprehensive plan and development regulations.

Several sections in these guidelines include methods to achieve the consistency required by both the Shoreline Management Act and the Growth Management Act.

First, WAC 173-26-191 (2)(b) and (c) describe optional methods to integrate master programs and other development regulations and the local comprehensive plan.

Second, WAC 173-26-221 through 173-26-251 translate the broad policy goals in the Shoreline Management Act into more specific policies. They also provide a more defined policy basis on which to frame local shoreline master program provisions and to evaluate the consistency of applicable sections of a local comprehensive plan with the Shoreline Management Act.

Finally, WAC 173-26-211(3) presents specific methods for testing consistency between shoreline environment designations and comprehensive plan land use designations.

(2) Basic requirements.

This chapter describes the basic components and content required in a master program. A master program must be sufficient and complete to implement the Shoreline Management Act and the provisions of this chapter. A master program shall contain policies and regulations as necessary for reviewers to evaluate proposed shoreline uses and developments for conformance to the Shoreline Management Act. As indicated in WAC 173-26-020, for this chapter: The terms "shall," "must," and "are required" and the imperative voice, mean a mandate; the action is required; The term "should" means that the particular action is required unless there is a demonstrated, sufficient reason, based on a policy of the Shoreline Management Act and this chapter, for not taking the action; and, The term "may" indicates that the action is within discretion and authority, provided it satisfies all other provisions in this chapter.

(a) Master program contents.

Master programs shall include the following contents:

(i) Master program policies.

Master programs shall provide clear, consistent policies that translate broad statewide policy goals set forth in WAC 173-26-176 and 181 into local directives. Policies are statements of intent directing or authorizing a course of action or specifying criteria for regulatory and non-regulatory actions by a local government. Master program policies provide a comprehensive foundation for the shoreline master program regulations, which are more specific, standards used to evaluate shoreline development. Master program policies also are to be pursued and provide guidance for public investment and other non-regulatory initiatives to assure consistency with the overall goals of the master program.

Shoreline policies shall be developed through an open comprehensive shoreline planning process. For governments planning under the Growth Management Act, the master program policies are considered a shoreline element of the local comprehensive plan and shall be consistent with the planning goals of RCW 36.70A.020,as well as the Act's general and special policy goals set forth in WAC 173-26-176 and 181.

At a minimum, shoreline master program policies shall:

(A) Be consistent with state shoreline management policy goals and specific policies listed in this chapter and the policies of the Shoreline Management Act;
(B) Address the master program elements of RCW 90.58.100; and
(C) Include policies for environment designations as described in WAC 173-26-211. The policies shall be accompanied by a map or physical description of the schematic environment designation boundaries in sufficient detail to compare with comprehensive plan land use designations.
(D) Be designed and implemented in a manner consistent with all relevant constitutional and other legal limitations on the regulation of private property.

(ii) Master program regulations.

RCW 90.58.100 states:

The master programs provided for in this chapter, when adopted or approved by the department, shall constitute use regulations for the various shorelines of the state.

In order to implement the directives of the Shoreline Management Act, master program regulations shall:

(A) Be sufficient in scope and detail to ensure the implementation of the Shoreline Management Act, statewide shoreline management policies of this chapter, and local master program policies;
(B) Include environment designation regulations that apply to specific environments consistent with WAC 173-26-211; and
(C) Include general regulations, use regulations that address issues of concern in regard to specific uses, and shoreline modification regulations; and,
(D) Design and implement regulations and mitigation standards in a manner consistent with

all relevant constitutional and other legal limitations on the regulation of private property.

(iii) Administrative provisions.

(A) Statement of applicability.

The Shoreline Management Act's provisions are intended to provide for the management of all development and uses within its jurisdiction, whether or not a shoreline permit is required. Many activities that may not require a substantial development permit, such as clearing vegetation or construction of a residential bulkhead, can, individually or cumulatively, adversely impact adjacent properties and natural resources, including those held in public trust. Local governments have the authority and responsibility to enforce master program regulations on all uses and development in the shoreline area. There has been, historically, some public confusion regarding the Shoreline Management Act's applicability in this regard. Therefore, all master programs shall include the following statement: "All proposed uses and development occurring within shoreline jurisdiction must conform to chapter 90.58 RCW, the Shoreline Management Act, and this master program."

In addition to the requirements of the SMA, permit review, implementation, and enforcement procedures affecting private property must be conducted in a manner consistent with all relevant constitutional and other legal limitations on the regulation of private property. Administrative procedures should include provisions insuring that these requirements and limitations are considered and followed in all such decisions.

While the master program is a comprehensive use regulation applicable to all land and water areas within the jurisdiction described in the act,, its effect is generally on future development and changes in land use. Local government may find it necessary to regulate existing uses to avoid severe harm to public health and safety or the environment and in doing so should be cognizant of constitutional and other legal limitations on the regulation of private property. In some circumstances existing uses and properties may become non-conforming with regard to the regulations and master programs should include provisions to address these situations in a manner consistent with achievement of the policy of the act and consistent with constitutional and other legal limitations.

(B) Conditional use and variance provisions.
RCW 90.58.100(5) states:

> *Each master program shall contain provisions to allow for the varying of the application of use regulations of the program, including provisions for permits for conditional uses and variances, to insure that strict implementation of a program will not create unnecessary hardships or thwart the policy enumerated in RCW 90.58.020. Any such varying shall be allowed only if extraordinary circumstances are shown and the public interest suffers no substantial detrimental effect. The concept of this subsection shall be incorporated in the rules adopted by the department relating to the establishment of a permit system as provided in RCW 90.58.140(3).*

All master programs shall include standards for reviewing conditional use permits and variances that conform to chapter 173-27 WAC.

(C) Administrative permit review and enforcement procedures.
RCW 90.58.140(3) states:

> *The local government shall establish a program, consistent with rules adopted by the department, for the administration and enforcement of the permit system provided in this section. The administration of the system so established shall be performed exclusively by the local government.*

Local governments may include administrative, enforcement, and permit review procedures in the master program or the procedures may be defined by a local government ordinance separate from the master program. In either case, these procedures shall conform to the Shoreline Management Act, specifically RCW 90.58.140, 143, 210 and 220 and to chapter 173-27 WAC.

Adopting review and enforcement procedures separate from the master program allows local governments to more expeditiously revise their shoreline permit review procedures and to integrate them with other permit processing activities.

(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.

(b) Including other documents in a master program by reference.

Shoreline master program provisions sometimes address similar issues as other comprehensive plan elements and development regulations, such as the zoning code and critical area ordinance. For the purposes of completeness and consistency, local governments may include other locally adopted policies and regulations within their master programs. For example, a local government may include its critical area ordinance in the master program to provide for compliance with the requirements of RCW 90.58.090(4), provided the critical area ordinance is also consistent with this chapter. This can ensure that local master programs are consistent with other regulations.

Shoreline master programs may include other policies and regulations by referencing a specific, dated edition. When including referenced regulations within a master program, local governments shall ensure that the public has an opportunity to participate in the formulation of the regulations or in their incorporation into the master program, as called for in WAC 173-26-201(3)(b)(i). In the approval process the department will review the referenced development regulation sections as part of the master program. A copy of the referenced regulations shall be submitted to the department with the proposed master program or amendment. If the development regulation is amended, the edition referenced within the master program will still be the operative regulation in the master program. Changing the referenced regulations in the master program to the new edition will require a master program amendment.

(c) Incorporating master program provisions into other plans and regulations.

Local governments may integrate master program policies and regulations into their comprehensive plan policies and implementing development regulations rather than preparing a discrete master program in a single document. Master program provisions that are integrated into such plans and development regulations shall be clearly identified so that the department can review these provisions for approval and evaluate development proposals for compliance. RCW 90.58.120 requires that all adopted regulations, designations, and master programs be available for public inspection at the department or the applicable county or city. Local governments shall identify all documents which contain master program provisions and which provisions constitute part of the master program. Clear identification of master program provisions is also necessary so that interested persons and entities may be involved in master program preparation and amendment, as called for in RCW 90.58.130.
Local governments integrating all or portions of their master program provisions into other plans and regulations shall submit to the department a listing and copies of all provisions that constitute the master program. The master program shall also be sufficiently complete and defined to provide:

(i) Clear directions to applicants applying for shoreline permits and exemptions; and
(ii) Clear evaluation criteria and standards to the local governments, the department, other agencies, and the public for reviewing permit applications with respect to state and local shoreline management provisions.

(d) Multi-jurisdictional master program.

Two or more adjacent local governments are encouraged to jointly prepare master programs. Jointly proposed master programs may offer opportunities to effectively and efficiently manage natural resources, such as drift cells or watersheds that cross jurisdictional boundaries. Local governments jointly preparing master programs shall provide the opportunity for public participation locally in each jurisdiction, as called for in WAC 173-26-201(3)(b), and submit the multi-jurisdictional master program to the department for approval.

WAC 173-26-201 Comprehensive process to prepare or amend shoreline master programs.

(1) Applicability.

This section outlines a comprehensive process to prepare or amend a shoreline master program. Local governments shall incorporate the steps indicated if one or more of the following criteria apply:
(a) The master program amendments being considered represent a significant modification to shoreline management practices within the local jurisdiction, they modify more than one environment designation boundary, or significantly add, change or delete use regulations;
(b) Physical shoreline conditions have changed significantly, such as substantial changes in shoreline use or priority habitat integrity, since the last comprehensive master program amendment;
(c) The master program amendments being considered contain provisions that will affect a substantial portion of the local government's shoreline areas;
(d) There are substantive issues that must be addressed on a comprehensive basis. This may include issues such as salmon recovery, major use conflicts or public access;
(e) The current master program and the comprehensive plan are not mutually consistent;
(f) There has been no previous comprehensive master program amendment since the original master program adoption; or
(g) Monitoring and adaptive management indicate that changes are necessary to avoid loss of ecological functions.
Other revisions that do not meet the above criteria may be made without undertaking this comprehensive process provided that the process conforms to the requirements of WAC 173-26 -030 to 160.
All master program amendments are subject to approval by the department as provided in RCW 90.58.090(3) and (4).

(2) Basic concepts.

(a) Use of scientific and technical information.
To satisfy the requirements for the use of scientific and technical information in RCW 90.58.100(1), local governments shall incorporate the following two steps into their master program development and amendment process. First, identify and assemble the most current, accurate, and complete scientific and technical information available that is applicable to the issues of concern. The context, scope, magnitude, significance, and potential limitations of the scientific information should be considered. At a minimum, make use of and, where applicable, incorporate all available scientific information, aerial photography, inventory data, technical assistance materials, manuals and services from reliable sources of science. Local governments should also contact relevant state agencies, universities, affected Indian tribes, port districts and private parties for available

information. While adequate scientific information and methodology necessary for development of a master program should be available, if any person, including local government chooses to initiate scientific research with the expectation that it will be used as a basis for master program provisions, that research shall use accepted scientific methods, research procedures and review protocols. Local governments are encouraged to work interactively with neighboring jurisdictions, state resource agencies, affected Indian tribes, and other local government entities such as port districts to address technical issues beyond the scope of existing information resources or locally initiated research.
Local governments should consult the technical assistance materials produced by the department. When relevant information is available and unless there is more current or specific information available, those technical assistance materials shall constitute an element of scientific and technical information as defined in these guidelines and the use of which is required by the Act.

Second, base master program provisions on an analysis incorporating the most current, accurate, and complete scientific or technical information available. Local governments should be prepared to identify the following:

(i) Scientific information and management recommendations on which the master program provisions are based;
(ii) Assumptions made concerning, and data gaps in, the scientific information; and
(iii) Risks to ecological functions associated with master program provisions. Address potential risks as described in WAC 173-26-201(3)(d).

The requirement to use scientific and technical information in these guidelines does not limit a local jurisdiction's authority to solicit and incorporate information, experience, and anecdotal evidence provided by interested parties as part of the master program amendment process. Such information should be solicited through the public participation process described in WAC 173-26-201(3)(b). 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.

(b) Adaptation of Policies and Regulations.

Effective shoreline management requires the evaluation of changing conditions and the modification of policies and regulations to address identified trends and new information. Local governments should monitor actions taken to implement the master program and shoreline conditions to facilitate appropriate updates of master program provisions to improve shoreline management over time. In reviewing proposals to amend master programs, the department shall evaluate whether the change promotes achievement of the policies of the master program and the Act. As provided in WAC 173-26-171(3)(d), Ecology will, periodically review these guidelines, based in part on information provided by local government, and through that process local government will receive additional guidance on significant shoreline management issues that may require amendments to master programs.

(c) Protection of ecological functions of the shorelines.

This chapter implements the Act's policy on protection of shoreline natural resources through protection and restoration of ecological functions necessary to sustain these natural resources. The concept of ecological functions recognizes that any ecological system is composed of a wide variety of interacting physical, chemical and biological components, that are interdependent in varying degrees and scales, and that produce the landscape and habitats as they exists at any time. Ecological functions are the work performed or role played individually or collectively within ecosystems by these components.

As established in WAC 173-26-186(8) these guidelines are designed to assure, at minimum, no net loss of ecological functions necessary to sustain shoreline natural resources and to plan for restoration of ecological functions where they have been impaired. Managing shorelines for protection of their natural resources depends on sustaining the functions provided by:

- Ecosystem-wide processes such as those associated with the flow and movement of water, sediment and organic materials; the presence and movement of fish and wildlife and the maintenance of water quality.
- Individual components and localized processes such as those associated with shoreline vegetation, soils, water movement through the soil and across the land surface and the composition and configuration of the beds and banks of water bodies.

The loss or degradation of the functions associated with ecosystem-wide processes, individual components and localized processes can significantly impact shoreline natural resources and may also adversely impact human health and safety. Shoreline master programs shall address ecological functions associated with applicable ecosystem-wide processes, individual components and localized processes identified in the ecological systems analysis described in WAC 173-26-201(3)(d)(i).

Nearly all shoreline areas, even substantially developed or degraded areas, retain important ecological functions. For example, an intensely developed harbor area may also serve as a fish migration corridor and feeding area critical to species survival. Also, ecosystems are interconnected. For example, the life cycle of anadromous fish depends upon the viability of freshwater, marine, and terrestrial shoreline ecosystems, and many wildlife species associated with the shoreline depend on the health of both terrestrial and aquatic environments. Therefore, the policies for protecting and restoring ecological functions generally apply to all shoreline areas, not just those that remain relatively unaltered.

Master programs shall contain policies and regulations that assure at minimum, no net loss of ecological functions necessary to sustain shoreline natural resources. To achieve this standard while accommodating appropriate and necessary shoreline uses and development, master programs should establish and apply:

- Environment designations with appropriate use and development standards, and
- Provisions to address the impacts of specific common shoreline uses, development activities and modification actions, and
- Provisions for the protection of critical areas within the shoreline, and
- Provisions for mitigation measures and methods to address unanticipated impacts.

When based on the inventory and analysis requirements and completed consistent with the specific provisions of these guidelines, the master program should ensure that development will be protective of ecological functions necessary to sustain existing shoreline natural resources and meet the standard. The concept of "net" as used herein, recognizes that any development has potential or actual, short term or long term impacts and that through application of appropriate development standards and employment of mitigation measures in accordance with the mitigation sequence, those impacts will be addressed in a manner necessary to assure that the end result will not diminish the shoreline resources and values as they currently exist. Where uses or development that impact ecological functions are necessary to achieve other objectives of RCW 90.58.020, master program provisions shall, to the greatest extent feasible, protect existing ecological functions and avoid new impacts to habitat and ecological functions before implementing other measures designed to achieve no net loss of ecological functions.

Master Programs shall also include policies that promote restoration of ecological functions, as provided in WAC 173-26-201(2)(f), where such functions are found to have been impaired based on analysis described in WAC 173-26-201(3)(d)(i). It is intended that local government, through the master program, along with other regulatory and non-regulatory programs contribute to restoration by planning for and fostering restoration and that such restoration occur through a combination of public and private programs and actions. Local government should identify restoration opportunities through the shoreline inventory process and authorize, coordinate and facilitate appropriate publicly and privately initiated restoration projects within their Master Programs. The goal of this effort is master programs which include planning elements that, when implemented, serve to improve the overall condition of habitat and resources within the shoreline area of each city and county.

(d) Preferred uses.

As summarized in WAC 173-26-176 the Act establishes policy that preference be given to uses that are unique to or dependent upon a shoreline location. Consistent with this policy, these guidelines use the terms "water-dependent," "water-related," and "water-enjoyment," as defined in WAC 173-26-020, when discussing appropriate uses for various shoreline areas.

Shoreline areas, being a limited ecological and economic resource, are the setting for competing uses and ecological protection and restoration activities. Consistent with RCW 90.58.020 and WAC 173-26-171 through 186 local governments shall, when determining allowable uses and resolving use conflicts on shorelines within their jurisdiction, apply the following preferences and priorities in the order listed below, starting with (i) of this subsection. For shorelines of statewide significance, also apply the preferences as indicated in WAC 173-26-251(2).

(i) Reserve appropriate areas for protecting and restoring ecological functions to control pollution and prevent damage to the natural environment and public health.
(ii) Reserve shoreline areas for water-dependent and associated water related uses. Harbor areas, established pursuant to Article XV of the State Constitution, and other areas that have reasonable commercial navigational accessibility and necessary support facilities such as transportation and utilities should be reserved for water-dependent and water-related uses that are associated with commercial navigation unless the local governments can demonstrate that adequate shoreline is reserved for future water-dependent and water-related uses and unless protection of the existing natural resource values of such areas preclude such uses. Local governments may prepare master program provisions to allow mixed-use developments that include and support water-dependent uses and address specific conditions that affect water-dependent uses.
(iii) Reserve shoreline areas for other water-related and water-enjoyment uses that are compatible with ecological protection and restoration objectives.
(iv) Locate single-family residential uses where they are appropriate and can be developed without significant impact to ecological functions or displacement of water-dependent uses.
(v) Limit non-water-oriented uses to those locations where the above described uses are inappropriate or where non-water-oriented uses demonstrably contribute to the objectives of the Shoreline Management Act.

Evaluation pursuant to the above criteria, local economic and land use conditions, and policies and regulations that assure protection of shoreline resources, may result in determination that other uses are considered as necessary or appropriate and may be accommodated provided that the preferred uses are reasonably provided for in the jurisdiction.

(e) Environmental impact mitigation.

(i) To assure no net loss of shoreline ecological functions, master programs 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. To the extent Washington's State Environmental Policy Act of 1971 (SEPA), chapter 43.21C RCW, is applicable, the analysis of such environmental impacts shall be conducted consistent with the rules implementing SEPA, which also address environmental impact mitigation in WAC 197-11-660 and define mitigation in WAC 197-11-768. Master programs shall indicate that, where required, mitigation measures shall be applied in the following sequence of steps listed in order of priority, with (a) of this subsection being top priority.

(A) Avoiding the impact altogether by not taking a certain action or parts of an action;
(B) Minimizing impacts by limiting the degree or magnitude of the action and its implementation by using appropriate technology or by taking affirmative steps to avoid or reduce impacts;
(c) Rectifying the impact by repairing, rehabilitating, or restoring the affected environment;
(D) Reducing or eliminating the impact over time by preservation and maintenance operations;
(E) Compensating for the impact by replacing, enhancing, or providing substitute resources or environments; and
(F) Monitoring the impact and the compensation projects and taking appropriate corrective measures.

(ii) In determining appropriate mitigation measures applicable to shoreline development, lower priority measures shall be applied only where higher priority measures are determined to be infeasible or inapplicable.

Consistent with the WAC 173-26-186 (5) and (8), master programs shall also provide direction with regard to mitigation for the impact of the development so that:

A) Application of the mitigation sequence achieves no net loss of ecological functions for each new development and does not result in required mitigation in excess of that necessary to assure that development will result in no net loss of shoreline ecological functions and not have a significant adverse impact on other shoreline functions fostered by the policy of the act.
(B) When compensatory measures are appropriate pursuant to the mitigation priority sequence above, preferential consideration shall be given to measures that replace the impacted functions directly and in the immediate vicinity of the impact. However, alternative compensatory mitigation within the watershed that address limiting factors or identified critical needs for shoreline resource conservation based on watershed or comprehensive resource management plans applicable to the area of impact may be authorized. Authorization of compensatory mitigation measures may require appropriate safeguards, terms or conditions as necessary to ensure no net loss of ecological functions.

(f) Shoreline Restoration Planning

Consistent with principle WAC 173-26-186(8)(c), master programs shall include goals, policies and actions for restoration of impaired shoreline ecological functions. These master program provisions should be designed to achieve overall improvements in shoreline ecological functions over time, when compared to the status upon adoption of the master program. The approach to restoration planning may vary significantly among local jurisdictions, depending on:

- The size of the jurisdiction;
- The extent and condition of shorelines in the jurisdiction;
- The availability of grants, volunteer programs or other tools for restoration; and,
- The nature of the ecological functions to be addressed by restoration planning.

Master program restoration plans shall consider and address the following subjects:

(i) Identify degraded areas, impaired ecological functions, and sites with potential for ecological restoration;
(ii) Establish overall goals and priorities for restoration of degraded areas and impaired ecological functions;
(iii) Identify existing and ongoing projects and programs that are currently being implemented, or are reasonably assured of being implemented (based on an evaluation of funding likely in the foreseeable future), which are designed to contribute to local restoration goals;
(iv) Identify additional projects and programs needed to achieve local restoration goals, and implementation strategies including identifying prospective funding sources for those projects and programs;
(v) Identify timelines and benchmarks for implementing restoration projects and programs and achieving local restoration goals;
(vi) Provide for mechanisms or strategies to ensure that restoration projects and programs will be implemented according to plans and to appropriately review the effectiveness of the projects and programs in meeting the overall restoration goals.

(3) Steps in preparing and amending a master program.

(a) Process overview.

This section provides a generalized process to prepare or comprehensively amend a shoreline master program. Local governments may modify the timing of the various steps, integrate the process into other planning activities, add steps to the process, or work jointly with other jurisdictions

or regional efforts, provided the provisions of this chapter are met.

The department will provide a shoreline master program amendment checklist to help local governments identify issues to address. The checklist will not create new or additional requirements beyond the provisions of this chapter. The checklist is intended to aid the preparation and review of master program amendments. Local governments shall submit the completed checklist with the proposed master program amendments.

(b) Participation process.

(i) Participation Requirements
Local government shall comply with the provisions of RCW 90.58.130 that states:

> *To insure that all persons and entities having an interest in the guidelines and master programs developed under this chapter are provided with a full opportunity for involvement in both their development and implementation, the department and local governments shall:*
> *(1) Make reasonable efforts to inform the people of the state about the shoreline management program of this chapter and in the performance of the responsibilities provided in this chapter, shall not only invite but actively encourage participation by all persons and private groups and entities showing an interest in shoreline management programs of this chapter; and*
> *(2) Invite and encourage participation by all agencies of federal, state, and local government, including municipal and public corporations, having interests or responsibilities relating to the shorelines of the state. State and local agencies are directed to participate fully to insure that their interests are fully considered by the department and local governments.*

Additionally, the provisions of WAC 173-26-100 apply and include provisions to assure proper public participation and, for local governments planning under the Growth Management Act, the provisions of RCW 36.70A.140 also apply.

At a minimum, all local governments shall be prepared to describe and document their methods to ensure that all interested parties have a meaningful opportunity to participate.

(ii) Communication with state agencies .
Before undertaking substantial work, local governments shall notify applicable state agencies to identify state interests, relevant regional and statewide efforts, available information, and methods for coordination and input. Contact the department for a list of applicable agencies to be notified.
(iii) Communication with affected Indian tribes.
Prior to undertaking substantial work, local governments shall notify affected Indian tribes to identify tribal interests, relevant tribal efforts, available information and methods for coordination and input. Contact the individual tribes or coordinating bodies such as the Northwest Indian Fisheries Commission, for a list of affected Indian tribes to be notified.

(c) Inventory shoreline conditions.

Gather and incorporate all pertinent and available information, existing inventory data and materials from state agencies, affected Indian tribes, watershed management planning, port districts and other appropriate sources. Ensure that, whenever possible, inventory methods and protocols are consistent with those of neighboring jurisdictions and state efforts. The department will provide, to the extent possible, services and resources for inventory work. Contact the department to determine information sources and other relevant efforts. Map inventory information at an appropriate scale. Local governments shall be prepared to demonstrate how the inventory information was used in preparing their local master program amendments.

Collection of additional inventory information is encouraged and should be coordinated with other watershed, regional, or statewide inventory and planning efforts in order to ensure consistent methods and data protocol as well as effective use of fiscal and human resources. Local governments should be prepared to demonstrate that they have coordinated with applicable inter-jurisdictional shoreline inventory and planning programs where they exist. Two or more local governments are encouraged to jointly conduct an inventory in order to increase the efficiency of data gathering and comprehensiveness of inventory information. Data from inter-jurisdictional, watershed, or regional inventories may be substituted for an inventory conducted by an individual jurisdiction, provided it meets the requirements of this section.

Local government shall, at a minimum, and to the extent such information is relevant and reasonably available, collect the following information:

> (i) Shoreline and adjacent land use patterns and transportation and utility facilities, including the extent of existing structures, impervious surfaces, vegetation and shoreline modifications in shoreline jurisdiction. Special attention should be paid to identification of water-oriented uses and related navigation, transportation and utility facilities.
> (ii) Critical areas, including wetlands, aquifer recharge areas, fish and wildlife conservation areas, geologically hazardous areas, and frequently flooded areas. See also WAC 173-26-221.
> (iii) Degraded areas and sites with potential for ecological restoration.
> (iv) Areas of special interest, such as priority habitats, developing or redeveloping harbors and waterfronts, previously identified toxic or hazardous material clean-up sites, dredged material disposal sites, or eroding shorelines, to

be addressed through new master program provisions.
(v) Conditions and regulations in shoreland and adjacent areas that affect shorelines, such as surface water management and land use regulations. This information may be useful in achieving mutual consistency between the master program and other development regulations.
(vi) Existing and potential shoreline public access sites, including public rights-of-way and utility corridors.
(vii) General location of channel migration zones, and flood plains.
(viii) Gaps in existing information. During the initial inventory, local governments should identify what additional information may be necessary for more effective shoreline management.
(ix) If the shoreline is rapidly developing or subject to substantial human changes such as clearing and grading, past and current records or historical aerial photographs may be necessary to identify cumulative impacts, such as bulkhead construction, intrusive development on priority habitats, and conversion of harbor areas to non-water oriented uses.
(x) If archaeological or historic resources have been identified in shoreline jurisdiction, consult with the state historic preservation office and local affected Indian tribes regarding existing archaeological and historical information.

(d) Analyze shoreline issues of concern.

Before establishing specific master program provisions, local governments shall analyze the information gathered in (c) and as necessary to ensure effective shoreline management provisions, address the topics below, where applicable.

(i) Characterization of functions and ecosystem-wide processes.

(A) Prepare a characterization of shoreline ecosystems and their associated ecological functions. The characterization consists of three steps:
(I) Identify the ecosystem-wide processes and ecological functions based on the list in (C) below that apply to the shoreline(s) of the jurisdiction.
(II) Assess the ecosystem-wide processes to determine their relationship to ecological functions present within the jurisdiction and identify which ecological functions are healthy, which have been significantly altered and/or adversely impacted and which functions may have previously existed and are missing based on the values identified in (D) below; and
(III) Identify specific measures necessary to protect and/or restore the ecological functions and ecosystem-wide processes.

(B) The characterization of shoreline ecological systems may be achieved by using one or more of the approaches below:
(I) If a regional environmental management plan, such as a watershed plan or coastal erosion study, is ongoing or has been completed, then conduct the characterization either within the framework of the regional plan or use the data provided in the regional plan. This methodology is intended to contribute to an in-depth and comprehensive assessment and characterization.
(II) If a regional environmental management plan has not been completed, use available scientific and technical information, including flood studies, habitat evaluations and studies, water quality studies, and data and information from environmental impact statements. This characterization of ecosystem-wide processes and the impact upon the functions of specific habitats and human health and safety objectives may be of a generalized nature.
(III) One or more local governments may pursue a characterization which includes a greater scope and complexity than listed in items (I) and (II) of this subsection.

(C) Shoreline ecological functions include, but are not limited to:

In rivers and streams and associated floodplains:
Hydrologic: Transport of water and sediment across the natural range of flow variability; attenuating flow energy; developing pools, riffles, gravel bars, recruitment and transport of large woody debris and other organic material and;
Shoreline Vegetation: maintaining temperature; removing excessive nutrients and toxic compound, sediment removal and, stabilization; attenuation of flow energy; and provision of large woody debris and other organic matter.
Hyporheic functions: removing excessive nutrients and toxic compound, water storage, support of vegetation, and sediment storage and maintenance of base flows.
Habitat for native aquatic and shoreline-dependent birds, invertebrates, mammals; amphibians; and anadromous and resident native fish: Habitat functions may include but are not limited to; space or conditions for reproduction; resting, hiding and migration; and food production and delivery.
In lakes:
Hydrologic: Storing water and sediment, attenuating wave energy, removing excessive nutrients and toxic compounds, recruitment of large woody debris and other organic material.
Shoreline Vegetation: maintaining temperature; removing excessive nutrients and toxic compound, attenuating wave energy, sediment removal and stabilization; and providing woody debris and other organic matter.
Hyporheic functions: removing excessive nutrients and toxic compound, water storage, support of vegetation, and sediment storage and maintenance of base flows.
Habitat for aquatic and shoreline-dependent birds, invertebrates, mammals; amphibians; and anadromous and resident native fish: Habitat functions may include but are not limited to; space or conditions for reproduction, resting, hiding and migration; and food production and delivery.
In marine waters:

Hydrologic: Transporting and stabilizing sediment, attenuating wave and tidal energy, removing excessive nutrients and toxic compounds; recruitment, redistribution and reduction of woody debris and other organic material.
Vegetation: maintaining temperature; removing excessive nutrients and toxic compound, attenuating wave energy, sediment removal and, stabilization; and providing woody debris and other organic matter.
Habitat for aquatic and shoreline-dependent birds, invertebrates, mammals; amphibians; and anadromous and resident native fish: Habitat functions may include but are not limited to; space or conditions for reproduction, resting, hiding and migration; and food production and delivery.
Wetlands:
Hydrological: Storing water and sediment, attenuating wave energy, removing excessive nutrients and toxic compounds, recruiting woody debris and other organic material.
Vegetation: maintaining temperature; removing excessive nutrients and toxic compound, attenuating wave energy, removing and stabilizing sediment; and providing woody debris and other organic matter.
Hyporheic functions: removing excessive nutrients and toxic compound, storing water and maintaining base flows, storing sediment and support of vegetation.
Habitat for aquatic and shoreline-dependent birds, invertebrates, mammals; amphibians; and anadromous and resident native fish: Habitat functions may include but are not limited to; space or conditions for reproduction, resting, hiding and migration; and food production and delivery.
(D) The overall conditions of habitat and shoreline resources are determined by the following ecosystem wide processes and ecological functions:

- The distribution, diversity, and complexity of the watersheds, marine environments, and landscape-scale features that form the aquatic systems to which species, populations, and communities are uniquely adapted.
- The spatial and temporal connectivity within and between watersheds and along marine shorelines. Drainage network connections include flood plains, wetlands, upslope areas, headwater tributaries, and naturally functioning routes to areas critical for fulfilling life history requirements of aquatic and riverine-dependent species.
- The shorelines, beaches, banks, marine near-shore habitats, and bottom configurations that provide the physical framework of the aquatic system.
- The timing, volume, and distribution of woody debris recruitment in rivers, streams and marine habitat areas.
- The water quality necessary to maintain the biological, physical, and chemical integrity of the system and support survival, growth, reproduction, and migration of individuals composing aquatic and riverine communities.
- The sediment regime under which aquatic ecosystems evolved. Elements of the sediment regime include the timing, volume, rate, and character of sediment input, storage, and transport.
- The range of flow variability sufficient to create and sustain fluvial, aquatic, and wetland habitats, the patterns of sediment, nutrient, and wood routing. The timing, magnitude, duration, and spatial distribution of peak, high, and low flows, and duration of flood plain inundation and water table elevation in meadows and wetlands.
- The species composition and structural diversity of plant communities in river and stream areas and wetlands that provides summer and winter thermal regulation, nutrient filtering, appropriate rates of surface erosion, bank erosion, and channel migration and to supply amounts and distributions of woody debris sufficient to sustain physical complexity and stability.

(E) Local governments should use the characterization and analysis called for in this section to prepare master program policies and regulations designed to achieve no net loss of ecological functions necessary to support shoreline resources and to plan for the restoration of the ecosystem-wide processes and individual ecological functions on a comprehensive basis over time.

(ii) Shoreline use analysis and priorities.

Conduct an analysis to estimate the future demand for shoreline space and potential use conflicts. Characterize current shoreline use patterns and projected trends to ensure appropriate uses consistent with chapter 90.58 RCW and WAC 173-26-201(2)(d) and 173-26-211(5).

If the jurisdiction includes a designated harbor area or urban waterfront with intensive uses or significant development or redevelopment issues, work with the Washington State department of natural resources and port authorities to ensure consistency with harbor area statutes and regulations, and to address port plans. Identify measures and strategies to encourage appropriate use of these shoreline areas in accordance with the use priorities of chapter 90.58 RCW and WAC 173-26-201(2)(d) while pursuing opportunities for ecological restoration.

(iii) Addressing Cumulative Impacts In Developing Master Programs

The principles that regulation of development shall achieve no net loss of ecological function requires that master program policies and regulations address the cumulative impacts on shoreline ecological functions that would result from future shoreline development and uses that are reasonably foreseeable from proposed master programs. To comply with the general obligation to assure no net loss of shoreline ecological function, the process of developing the policies and regulations of a shoreline master program requires assessment of how proposed policies and regulations cause and avoid such cumulative impacts.

Evaluating and addressing cumulative impacts shall be consistent with the guiding principle in WAC 173-26-186(8)(d). An appropriate evaluation of cumulative impacts

on ecological functions will consider the factors identified in WAC 173-26-186(8)(d)(i) thru (iii) and the effect on the ecological functions of the shoreline that are caused by unregulated activities, development exempt from permitting, effects such as the incremental impact of residential bulkheads, residential piers, or runoff from newly developed properties. Accordingly, particular attention should be paid to policies and regulations that address platting or subdividing of property, laying of utilities, and mapping of streets that establish a pattern for future development that is to be regulated by the master program.

There are practical limits when evaluating impacts that are prospective and sometimes indirect. Local government should rely on the assistance of state agencies and appropriate parties using evaluation, measurement, estimation, or quantification of impact consistent with the guidance of RCW 90.58.100(1) and WAC 173-26-201(2)(a). Policies and regulations of a master program are not inconsistent with these guidelines for failing to address cumulative impacts where a purported impact is not susceptible to being addressed using an approach consistent with RCW 90.58.100(1).

Complying with the above guidelines is the way that master program policies and regulations should be developed to assure that the commonly occurring and foreseeable cumulative impacts do not cause a net loss of ecological functions of the shoreline. For such commonly occurring and planned development, policies and regulations should be designed without reliance on an individualized cumulative impacts analysis. Local government shall fairly allocate the burden of addressing cumulative impacts.

For development projects 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. Similarly, Local government shall consider and address cumulative impacts on other functions and uses of the shoreline that are consistent with the Act. For example, a cumulative impact of allowing development of docks or piers could be interference with navigation on a water body.

(iv) Shorelines of statewide significance.

If the area contains shorelines of statewide significance, undertake the steps outlined in WAC 173-26-251.

(v) Public access.

Identify public access needs and opportunities within the jurisdiction and explore actions to enhance shoreline recreation facilities, as described in WAC 173-26-221(4).

(vi) Enforcement and coordination with other regulatory programs.

Local governments planning under the Growth Management Act shall review their comprehensive plan policies and development regulations to ensure mutual consistency. In order to effectively administer and enforce master program provisions, local governments should also review their current permit review and inspection practices to identify ways to increase efficiency and effectiveness and to ensure consistency.

(vii) Water quality and quantity.

Identify water quality and quantity issues relevant to master program provisions, including those that affect human health and safety. At a minimum, consult with appropriate federal, state, tribal, and local agencies.

(viii) Vegetation conservation.

Identify how existing shoreline vegetation provides ecological functions and determine methods to ensure protection of those functions. Identify important ecological functions that have been degraded through loss of vegetation. Consider the amount of vegetated shoreline area necessary to achieve ecological objectives. While there may be less vegetation remaining in urbanized areas than in rural areas, the importance of this vegetation, in terms of the ecological functions it provides, is often as great or even greater than in rural areas due to its scarcity. Identify measures to ensure that new development meets vegetation conservation objectives.

(ix) Special area planning.

Some shoreline sites or areas require more focused attention than is possible in the overall master program development process due to complex shoreline ecological issues, changing uses, or other unique features or issues. In these circumstances, the local government is encouraged to undertake special area planning. Special area planning also may be used to address: Public access, vegetation conservation, shoreline use compatibility, port development master planning, ecological restoration, or other issues best addressed on a comprehensive basis.

The resultant plans may serve as the basis for facilitating state and local government coordination and permit review. Special area planning shall provide for public and affected Indian tribe participation and compliance with all applicable provisions of the Act and WAC 173-26-090 to 120.

(e) Establish shoreline policies.

Address all of the elements listed in RCW 90.58.100(2) and all applicable provisions of these guidelines in policies. These policies should be reviewed for mutual consistency with the comprehensive plan policies. If there are shorelines of statewide significance, ensure that the other comprehensive plan policies affecting shoreline jurisdiction are consistent with the objectives of RCW 90.58.020 and 90.58.090(4).

(f) Establish environment designations.

Establish environment designations and identify permitted uses and development standards for each environment designation.
Based on the inventory in (c) of this subsection and the analysis in (d) of this subsection, assign each shoreline segment an environment designation.

Prepare specific environment designation policies and regulations.
Review the environment designations for mutual consistency with comprehensive plan land use designations as indicated in WAC 173-26-211(3).

In determining the boundaries and classifications of environment designations, adhere to the criteria in WAC 173-26-211(5).

(g) Prepare other shoreline regulations.
Prepare other shoreline regulations based on the policies and the analyses described in this section as necessary to assure consistency with the guidelines of this chapter. The level of detail of inventory information and planning analysis will be a consideration in setting shoreline regulations. 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. If there is a question about the extent or condition of an existing ecological resource, then the master program provisions shall be sufficient to reasonably assure that the resource is protected in a manner consistent with the policies of these guidelines. Local governments may accomplish this by including master program requirements for an on-site inventory at the time of project application and performance standard that assure appropriate protection.

(h) Submit for review and approval.

Local governments are encouraged to work with department personnel during preparation of the master program and to submit draft master program provisions to the department for informal advice and guidance prior to formal submittal.

Local governments shall submit the completed checklist, as described in WAC 173-26-201(3)(a), with their master program amendments proposed for adoption. Master program review and formal adoption procedures are described in Parts I and II of this chapter.

WAC 173-26-211 Environment designation system.

(1) Applicability.
This section applies to the establishment of environment designation boundaries and provisions as described in WAC 173-26-191 (1)(d).

(2) Basic requirements for environment designation classification and provisions.
(a) Master programs shall contain a system to classify shoreline areas into specific environment designations. This classification system shall be based on the existing use pattern, the biological and physical character of the shoreline, and the goals and aspirations of the community as expressed through comprehensive plans as well as the criteria in this section. Each master program's classification system shall be consistent with that described in WAC 173-26-211 (4) and (5) unless the alternative proposed provides equal or better implementation of the act.
(b) An up-to-date and accurate map of the shoreline area delineating the environment designations and their boundaries shall be prepared and maintained in the local government office that administers shoreline permits. If it is not feasible to accurately designate individual parcels on a map, the master program text shall include a clear basis for identifying the boundaries, physical features, explicit criteria, or "common" boundary descriptions to accurately define and distinguish the environments on the ground. The master program should also make it clear that in the event of a mapping error, the jurisdiction will rely upon common boundary descriptions and the criteria contained in RCW 90.58.030(2) and chapter 173-22 WAC pertaining to determinations of shorelands, as amended, rather than the incorrect or outdated map.
(c) To facilitate consistency with land use planning, local governments planning under chapter 36.70A RCW are encouraged to illustrate shoreline designations on the comprehensive plan Future Land Use Map as described in WAC 365-195-300 (2)(d).
(d) Pursuant to RCW 90.58.040, the map should clearly illustrate what environment designations apply to all shorelines of the state as defined in RCW 90.58.030(2)(c) within the local government's jurisdiction in a manner consistent with WAC 173-26-211(4) and (5).
(e) The map and the master program should note that all areas within shoreline jurisdiction that are not mapped and/or designated are automatically assigned a "rural conservancy" designation, or "urban conservancy" designation if within a municipality or urban growth area, or the comparable environment designation of the applicable master program until the shoreline can be re-designated through a master program amendment.
(f) The following diagram summarizes the components of the environment designation provisions.

(3) Consistency between shoreline environment designations and the local comprehensive plan.

As noted in WAC 173-26-191(1)(e), RCW 90.58.340 requires that policies for lands adjacent to the shorelines be consistent with the Shoreline Management Act, implementing rules, and the applicable master program. Conversely, local comprehensive plans constitute the underlying framework within which master program provisions should fit. The Growth Management Act, where applicable, designates shoreline master program policies as an element of the comprehensive plan and requires that all elements be internally consistent. Chapter 36.70A RCW

also requires development regulations to be consistent with the comprehensive plan.

The following criteria are intended to assist local governments in evaluating the consistency between master program environment designation provisions and the corresponding comprehensive plan elements and development regulations. In order for shoreline designation provisions, local comprehensive plan land use designations, and development regulations to be internally consistent, all three of the conditions below should be met:

(a) Provisions not precluding one another.
The comprehensive plan provisions and shoreline environment designation provisions should not preclude one another. To meet this criteria, the provisions of both the comprehensive plan and the master program must be able to be met. Further, when considered together and applied to any one piece of property, the master program use policies and regulations and the local zoning or other use regulations should not conflict in a manner that all viable uses of the property are precluded.

(b) Use compatibility.
Land use policies and regulations should protect preferred shoreline uses from being impacted by incompatible uses. The intent is to prevent water-oriented uses, especially water-dependent uses, from being restricted on shoreline areas because of impacts to nearby non-water-oriented uses. To be consistent, master programs, comprehensive plans, and development regulations should prevent new uses that are not compatible with preferred uses from locating where they may restrict preferred uses or development.

(c) Sufficient infrastructure.
Infrastructure and services provided in the comprehensive plan should be sufficient to support allowed shoreline uses. Shoreline uses should not be allowed where the comprehensive plan does not provide sufficient roads, utilities, and other services to support them. Infrastructure plans must also be mutually consistent with shoreline designations. Where they do exist, utility services routed through shoreline areas shall not be a sole justification for more intense development.

(4) General Environment Designation Provisions.

(a) Requirements

For each environment designation, the shoreline master program shall describe:

(i) Purpose statement.
The statement of purpose shall describe the shoreline management objectives of the designation in a manner that distinguishes it from other designations.

(ii) Classification criteria.
Clearly stated criteria shall provide the basis for classifying or reclassifying a specific shoreline area with an environment designation.

(iii) Management policies.
These policies shall be in sufficient detail to assist in the interpretation of the environment designation regulations and, for jurisdictions planning under chapter 36.70A RCW, to evaluate consistency with the local comprehensive plan.

(iv) Regulations.
Environment-specific regulations shall address the following where necessary to account for different shoreline conditions:

(A) Types of shoreline uses permitted, conditionally permitted, and prohibited;
(B) Building or structure height and bulk limits, setbacks, maximum density or minimum frontage requirements, and site development standards; and
(C) Other topics not covered in general use regulations that are necessary to assure implementation of the purpose of the environment designation.

(b) The recommended classification system.

The recommended classification system consists of six basic environments:
"High-intensity," "shoreline residential," "urban conservancy," "rural conservancy," "natural," and "aquatic" as described in this section and WAC 173-26-211(5). Local governments should assign all shoreline areas an environment designation consistent with the corresponding designation criteria provided for each environment. In delineating environment designations local government should assure that existing shoreline ecological functions are protected with the proposed pattern and intensity of development. Such designations should also be consistent with policies for restoration of degraded shorelines.

(c) Alternative systems

(i) Local governments may establish a different designation system or may retain their current environment designations, provided it is consistent with the purposes and policies of this section and WAC 173-26-211(5).
(ii) Local governments may use "parallel environments" where appropriate. Parallel environments divide shorelands into different sections generally running parallel to the shoreline or along a physical feature such as a bluff or railroad right of way. Such environments may be useful, for example, to accommodate resource protection near the shoreline and existing development further from the shoreline. Where parallel environments are used, developments and uses allowed in one environment should not be inconsistent with the achieving the purposes of the other.

(5) The Designations

(a) "Natural" environment.

(i) Purpose.

The purpose of the "natural" environment is to protect those shoreline areas that are relatively free of human influence or that include intact or minimally degraded shoreline functions intolerant of human use. These systems

require that only very low intensity uses be allowed in order to maintain the ecological functions and ecosystem-wide processes. Consistent with the policies of the designation local should include planning for restoration of degraded shorelines within this environment.

(ii) Management policies.

(A) Any use that would substantially degrade the ecological functions or natural character of the shoreline area should not be allowed.
(B) The following new uses should not be allowed in the "natural" environment:

- Commercial uses.
- Industrial uses.
- Nonwater-oriented recreation.
- Roads, utility corridors, and parking areas that can be located outside of "natural"-designated shorelines.

(C) Single family residential development may be allowed as a conditional use within the "natural" environment if the density and intensity of such use is limited as necessary to protect ecological functions and be consistent with the purpose of the environment.
(D) Commercial forestry may be allowed as a conditional use in the "natural" environment provided it meets the conditions of the State Forest Practices Act and its implementing rules and is conducted in a manner consistent with the purpose of this environment designation.
(E) Agricultural uses of a very low intensity nature may be consistent with the Natural Environment when such use is subject to appropriate limitations or conditions to assure that the use does not expand or alter practices in a manner inconsistent with the purpose of the designation.
(F) Scientific, historical, cultural, educational research uses, and low-intensity water-oriented recreational access uses may be allowed provided that no significant ecological impact on the area will result.
(G) New development or significant vegetation removal that would reduce the capability of vegetation to perform normal ecological functions should not be allowed. Do not allow the subdivision of property in a configuration that, to achieve its intended purpose, will require significant vegetation removal or shoreline modification that adversely impacts ecological functions. That is, each new parcel must be able to support its intended development without significant ecological impacts to the shoreline ecological functions.

(iii) Designation Criteria.

A "natural" environment designation should be assigned to shoreline areas if any of the following characteristics apply:
(A) The shoreline is ecologically intact and therefore currently performing an important, irreplaceable function or ecosystem-wide process that would be damaged by human activity;
(B) The shoreline is considered to represent ecosystems and geologic types that are of particular scientific and educational interest; or
(C) The shoreline is unable to support new development or uses without significant adverse impacts to ecological functions or risk to human safety.

Such shoreline areas include largely undisturbed portions of shoreline areas such as wetlands, estuaries, unstable bluffs, coastal dunes, spits, and ecologically intact shoreline habitats. Shorelines inside or outside urban growth areas may be designated as "natural."

Ecologically intact shorelines, as used here, means those shoreline areas that retain the majority of their natural shoreline functions, as evidenced by the shoreline configuration and the presence of native vegetation. Generally, but not necessarily, ecologically intact shorelines are free of structural shoreline modifications, structures, and intensive human uses. In forested areas, they generally include native vegetation with diverse plant communities, multiple canopy layers, and the presence of large woody debris available for recruitment to adjacent water bodies. Recognizing that there is a continuum of ecological conditions ranging from near natural conditions to totally degraded and contaminated sites, this term is intended to delineate those shoreline areas that provide valuable functions for the larger aquatic and terrestrial environments which could be lost or significantly reduced by human development. Whether or not a shoreline is ecologically intact is determined on a case-by-case basis.

The term "ecologically intact shorelines" applies to all shoreline areas meeting the above criteria ranging from larger reaches that may include multiple properties to small areas located within a single property.

Areas with significant existing agriculture lands should not be included in the "natural" designation, except where the existing agricultural operations involve low very intensity uses where there is no significant impact on natural ecological functions, and where the intensity or impacts associated with such agriculture activities is unlikely to expand in a manner inconsistent with the "natural" designation.

(b) "Rural conservancy" environment.

(i) Purpose.

The purpose of the "rural conservancy" environment is to protect ecological functions, conserve existing natural resources and valuable historic and cultural areas in order to provide for sustained resource use, achieve natural flood plain processes, and provide recreational opportunities. Examples of uses that are appropriate in a "rural conservancy" environment include low-impact outdoor recreation uses, timber harvesting on a sustained-yield basis, agricultural uses, aquaculture, low-intensity

residential development and other natural resource based low-intensity uses.

(ii) Management policies.

(A) Uses in the "rural conservancy" environment should be limited to those which sustain the shoreline area's physical and biological resources and uses of a nonpermanent nature that do not substantially degrade ecological functions or the rural or natural character of the shoreline area. Except as noted, commercial and industrial uses should not be allowed. Agriculture, commercial forestry, and aquaculture when consistent with provisions of this chapter may be allowed. Low intensity, water-oriented commercial and industrial uses may be permitted in the limited instances where those uses have located in the past or at unique sites in rural communities that possess shoreline conditions and services to support the development.

Water-dependent and water-enjoyment recreation facilities that do not deplete the resource over time, such as boating facilities, angling, hunting, wildlife viewing trails, and swimming beaches, are preferred uses, provided significant adverse impacts to the shoreline are mitigated.

Mining is a unique use as a result of its inherent linkage to geology. Therefore, mining and related activities may be an appropriate use within the rural conservancy environment when conducted in a manner consistent with the environment policies and the provisions of WAC 173-26-241(h) and when located consistent with mineral resource lands designation criteria pursuant to RCW 36.70A.170 and WAC 365-190-070.

(B) Developments and uses that would substantially degrade or permanently deplete the biological resources of the area should not be allowed.

(C) Construction of new structural shoreline stabilization and flood control works should only be allowed where there is a documented need to protect an existing structure or ecological functions and mitigation is applied, consistent with WAC 173-26-231. New development should be designed and located to preclude the need for such work.

(D) Residential development standards shall ensure no net loss of shoreline ecological functions and should preserve the existing character of the shoreline consistent with the purpose of the environment. As a general matter, meeting this provision will require density, lot coverage, vegetation conservation and other provisions.

Scientific studies support density or lot coverage limitation standards that assure that development will be limited to a maximum of ten percent total impervious surface area within the lot or parcel, will maintain the existing hydrologic character of the shoreline. However an alternative standard developed based on scientific information that meets the provisions of this chapter and accomplishes the purpose of the environment designation may be used.

Master programs may allow greater lot coverage to allow development of lots legally created prior to the adoption of a master program prepared under these guidelines. In these instances, master programs shall include measures to assure protection of ecological functions to the extent feasible such as requiring that lot coverage is minimized and vegetation is conserved.

(E) New shoreline stabilization, flood control measures, vegetation removal, and other shoreline modifications should be designed and managed consistent with these guidelines to ensure that the natural shoreline functions are protected. Such shoreline modification should not be inconsistent with planning provisions for restoration of shoreline ecological functions.

(iii) Designation Criteria

Assign a "rural conservancy" environment designation to shoreline areas outside incorporated municipalities and outside urban growth areas, as defined by RCW 36.70A.110, if any of the following characteristics apply:

(A) The shoreline is currently supporting lesser-intensity resource-based uses, such as agriculture, forestry, or recreational uses, or is designated agricultural or forest lands pursuant to RCW 36.70A.170;

(B) The shoreline is currently accommodating residential uses outside urban growth areas and incorporated cities or towns;

(C) The shoreline is supporting human uses but subject to environmental limitations, such as properties that include or are adjacent to steep banks, feeder bluffs, or flood plains or other flood-prone areas;

(D) The shoreline is of high recreational value or with unique historic or cultural resources; or

(E) The shoreline has low-intensity water-dependent uses.

Areas designated in a local comprehensive plan as "rural areas of more intense development," as provided for in chapter 36.70A RCW, may be designated an alternate shoreline environment, provided it is consistent with the objectives of the Growth Management Act and this chapter.

"Master planned resorts" as described in RCW 36.70A.360 may be designated an alternate shoreline environment, provided the applicable master program provisions do not allow significant ecological impacts.

Lands that may otherwise qualify for designation as rural conservancy and which are designated as "mineral resource lands" pursuant to RCW 36.70A.170 and WAC 365-190-070 may be assigned a designation within the "rural conservancy" environment that allows mining and

associated uses in addition to other uses consistent with the rural conservancy environment.

(c) "Aquatic" environment.

(i) Purpose.

The purpose of the "aquatic" environment is to protect, restore, and manage the unique characteristics and resources of the areas waterward of the ordinary high-water mark.

(ii) Management policies.
(A) Allow new over-water structures only for water-dependent uses, public access, or ecological restoration.
(B) The size of new over-water structures should be limited to the minimum necessary to support the structure's intended use.
(C) In order to reduce the impacts of shoreline development and increase effective use of water resources, multiple use of over-water facilities should be encouraged.
(D) All developments and uses on navigable waters or their beds should be located and designed to minimize interference with surface navigation, to consider impacts to public views, and to allow for the safe, unobstructed passage of fish and wildlife, particularly those species dependent on migration.
(E) Uses that adversely impact the ecological functions of critical saltwater and freshwater habitats should not be allowed except where necessary to achieve the objectives of RCW 90.58.020, and then only when their impacts are mitigated according to the sequence described in WAC 173-26-201(2)(e) as necessary to assure no net loss of ecological functions.
(F) Shoreline uses and modifications should be designed and managed to prevent degradation of water quality and alteration of natural hydrographic conditions.

(iii) Designation Criteria

Assign an "aquatic" environment designation to lands waterward of the ordinary high-water mark.

Local governments may designate submerged and intertidal lands with shoreland designations (e.g., "high-intensity" or "rural conservancy") if the management policies and objectives for aquatic areas are met. In this case, the designation system used must provide regulations for managing submerged and intertidal lands that are clear and consistent with the "aquatic" environment management policies in this chapter. Additionally, local governments may assign an "aquatic" environment designation to wetlands.

(d) "High-intensity" environment.

(i) Purpose.

The purpose of the "high-intensity" environment is to provide for high-intensity water-oriented commercial, transportation, and industrial uses while protecting existing ecological functions and restoring ecological functions in areas that have been previously degraded.

(ii) Management policies.

(A) In regulating uses in the "high-intensity" environment, first priority should be given to water-dependent uses. Second priority should be given to water-related and water-enjoyment uses. Non-water oriented uses should not be allowed except as part of mixed use developments. Non-water oriented uses may also be allowed in limited situations where they do not conflict with or limit opportunities for water oriented uses or on sites where there is no direct access to the shoreline. Such specific situations should be identified in shoreline use analysis or special area planning, as described in WAC 173-26-200 (3)(d).
If an analysis of water-dependent use needs as described in WAC 173-26-201(3)(d)(ii) demonstrates the needs of existing and envisioned water-dependent uses for the planning period are met, then provisions allowing for a mix of water-dependent and non-water dependent uses may be established. If those shoreline areas also provide ecological functions, apply standards to assure no net loss of those functions.
(B) Full utilization of existing urban areas should be achieved before further expansion of intensive development is allowed. Reasonable long-range projections of regional economic need should guide the amount of shoreline designated "high-intensity." However, consideration should be given to the potential for displacement of non-water oriented uses with water oriented uses when analyzing full utilization of urban waterfronts and before considering expansion of such areas.
(C) Policies and regulations shall assure no net loss of shoreline ecological functions as a result of new development. Where applicable, new development shall include environmental cleanup and restoration of the shoreline to comply with any relevant state and federal law.
(D) Where feasible, visual and physical public access should be required as provided for in WAC 173-26-221(4)(d).
(E) Aesthetic objectives should be implemented by means such as sign control regulations, appropriate development siting, screening and architectural standards, and maintenance of natural vegetative buffers.

(iii) Designation Criteria

Assign a "high-intensity" environment designation to shoreline areas within incorporated municipalities, urban

growth areas, and industrial or commercial "rural areas of more intense development," as described by RCW 36.70A.070 if they currently support high-intensity uses related to commerce, transportation or navigation; or are suitable and planned for high-intensity water-oriented uses.

(e) "Urban conservancy" environment.

(i) Purpose.

The purpose of the "urban conservancy" environment is to protect and restore ecological functions of open space, floodplain and other sensitive lands where they exist in urban and developed settings, while allowing a variety of compatible uses.

(ii) Management policies.

(A) Uses that preserve the natural character of the area or promote preservation of open space, floodplain or sensitive lands either directly or over the long term should be the primary allowed uses. Uses that result in restoration of ecological functions should be allowed if the use is otherwise compatible with the purpose of the environment and the setting.
(B) Standards should be established for shoreline stabilization measures, vegetation conservation, water quality, and shoreline modifications within the "urban conservancy" designation. These standards shall ensure that new development does not result in a net loss of shoreline ecological functions or further degrade other shoreline values.
(c) Public access and public recreation objectives should be implemented whenever feasible and significant ecological impacts can be mitigated.
(D) Water-oriented uses should be given priority over non-water oriented uses. For shoreline areas adjacent to commercially navigable waters, water-dependent uses should be given highest priority.
(E) Mining is a unique use as a result of it inherent linkage to geology. Therefore, mining and related activities may be an appropriate use within the urban conservancy environment when conducted in a manner consistent with the environment policies and the provisions of WAC 173-26-240 (h) and when located consistent with mineral resource lands designation criteria pursuant to RCW 36.70A.170 and WAC 365-190-070.

(iii) Designation Criteria

Assign an "urban conservancy" environment designation to shoreline areas appropriate and planned for development that is compatible with maintaining or restoring of the ecological functions of the area, that are not generally suitable for water-dependent uses and that lie in incorporated municipalities, urban growth areas, or commercial or industrial "rural areas of more intense development" if any of the following characteristics apply:

(A) They are suitable for water-related or water-enjoyment uses;
(B) They are open space, flood plain or other sensitive areas that should not be more intensively developed;
(C) They have potential for ecological restoration;
(D) They retain important ecological functions, even though partially developed; or
(E) They have the potential for development that is compatible with ecological restoration.

Lands that may otherwise qualify for designation as urban conservancy and which are designated as "mineral resource lands" pursuant to RCW 36.70A.170 and WAC 365-190-070 may be assigned a designation within the "urban conservancy" environment that allows mining and associated uses in addition to other uses consistent with the urban conservancy environment.

(f) "Shoreline residential" environment.

(i) Purpose.

The purpose of the "shoreline residential" environment is to accommodate residential development and appurtenant structures that are consistent with this chapter. An additional purpose is to provide appropriate public access and recreational uses.

(ii) Management policies

(A) Standards for density or minimum frontage width, setbacks, lot coverage limitations, buffers, shoreline stabilization, vegetation conservation, critical area protection, and water quality shall be set to assure no net loss of shoreline ecological functions, taking into account the environmental limitations and sensitivity of the shoreline area, the level of infrastructure and services available, and other comprehensive planning considerations.
Local governments may establish two or more different "shoreline residential" environments to accommodate different shoreline densities or conditions, provided both environments adhere to the provisions in this chapter.
(B) Multifamily and multi-lot residential and recreational developments should provide public access and joint use for community recreational facilities.
(C) Access, utilities, and public services should be available and adequate to serve existing needs and/or planned future development.
(D) Commercial development should be limited to water-oriented uses.

(iii) Designation Criteria

Assign a "shoreline residential" environment designation to shoreline areas inside urban growth areas, as defined in RCW 36.70A.110, incorporated municipalities, "rural areas

of more intense development," or "master planned resorts," as described in RCW 36.70A.360, if they are predominantly single-family or multifamily residential development or are planned and platted for residential development.

WAC 173-26-221 General master program provisions.

The provisions of this section shall be applied either generally to all shoreline areas or to shoreline areas that meet the specified criteria of the provision without regard to environment designation. These provisions address certain elements as required by RCW 90.58.100(2) and implement the principles as established in WAC 173-26-186.

(1) Archaeological and historic resources.

(a) Applicability.

The following provisions apply to archaeological and historic resources that are either recorded at the State Historic Preservation Office and/or by local jurisdictions or have been inadvertently uncovered. Archaeological sites located both in and outside shoreline jurisdiction are subject to chapter 27.44 RCW (Indian graves and records) and chapter 27.53 RCW (Archaeological sites and records) and development or uses that may impact such sites shall comply with chapter 25-48 WAC as well as the provisions of this chapter.

(b) Principles.

Due to the limited and irreplaceable nature of the resource(s), prevent the destruction of or damage to any site having historic, cultural, scientific, or educational value as identified by the appropriate authorities, including affected Indian tribes, and the office of archaeology and historic preservation.

(c) Standards.

Local shoreline master programs shall include policies and regulations to protect historic, archaeological, and cultural features and qualities of shorelines and implement the following standards. A local government may reference historic inventories or regulations. Contact the office of archaeology and historic preservation and affected Indian tribes for additional information.

(i) Require that developers and property owners immediately stop work and notify the local government, the office of archaeology and historic preservation and affected Indian tribes if archaeological resources are uncovered during excavation.
(ii) Require that permits issued in areas documented to contain archaeological resources require a site inspection or evaluation by a professional archaeologist in coordination with affected Indian tribes.

(2) Critical areas.

(a) Applicability.

Pursuant to the provisions of RCW 90.58.090(4) as amended by Chapter 321 Laws of 2003 (ESHB 1933), shoreline master programs must provide for management of critical areas designated as such pursuant to RCW 36.70A.170(1)(d) and required to be protected pursuant to RCW 36.70A.060(2) that are located within the shorelines of the state with policies and regulations that:

(i) are consistent with the specific provisions of this section (2) critical areas and section (3) flood hazard reduction, and these guidelines, and
(ii) provides a level of protection to critical areas within the shoreline area that is at least equal to that provided by the local government's critical area regulations adopted pursuant to the Growth Management Act for comparable areas other than shorelines.

When approved by Ecology pursuant to RCW 90.58.090(4), a local government's SMP becomes regulations for protection of critical areas in the shorelines of the state in the jurisdiction of the adopting local government except as noted in RCW 36.70A480(3)(b) and (6).

The provisions of this section and section (3) flood hazard reduction shall be applied to critical areas:
"Critical areas" include the following areas and ecosystems:

(a) Wetlands;
(b) Areas with a critical recharging effect on aquifers used for potable waters;
(c) Fish and wildlife habitat conservation areas;
(d) Frequently flooded areas; and
(e) Geologically hazardous areas."

The provisions of WAC 365-190-080, to the extent standards for certain types of critical areas are not provided by this section and section (3) flood hazard reduction, and to the extent consistent with these guidelines are also applicable to and provide further definition of critical area categories and management policies.

As provided in 90.58.030(2)(f)(ii) and 36.70A.480 RCW, as amended by Chapter 321 Laws of 2003 (ESHB 1933, Any city or county may also include in its master program land necessary for buffers for critical areas, as defined chapter 36.70A RCW, that occur within shoreline of the state, provided that forest practices regulated under chapter 76.09 RCW, except conversions to non-forest land use, on lands subject the provision of this subsection (2)(f)(ii)are not subject to additional regulations. If a local government does not include land necessary for buffers for critical areas that occur within shorelines of the state, as authorized above, then the local jurisdiction shall continue to regulate those critical areas and required buffers pursuant to RCW 36.70A.060(2).

(b) Principles.

Local master programs, when addressing critical areas, shall implement the following principles:

(i) Shoreline master programs shall adhere to the standards established in the following sections, unless it is demonstrated through scientific and technical information as provided in 90.58.100(1) and as described in WAC 173-26-201 (2)(a) that an alternative approach provides better resource protection.

(ii) In addressing issues related to critical areas, use scientific and technical information, as described in WAC 173-26-201(2)(a). The role of Ecology in reviewing master program provisions for critical areas in shorelines of the state will be based on the Shoreline Management Act and these guidelines. and a comparison with requirements in currently adopted critical area ordinances for comparable areas to ensure that the provisions are at least equal to the level of protection provided by the currently adopted critical area ordinance.

(iii) In protecting and restoring critical areas within shoreline jurisdiction, integrate the full spectrum of planning and regulatory measures, including the comprehensive plan, inter-local watershed plans, local development regulations, and state, tribal, and federal programs.

(iv) The planning objectives of shoreline management provisions for critical areas shall be 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.

(v) Promote human uses and values that are compatible with the other objectives of this section, such as public access and aesthetic values, provided they do not significantly adversely impact ecological functions.

(c) Standards.

When preparing master program provisions for critical areas, local governments should implement the following standards and the provisions of WAC 365-190-080 and use scientific and technical information, as provided for in WAC 173-26-201 (2)(a).

In reviewing the critical areas segment of a master program, the Department of Ecology shall first assure consistency with these standards of this section (Critical Areas, (WAC 173-26-221(2)) and with the Flood Hazard Reduction section (WAC 173-26-221(3)), and shall then assure that the master program also provides protection of comparable critical areas that is at least equal to the protection provided by the local governments adopted and valid critical area regulations in effect at the time of submittal of the SMP.

In conducting the review for equivalency with local regulations, the department shall not further evaluate the adequacy of the local critical area regulations. Incorporation of the adopted and valid critical area regulations in effect at the time of submittal by reference as provided in section 173-26-191(2)(b) shall be deemed to meet the requirement for equivalency. However, a finding of equivalency does not constitute a finding of compliance with the requirements of this section and section (3) flood hazard reduction, nor with the guidelines overall.

Note that provisions for frequently flooded areas are included in WAC 173-26-221(3).

(i) Wetlands.

(A) Wetland use regulations.

Local governments should consult the department's technical guidance documents on wetlands.

Regulations shall address the following uses to achieve, at a minimum, no net loss of wetland area and functions, including lost time when the wetland does not perform the function:

- The removal, excavation, grading, or dredging of soil, sand, gravel, minerals, organic matter, or material of any kind;
- The dumping, discharging, or filling with any material, including discharges of storm water and domestic, commercial, or industrial wastewater;
- The draining, flooding, or disturbing of the water level, duration of inundation, or water table;
- The driving of pilings;
- The placing of obstructions;
- The construction, reconstruction, demolition, or expansion of any structure;
- Significant vegetation removal, provided that these activities are not part of a forest practice governed under chapter 76.09 RCW and its rules; or
- Other uses or development that results in a significant ecological impact to the physical, chemical, or biological characteristics of wetlands.
- Activities reducing the functions of buffers described in (c)(i)(D) of this subsection.

(B) Wetland rating or categorization.

Wetlands shall be categorized based on the rarity, irreplaceability, or sensitivity to disturbance of a wetland and the functions the wetland provides. Local governments should either use the Washington State Wetland Rating System, Eastern or Western Washington version as appropriate, or they should develop their own, regionally specific, scientifically based method for categorizing wetlands. Wetlands should be categorized to reflect differences in wetland quality and function in order to tailor protection standards appropriately. A wetland categorization method is not a substitute for a function assessment method, where detailed information on wetland functions is needed.

(C) Alterations to wetlands.

Master program provisions addressing alterations to wetlands shall be consistent with the policy of no net loss of wetland area and functions, wetland rating, scientific and technical information, and the mitigation priority sequence defined in WAC 173-26-201(2)(e).

(D) Buffers.

Master programs shall contain requirements for buffer zones around wetlands. Buffer requirements shall be adequate to ensure that wetland functions are protected and maintained in the long-term. Requirements for buffer zone widths and management shall take into account the ecological functions of the wetland, the characteristics and setting of the buffer, the potential impacts associated with the adjacent land use, and other relevant factors.

(E) Mitigation.

Master programs shall contain wetland mitigation requirements that are consistent with WAC 173-26-201(2)(e) and which are based on the wetland rating.

(F) Compensatory mitigation.

Compensatory mitigation shall be allowed only after mitigation sequencing is applied and higher priority means of mitigation are determined to be infeasible.

Requirements for compensatory mitigation must include provisions for:

(I) Mitigation replacement ratios or a similar method of addressing the following:

- The risk of failure of the compensatory mitigation action;
- The length of time it will take the compensatory mitigation action to adequately replace the impacted wetland functions and values;
- The gain or loss of the type, quality, and quantity of the ecological functions of the compensation wetland as compared with the impacted wetland.

(II) Establishment of performance standards for evaluating the success of compensatory mitigation actions;

(III) Establishment of long-term monitoring and reporting procedures to determine if performance standards are met; and

(IV) Establishment of long-term protection and management of compensatory mitigation sites. Credits from a certified mitigation bank may be used to compensate for unavoidable impacts.

(ii) Geologically hazardous areas.

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

(A) Consult minimum guidelines for geologically hazardous areas, WAC 365-190-080(4).

(B) 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.

(C) 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.

(D) 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.

(iii) Critical saltwater habitats

(A) Applicability.

Critical saltwater habitats include 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. Critical saltwater habitats require a higher level of protection due to the important ecological functions they provide. Ecological functions of marine shorelands can affect the viability of critical saltwater habitats. Therefore, effective protection and restoration of critical saltwater habitats should integrate management of shorelands as well as submerged areas.

(B) Principles.

Master programs shall include policies and regulations to protect critical saltwater habitats and should implement planning policies and programs to restore such habitats. Planning for critical saltwater habitats shall incorporate the participation of state resource agencies to assure consistency with other legislatively created programs in addition to local and regional government entities with an interest such as port districts. Affected Indian tribes shall also be consulted. Local governments should review relevant comprehensive management plan policies and development regulations for shorelands and adjacent lands to achieve consistency as directed in RCW 90.58.340. Local governments should base management planning on information provided by state resource agencies and affected Indian tribes unless they demonstrate that they possess more accurate and reliable information. The management planning should include an evaluation of current data and trends regarding the following:

- Available inventory and collection of necessary data regarding physical characteristics of the habitat, including upland conditions, and any information on species population trends;
- Terrestrial and aquatic vegetation;

• The level of human activity in such areas, including the presence of roads and level of recreational types (passive or active recreation may be appropriate for certain areas and habitats);
• Restoration potential;
• Tributaries and small streams flowing into marine waters;
• Dock and bulkhead construction, including an inventory of bulkheads serving no protective purpose;
• Conditions and ecological functions in the near-shore area;
• Uses surrounding the critical saltwater habitat areas that may negatively impact those areas, including permanent or occasional upland, beach, or over-water uses; and
• An analysis of what data gaps exist and a strategy for gaining this information.

The management planning should address the following, where applicable:

• Protecting a system of fish and wildlife habitats with connections between larger habitat blocks and open spaces and restoring such habitats and connections where they are degraded;
• Protecting existing and restoring degraded riparian and estuarine ecosystems, especially salt marsh habitats;
• Establishing adequate buffer zones around these areas to separate incompatible uses from the habitat areas;
• Protecting existing and restoring degraded near-shore habitat;
• Protecting existing and restoring degraded or lost salmonid habitat;
• Protecting existing and restoring degraded upland ecological functions important to critical saltwater habitats, including riparian vegetation;
• Improving water quality;
• Protecting existing and restoring degraded sediment inflow and transport regimens; and
• Correcting activities that cause excessive sediment input where human activity has led to mass wasting.

Local governments, in conjunction with state resource agencies and affected Indian tribes, should classify critical saltwater habitats and protect and restore seasonal ranges and habitat elements with which federal-listed and state-listed endangered, threatened, and priority species have a primary association and which, if altered, may reduce the likelihood that a species will maintain its population and reproduce over the long term.

Local governments, in conjunction with state resource agencies and affected Indian tribes, should determine which habitats and species are of local importance.

All public and private tidelands or bedlands suitable for shellfish harvest shall be classified as critical areas. Local governments should consider both commercial and recreational shellfish areas. Local governments should review the Washington department of health classification of commercial and recreational shellfish growing areas to determine the existing condition of these areas. Further consideration should be given to the vulnerability of these areas to contamination or potential for recovery. Shellfish protection districts established pursuant to chapter 90.72 RCW shall be included in the classification of critical shellfish areas. Local governments shall classify kelp and eelgrass beds identified by the department of natural resources' aquatic resources division, the department, and affected Indian tribes as critical saltwater habitats.

Comprehensive saltwater habitat management planning should identify methods for monitoring conditions and adapting management practices to new information.

(C) Standards.

Docks, bulkheads, bridges, fill, floats, jetties, utility crossings, and other human-made structures shall not intrude into or over critical saltwater habitats except when all of the conditions below are met:

• The public's need for such an action or structure is clearly demonstrated and the proposal is consistent with protection of the public trust, as embodied in RCW 90.58.020;
• Avoidance of impacts to critical saltwater habitats by an alternative alignment or location is not feasible or would result in unreasonable and disproportionate cost to accomplish the same general purpose;
• The project including any required mitigation, will result in no net loss of ecological functions associated with critical saltwater habitat.
• The project is consistent with the state's interest in resource protection and species recovery.

Private, non-commercial docks for individual residential or community use may be authorized provided that:

• Avoidance of impacts to critical saltwater habitats by an alternative alignment or location is not feasible;
• The project including any required mitigation, will result in no net loss of ecological functions associated with critical saltwater habitat.

Until an inventory of critical saltwater habitat has been done, shoreline master programs shall condition all over-water and near-shore developments in marine and estuarine waters with the requirement for an inventory of the site and adjacent beach sections to assess the presence of critical saltwater habitats and functions. The methods and extent of the inventory shall be consistent with accepted research methodology. At a minimum, local governments should consult with department technical assistance materials for guidance.

(iv) Critical freshwater habitats

(A) Applicability.

The following applies to master program provisions affecting critical freshwater habitats, including those portions of streams, rivers, wetlands, and lakes, their associated channel migration zones, and flood plains designated as such.

(B) Principles.

Many ecological functions of river and stream corridors depend both on continuity and connectivity along the length of the shoreline and on the conditions of the surrounding lands on either side of the river channel. Environmental degradation caused by development such as improper storm-water sewer or industrial outfalls, unmanaged clearing and grading, or runoff from buildings and parking lots within the watershed, can degrade ecological functions downstream. Likewise, gradual destruction or loss of the vegetation, alteration of runoff quality and quantity along the corridor resulting from incremental flood plain development can raise water temperatures and alter hydrographic conditions and degrade other ecological functions, thereby making the corridor inhospitable for priority species and susceptible to catastrophic flooding, droughts, landslides and channel changes. These conditions also threaten human health, safety, and property. Long stretches of river and stream shorelines have been significantly altered or degraded in this manner. Therefore, effective management of river and stream corridors depends on:

(I) Planning for protection, and restoration where appropriate, along the entire length of the corridor from river headwaters to the mouth; and
(II) Regulating uses and development within the stream channel, associated channel migration zone, wetlands, and the flood plain, to the extent such areas are in the shoreline jurisdictional area, as necessary to assure no net loss of ecological functions associated with the river or stream corridors, including the associated hyporheic zone, results from new development.

As part of a comprehensive approach to management of critical freshwater habitat and other river and stream values, local governments 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 the corridor's ecological functions and ecosystem-wide processes.

Applicable master programs shall contain provisions to protect hydrologic connections between water bodies, water courses, and associated wetlands. Restoration planning should include incentives and other means to restore water connections that have been impeded by previous development.

Master program provisions for river and stream corridors should, where appropriate, be based on the information from comprehensive watershed management planning where available.

(c) Standards.

Master programs shall implement the following standards within shoreline jurisdiction:
(I) Provide for the protection of ecological functions associated with critical freshwater habitat as necessary to assure no net loss.
(II) Where appropriate, integrate protection of critical freshwater habitat, protection with flood hazard reduction and other river and stream management provisions.
(III) Include provisions that facilitate authorization of appropriate restoration projects.
(IV) Provide for the implementation of the principles identified in (B) above.

(3) Flood hazard reduction.

(a) Applicability.

The following provisions apply to actions taken to reduce flood damage or hazard and to uses, development, and shoreline modifications that may increase flood hazards. Flood hazard reduction measures may consist of nonstructural measures, such as setbacks, land use controls, wetland restoration, dike removal, use relocation, biotechnical measures, and storm water management programs, and of structural measures, such as dikes, levees, revetments, floodwalls, channel realignment, and elevation of structures consistent with the National Flood Insurance Program. Additional relevant critical area provisions are in WAC 173-26-221(2).

(b) Principles.

Flooding of rivers, streams, and other shorelines is a natural process that is affected by factors and land uses occurring throughout the watershed. Past land use practices have disrupted hydrological processes and increased the rate and volume of runoff, thereby exacerbating flood hazards and reducing ecological functions. Flood hazard reduction measures are most effective when integrated into comprehensive strategies that recognize the natural hydrogeological and biological processes of water bodies. Over the long term, the most effective means of flood hazard reduction is to prevent or remove development in flood-prone areas, to manage storm water within the flood plain, and to maintain or restore river and stream system's natural hydrological and geomorphological processes.

Structural flood hazard reduction measures, such as diking, even if effective in reducing inundation in a portion of the watershed, can intensify flooding elsewhere. Moreover, structural flood hazard reduction measures can damage ecological functions crucial to fish and wildlife species, bank stability, and water quality. Therefore, structural flood hazard reduction measures shall be avoided whenever possible. When necessary, they shall be accomplished in a manner that assures no net loss of ecological functions and ecosystem-wide processes.

The dynamic physical processes of rivers, including the movement of water, sediment and wood, cause the river

channel in some areas to move laterally, or "migrate", over time. This is a natural process in response to gravity and topography and allows the river to release energy and distribute its sediment load. The area within which a river channel is likely to move over a period of time is referred to as the channel migration zone (CMZ) or the meander belt. Scientific examination as well as experience has demonstrated that interference with this natural process often has unintended consequences for human users of the river and its valley such as increased or changed flood, sedimentation and erosion patterns. It also has adverse effects on fish and wildlife through loss of critical habitat for river and riparian dependent species. Failing to recognize the process often leads to damage to, or loss of, structures and threats to life safety.

Applicable shoreline master programs should include provisions to limit development and shoreline modifications that would result in interference with the process of channel migration that may cause significant adverse impacts to property or public improvements and or result in a net loss of ecological functions associated with the rivers and streams. (See also section 221(3)(c)).

The channel migration zone should be established to identify those areas with a high probability of being subject to channel movement based on the historic record, geologic character and evidence of past migration. It should also be recognized that past action is not a perfect predictor of the future and that human and natural changes may alter migration patterns. Consideration should be given to such changes that may have occurred and their effect on future migration patterns.

For management purposes, the extent of likely migration along a stream reach can be identified using evidence of active stream channel movement over the past one hundred years. Evidence of active movement can be provided from historic and current aerial photos and maps and may require field analysis of specific channel and valley bottom characteristics in some cases. A time frame of one hundred years was chosen because aerial photos, maps and field evidence can be used to evaluate movement in this time frame.

In some cases, river channels are prevented from normal or historic migration by human-made structures or other shoreline modifications. The definition of channel migration zone indicates that in defining the extent of a CMZ, local governments should take into account the river's characteristics and its surroundings. Unless otherwise demonstrated through scientific and technical information, the following characteristics should be considered when establishing the extent of the CMZ for management purposes:

- Within incorporated municipalities and Urban Growth Areas, areas separated from the active river channel by legally existing artificial channel constraints that limit channel movement should not be considered within the channel migration zone.
- All areas separated from the active channel by a legally existing artificial structure(s) that is likely to restrain channel migration, including transportation facilities, built above or constructed to remain intact through the 100 year flood, should not be considered to be in the channel migration zone.
- In areas outside incorporated municipalities and Urban Growth Areas, channel constraints and flood control structures built below the 100 year flood elevation do not necessarily restrict channel migration and should not be considered to limit the channel migration zone unless demonstrated otherwise using scientific and technical information.

Master programs shall implement the following principles:

(i) Where feasible, give preference to nonstructural flood hazard reduction measures over structural measures.

(ii) Base shoreline master program flood hazard reduction provisions on applicable watershed management plans, comprehensive flood hazard management plans, and other comprehensive planning efforts, provided those measures are consistent with the Shoreline Management Act and this chapter.

(iii) Consider integrating master program flood hazard reduction provisions with other regulations and programs, including (if applicable):

- Storm water management plans;
- Flood plain regulations, as provided for in chapter 86.16 RCW;
- Critical area ordinances and comprehensive plans, as provided in chapter 36.70A RCW; and the
- National Flood Insurance Program.

(iv) Assure that flood hazard protection measures do not result in a net loss of ecological functions associated with the rivers and streams.

(v) Plan for and facilitate returning river and stream corridors to more natural hydrological conditions. Recognize that seasonal flooding is an essential natural process.

(vi) When evaluating alternate flood control measures, consider the removal or relocation of structures in flood-prone areas.

(vii) Local governments are encouraged to plan for and facilitate removal of artificial restrictions to natural channel migration, restoration of off channel hydrological connections and return river processes to a more natural state where feasible and appropriate.

(c) Standards.

Master programs shall implement the following standards within shoreline jurisdiction:

(i) Development in floodplains should not significantly or cumulatively increase flood hazard or be inconsistent with a comprehensive flood hazard management plan adopted pursuant to chapter 86.12 RCW, provided the plan has

been adopted after 1994 and approved by the department. New development or new uses in shoreline jurisdiction, including the subdivision of land, should not be established when it would be reasonably foreseeable that the development or use would require structural flood hazard reduction measures within the channel migration zone or floodway. The following uses and activities may be appropriate and or necessary within the channel migration zone or floodway:

- Actions that protect or restore the ecosystem-wide processes or ecological functions.
- Forest practices in compliance with the Washington State Forest Practices Act and its implementing rules.
- Existing and ongoing agricultural practices, provided that no new restrictions to channel movement occur.
- Mining when conducted in a manner consistent with the environment designation and with the provisions of WAC 173-26-241(3)(h)
- Bridges, utility lines, and other public utility and transportation structures where no other feasible alternative exists or the alternative would result in unreasonable and disproportionate cost. Where such structures are allowed, mitigation shall address impacted functions and processes in the affected section of watershed or drift cell.
- Repair and maintenance of an existing legal use, provided that such actions do not cause significant ecological impacts or increase flood hazards to other uses.
- Development with a primary purpose of protecting or restoring ecological functions and ecosystem-wide processes.
- Modifications or additions to an existing non-agricultural legal use, provided that channel migration is not further limited and that the new development includes appropriate protection of ecological functions.
- Development in incorporated municipalities and designated urban growth areas, as defined in Chapter 36.70A RCW, where existing structures prevent active channel movement and flooding.
- Measures to reduce shoreline erosion, provided that it is demonstrated that the erosion rate exceeds that which would normally occur in a natural condition, that the measure does not interfere with fluvial hydrological and geomorphological processes normally acting in natural conditions, and that the measure includes appropriate mitigation of impacts to ecological functions associated with the river or stream.

(ii) Allow new structural flood hazard reduction measures in shoreline jurisdiction only when it can be demonstrated by a scientific and engineering analysis that they are necessary to protect existing development, that nonstructural measures are not feasible, that impacts ecological functions and priority species and habitats can be successfully mitigated so as to assure no net loss, and that appropriate vegetation conservation actions are undertaken consistent with WAC 173-26-221(5).
Structural flood hazard reduction measures shall be consistent with an adopted comprehensive flood hazard management plan approved by the department that evaluates cumulative impacts to the watershed system.
(iii) Place new structural flood hazard reduction measures landward of the associated wetlands, and designated vegetation conservation areas, except for actions that increase ecological functions, such as wetland restoration, or as noted below. Provided that such flood hazard reduction projects be authorized if it is determined that no other alternative to reduce flood hazard to existing development is feasible. The need for, and analysis of feasible alternatives to, structural improvements shall be documented through a geotechnical analysis.
(v) Require that new structural public flood hazard reduction measures, such as dikes and levees, dedicate and improve public access pathways unless public access improvements would cause unavoidable health or safety hazards to the public, inherent and unavoidable security problems, unacceptable and un-mitigable significant ecological impacts, unavoidable conflict with the proposed use, or a cost that is disproportionate and unreasonable to the total long-term cost of the development.
(vi) Require that the removal of gravel for flood management purposes be consistent with an adopted flood hazard reduction plan and with this chapter and allowed only after a biological and geomorphological study shows that extraction has a long-term benefit to flood hazard reduction, does not result in a net loss of ecological functions, and is part of a comprehensive flood management solution.

(4) Public access.

(a) Applicability.

Public access includes the ability of the general public to reach, touch, and enjoy the water's edge, to travel on the waters of the state, and to view the water and the shoreline from adjacent locations. Public access provisions below apply to all shorelines of the state unless stated otherwise.

(b) Principles.

Local master programs shall:

(i) Promote and enhance the public interest with regard to rights to access waters held in public trust by the state while protecting private property rights and public safety.

(ii) Protect the rights of navigation and space necessary for water-dependent uses.

(iii) To the greatest extent feasible consistent with the overall best interest of the state and the people generally, protect the public's opportunity to enjoy the physical and aesthetic qualities of shorelines of the state, including views of the water.

(iv) Regulate the design, construction, and operation of permitted uses in the shorelines of the state to minimize, insofar as practical, interference with the public's use of the water.

(c) Planning process to address public access.

Local governments should plan for an integrated shoreline area public access system that identifies specific public needs and opportunities to provide public access. Such a system can often be more effective and economical than applying uniform public access requirements to all development. This planning should be integrated with other relevant comprehensive plan elements, especially transportation and recreation. The planning process shall also comply with all relevant constitutional and other legal limitations that protect private property rights.

Where a port district or other public entity has incorporated public access planning into its master plan through an open public process, that plan may serve as a portion of the local government's public access planning, provided it meets the provisions of this chapter. The planning may also justify more flexible off-site or special area public access provisions in the master program. Public participation requirements in WAC 173-26-201(3)(b)(i) apply to public access planning.

At a minimum, the public access planning should result in public access requirements for shoreline permits, recommended projects, port master plans, and/or actions to be taken to develop public shoreline access to shorelines on public property. The planning should identify a variety of shoreline access opportunities and circulation for pedestrians-including disabled persons-bicycles, and vehicles between shoreline access points, consistent with other comprehensive plan elements.

(d) Standards.

Shoreline master programs should implement the following standards:

(i) Based on the public access planning described in (c) of this subsection, establish policies and regulations that protect and enhance both physical and visual public access. The master program shall address public access on public lands. The master program should seek to increase the amount and diversity of public access to the state's shorelines consistent with the natural shoreline character, property rights, public rights under the Public Trust Doctrine, and public safety.

(ii) Require that shoreline development by public entities, including local governments, port districts, state agencies, and public utility districts, include public access measures as part of each development project, unless such access is shown to be incompatible due to reasons of safety, security, or impact to the shoreline environment. Where public access planning as described in WAC 173-26-221(4)(c) demonstrates that a more effective public access system can be achieved through alternate means, such as focusing public access at the most desirable locations, local governments may institute master program provisions for public access based on that approach in lieu of uniform site-by-site public access requirements.

(iii) Provide standards for the dedication and improvement of public access in developments for water-enjoyment, water-related, and non-water-dependent uses and for the subdivision of land into more than four parcels. In these cases, public access should be required except:

(A) Where the local government provides more effective public access through a public access planning process described in WAC 173-26-221 (4)(c).

(B) Where it is demonstrated to be infeasible due to reasons of incompatible uses, safety, security, or impact to the shoreline environment or due to constitutional or other legal limitations that may be applicable.

In determining the infeasibility, undesirability, or incompatibility of public access in a given situation, local governments shall consider alternate methods of providing public access, such as off-site improvements, viewing platforms, separation of uses through site planning and design, and restricting hours of public access.

(C) For individual single-family residences not part of a development planned for more than four parcels.

(iv) Adopt provisions, such as maximum height limits, setbacks, and view corridors, to minimize the impacts to existing views from public property or substantial numbers of residences. Where there is an irreconcilable conflict between water-dependent shoreline uses or physical public access and maintenance of views from adjacent properties, the water-dependent uses and physical public access shall have priority, unless there is a compelling reason to the contrary.

(v) Assure that public access improvements do not result in a net loss of shoreline ecological functions.

(5) Shoreline vegetation conservation.

(a) Applicability.

Vegetation conservation includes activities to protect and restore vegetation along or near marine and freshwater shorelines that contribute to the ecological functions of shoreline areas. Vegetation conservation provisions include the prevention or restriction of plant clearing and earth grading, vegetation restoration, and the control of invasive weeds and nonnative species.

Unless otherwise stated, vegetation conservation does not include those activities covered under the Washington State Forest Practices Act, except for conversion to other uses and those other forest practice activities over which local governments have authority. As with all master program provisions, vegetation conservation provisions apply even to those shoreline uses and developments that are exempt from the requirement to obtain a permit. Like other master program provisions, vegetation conservation standards do not apply retroactively to existing uses and structures, such as existing agricultural practices.

(b) Principles.

The intent of vegetation conservation is to protect and restore the ecological functions and ecosystem-wide processes performed by vegetation along shorelines. Vegetation conservation should also be undertaken to protect human safety and property, to increase the stability of river banks and coastal bluffs, to reduce the need for structural shoreline stabilization measures, to improve the visual and aesthetic qualities of the shoreline, to protect plant and animal species and their habitats, and to enhance shoreline uses.

Master programs shall include; planning provisions that address vegetation conservation and restoration, and regulatory provisions that address conservation of vegetation; as necessary to assure no net loss of shoreline ecological functions and ecosystem-wide processes, to avoid adverse impacts to soil hydrology, and to reduce the hazard of slope failures or accelerated erosion.

Local governments should address ecological functions and ecosystem-wide processes provided by vegetation as described in WAC 173-26-201(3)(d)(i).

Local governments may implement these objectives through a variety of measures, where consistent with Shoreline Management Act policy, including clearing and grading regulations, setback and buffer standards, critical area regulations, conditional use requirements for specific uses or areas, mitigation requirements, incentives and non-regulatory programs.

In establishing vegetation conservation regulations, local governments must use available scientific and technical information, as described in WAC 173-26-201 (2)(a). At a minimum, local governments should consult shoreline management assistance materials provided by the department and Management Recommendations for Washington's Priority Habitats, prepared by the Washington State department of fish and wildlife where applicable.

Current scientific evidence indicates that the length, width, and species composition of a shoreline vegetation community contribute substantively to the aquatic ecological functions. Likewise, the biota within the aquatic environment is essential to ecological functions of the adjacent upland vegetation. The ability of vegetated areas to provide critical ecological functions diminishes as the length and width of the vegetated area along shorelines is reduced. When shoreline vegetation is removed, the narrower the area of remaining vegetation, the greater the risk that the functions will not be performed.

In the Pacific Northwest, aquatic environments, as well as their associated upland vegetation and wetlands, provide significant habitat for a myriad of fish and wildlife species. Healthy environments for aquatic species is inseparably linked with the ecological integrity of the surrounding terrestrial ecosystem. For example, a nearly continuous corridor of mature forest characterizes the natural riparian conditions of the Pacific Northwest. Riparian corridors along marine shorelines provide many of the same functions as their freshwater counterparts. The most commonly recognized functions of the shoreline vegetation include, but are not limited to:

- Providing shade necessary to maintain the cool temperatures required by salmonids, spawning forage fish, and other aquatic biota.
- Providing organic inputs critical for aquatic life.
- Providing food in the form of various insects and other benthic macroinvertebrates.
- Stabilizing banks, minimizing erosion, and reducing the occurrence of landslides. The roots of trees and other riparian vegetation provide the bulk of this function.
- Reducing fine sediment input into the aquatic environment through storm water retention and vegetative filtering.
- Filtering and vegetative uptake of nutrients and pollutants from ground water and surface runoff.
- Providing a source of large woody debris into the aquatic system. Large woody debris is the primary structural element that functions as a hydraulic roughness element to moderate flows. Large woody debris also serves a pool-forming function, providing critical salmonid rearing and refuge habitat. Abundant large woody debris increases aquatic diversity and stabilization.
- Regulation of microclimate in the stream-riparian and intertidal corridors.
- Providing critical wildlife habitat, including migration corridors and feeding, watering, rearing, and refugia areas.

Sustaining different individual functions requires different widths, compositions and densities of vegetation. The importance of the different functions, in turn, varies with the type of shoreline setting. For example, in forested shoreline settings, periodic recruitment of fallen trees, especially conifers, into the stream channel is an important attribute, critical to natural stream channel maintenance. Therefore, vegetated areas along streams which once supported or could in the future support mature trees should be wide enough to accomplish this periodic recruitment process.

Woody vegetation normally classed as trees may not be a natural component of plant communities in some environments, such as in arid climates and on coastal dunes. In these instances, the width of a vegetated area necessary to achieve the full suite of vegetation-related shoreline functions may not be related to vegetation height. Local governments should identify which ecological processes and functions are important to the local aquatic and terrestrial ecology and conserve sufficient vegetation to maintain them. Such vegetation conservation areas are not necessarily intended to be closed to use and development but should provide for management of vegetation in a manner adequate to assure no net loss of shoreline ecological functions.

(c) Standards.

Master programs shall implement the following requirements in shoreline jurisdiction.

(i) Establish vegetation conservation standards that implement the principles in WAC 173-26-221(5)(b). Methods to do this may include setback or buffer requirements, clearing and grading standards, regulatory incentives, environment designation standards, or other master program provisions. Selective pruning of trees for safety and view protection may be allowed and the removal of noxious weeds should be authorized.

Additional vegetation conservation standards for specific uses are included in WAC 173-26-241(3).

(6) Water quality, storm water, and nonpoint pollution.

(a) Applicability.

The following section applies to all development and uses in shorelines of the state, as defined in WAC 173-26-020, that affect water quality.

(b) Principles.

Shoreline master programs shall, as stated in RCW 90.58.020, protect against adverse impacts to the public health, to the land and its vegetation and wildlife, and to the waters of the state and their aquatic life, through implementation of the following principles:

(i) Prevent impacts to water quality and storm water quantity that would result in a net loss of shoreline ecological functions, or a significant impact to aesthetic qualities, or recreational opportunities.
(ii) Ensure mutual consistency between shoreline management provisions and other regulations that address water quality and storm water quantity, including public health, storm water, and water discharge standards. The regulations that are most protective of ecological functions shall apply.

(c) Standards.

Shoreline master programs shall include provisions to implement the principles of this section.

WAC 173-26-231 Shoreline modifications.

(1) Applicability.

Local governments are encouraged to prepare master program provisions that distinguish between shoreline modifications and shoreline uses. Shoreline modifications are generally related to construction of a physical element such as a dike, breakwater, dredged basin, or fill, but they can include other actions such as clearing, grading, application of chemicals, or significant vegetation removal. Shoreline modifications usually are undertaken in support of or in preparation for a shoreline use; for example, fill (shoreline modification) required for a cargo terminal (industrial use) or dredging (shoreline modification) to allow for a marina (boating facility use).

The provisions in this section apply to all shoreline modifications within shoreline jurisdiction.

(2) General principles applicable to all shoreline modifications.
Master programs shall implement the following principles:
(a) Allow structural shoreline modifications only where they are demonstrated to be necessary to support or protect an allowed primary structure or a legally existing shoreline use that is in danger of loss or substantial damage or are necessary for reconfiguration of the shoreline for mitigation or enhancement purposes.
(b) Reduce the adverse effects of shoreline modifications and, as much as possible, limit shoreline modifications in number and extent.
(c) Allow only shoreline modifications that are appropriate to the specific type of shoreline and environmental conditions for which they are proposed.
(d) Assure that shoreline modifications individually and cumulatively do not result in a net loss of ecological functions. This is to be achieved by giving preference to those types of shoreline modifications that have a lesser impact on ecological functions and requiring mitigation of identified impacts resulting from shoreline modifications.
(e) Where applicable, base provisions on scientific and technical information and a comprehensive analysis of drift

cells for marine waters or reach conditions for river and stream systems. Contact the department for available drift cell characterizations.

(f) Plan for the enhancement of impaired ecological functions where feasible and appropriate while accommodating permitted uses. As shoreline modifications occur, incorporate all feasible measures to protect ecological shoreline functions and ecosystem-wide processes.

(g) Avoid and reduce significant ecological impacts according to the mitigation sequence in WAC 173-26-201(2)(e).

(3) Provisions for specific shoreline modifications.

(a) Shoreline stabilization.

(i) Applicability.

Shoreline stabilization includes actions taken to address erosion impacts to property and dwellings, businesses, or structures caused by natural processes, such as current, flood, tides, wind, or wave action. These actions include structural and nonstructural methods.

Nonstructural methods include building setbacks, relocation of the structure to be protected, ground water management, planning and regulatory measures to avoid the need for structural stabilization.

(ii) Principles.

Shoreline are by nature unstable, although in varying degrees. Erosion and accretion are natural processes that provide ecological functions and thereby contribute to sustaining the natural resource and ecology of the shoreline. Human use of the shoreline has typically led to hardening of the shoreline for various reasons including reduction of erosion or providing useful space at the shore or providing access to docks and piers. The impacts of hardening any one property may be minimal but cumulatively the impact of this shoreline modification is significant.

Shoreline hardening typically results in adverse impacts to shoreline ecological functions such as:

- Beach starvation. Sediment supply to nearby beaches is cut off, leading to “starvation” of the beaches for the gravel, sand, and other fine-grained materials that typically constitute a beach.
- Habitat degradation. Vegetation that shades the upper beach or bank is eliminated, thus degrading the value of the shoreline for many ecological functions, including spawning habitat for salmonids and forage fish.
- Sediment impoundment. As a result of shoreline hardening, the sources of sediment on beaches (eroding “feeder” bluffs) are progressively lost and longshore transport is diminished. This leads to lowering of down-drift beaches, the narrowing of the high tide beach, and the coarsening of beach sediment. As beaches become more coarse, less prey for juvenile fish is produced. Sediment starvation may lead to accelerated erosion in down-drift areas.
- Exacerbation of erosion. The hard face of shoreline armoring, particularly concrete bulkheads, reflects wave energy back onto the beach, exacerbating erosion.
- Ground water impacts. Erosion control structures often raise the water table on the landward side, which leads to higher pore pressures in the beach itself. In some cases, this may lead to accelerated erosion of sand-sized material from the beach.
- Hydraulic impacts. Shoreline armoring generally increases the reflectivity of the shoreline and redirects wave energy back onto the beach. This leads to scouring and lowering of the beach, to coarsening of the beach, and to ultimate failure of the structure.
- Loss of shoreline vegetation. Vegetation provides important “softer” erosion control functions. Vegetation is also critical in maintaining ecological functions.
- Loss of large woody debris. Changed hydraulic regimes and the loss of the high tide beach, along with the prevention of natural erosion of vegetated shorelines, lead to the loss of beached organic material. This material can increase biological diversity, can serve as a stabilizing influence on natural shorelines, and is habitat for many aquatic-based organisms, which are, in turn, important prey for larger organisms.
- Restriction of channel movement and creation of side channels. Hardened shorelines along rivers slow the movement of channels, which, in turn, prevents the input of larger woody debris, gravels for spawning, and the creation of side channels important for juvenile salmon rearing, and can result in increased floods and scour.

Additionally, hard structures, especially vertical walls often create conditions that lead to failure of the structure. In time, the substrate of the beach coarsens and scours down to bedrock or a hard clay. The footings of bulkheads are exposed, leading to undermining and failure. This process is exacerbated when the original cause of the erosion and “need” for the bulkhead was from upland water drainage problems. Failed bulkheads and walls adversely impact beach aesthetics, may be a safety or navigational hazard, and may adversely impact shoreline ecological functions.

“Hard” structural stabilization measures refer to those with solid, hard surfaces, such as concrete bulkheads, while “soft” structural measures rely on less rigid materials, such as biotechnical vegetation measures or beach enhancement. There is a range of measures varying from soft to hard that include:

- Vegetation enhancement;
- Upland drainage control;
- Biotechnical measures;
- Beach enhancement;
- Anchor trees;
- Gravel placement;
- Rock revetments;
- Gabions;

- Concrete groins;
- Retaining walls and bluff walls;
- Bulkheads; and
- Seawalls.

Generally, the harder the construction measure, the greater the impact on shoreline processes, including sediment transport, geomorphology, and biological functions.

Structural shoreline stabilization often results in vegetation removal and damage to near-shore habitat and shoreline corridors. Therefore, master program shoreline stabilization provisions shall also be consistent with WAC 173-26-221(5), vegetation conservation, and where applicable, WAC 173-26-221(2), critical areas.

In order to implement RCW 90.58.100(6) and avoid or mitigate adverse impacts to shoreline ecological functions where shoreline alterations are necessary to protect single-family residences and principal primary appurtenant structures in danger from active shoreline erosion, master programs should include standards setting forth the circumstances under which alteration of the shoreline is permitted, and for the design and type of protective measures and devices.

(iii) Standards.

In order to avoid the individual and cumulative net loss of ecological functions attributable to shoreline stabilization, master programs shall implement the above principles and apply the following standards:
(A) New development should be located and designed to avoid the need for future shoreline stabilization to the extent feasible. Subdivision of land must be regulated to assure that the lots created will not require shoreline stabilization in order for reasonable development to occur using geotechnical analysis of the site and shoreline characteristics. New development on steep slopes or bluffs shall be set back sufficiently to ensure that shoreline stabilization is unlikely to be necessary during the life of the structure, as demonstrated by a geotechnical analysis. New development that would require shoreline stabilization which causes significant impacts to adjacent or down-current properties and shoreline areas should not be allowed.
(B) New structural stabilization measures shall not be allowed except when necessity is demonstrated in the following manner:
(I) To protect existing primary structures:

- New or enlarged structural shoreline stabilization measures for an existing primary structure, including residences, should not be allowed unless there is conclusive evidence, documented by a geotechnical analysis, that the structure is in danger from shoreline erosion caused by tidal action, currents, or waves. Normal sloughing, erosion of steep bluffs, or shoreline erosion itself, without a scientific or geotechnical analysis, is not demonstration of need. The geotechnical analysis should evaluate on-site drainage issues and address drainage problems away from the shoreline edge before considering structural shoreline stabilization.
- The erosion control structure will not result in a net loss of shoreline ecological functions.

(II) In support of new non-water-dependent development, including single-family residences, when all of the conditions below apply:

- The erosion is not being caused by upland conditions, such as the loss of vegetation and drainage.
- Nonstructural measures, such as placing the development further from the shoreline, planting vegetation, or installing on-site drainage improvements, are not feasible or not sufficient.
- The need to protect primary structures from damage due to erosion is demonstrated through a geotechnical report. The damage must be caused by natural processes, such as tidal action, currents, and waves.
- The erosion control structure will not result in a net loss of shoreline ecological functions.

(III) In support of water-dependent development when all of the conditions below apply:

- The erosion is not being caused by upland conditions, such as the loss of vegetation and drainage.
- Nonstructural measures, planting vegetation, or installing on-site drainage improvements, are not feasible or not sufficient.
- The need to protect primary structures from damage due to erosion is demonstrated through a geotechnical report.
- The erosion control structure will not result in a net loss of shoreline ecological functions.

(IV) To protect projects for the restoration of ecological functions or hazardous substance remediation projects pursuant to chapter 70.105D RCW when all of the conditions below apply:

- Nonstructural measures, planting vegetation, or installing on-site drainage improvements, are not feasible or not sufficient.
- The erosion control structure will not result in a net loss of shoreline ecological functions.

(C) An existing shoreline stabilization structure may be replaced with a similar structure if there is a demonstrated need to protect principal uses or structures from erosion caused by currents, tidal action, or waves.

- The replacement structure should be designed, located, sized, and constructed to assure no net loss of ecological functions.
- Replacement walls or bulkheads shall not encroach waterward of the ordinary high-water mark or existing structure unless the residence was occupied prior to January 1, 1992, and there are overriding safety or environmental concerns. In such cases, the replacement structure shall abut the existing shoreline stabilization structure.
- Where a net loss of ecological functions associated with critical saltwater habitats would

occur by leaving the existing structure, remove it as part of the replacement measure.
• Soft shoreline stabilization measures that provide restoration of shoreline ecological functions may be permitted waterward of the ordinary high-water mark.
• For purposes of this section standards on shoreline stabilization measures, "replacement" means the construction of a new structure to perform a shoreline stabilization function of an existing structure which can no longer adequately serve its purpose. Additions to or increases in size of existing shoreline stabilization measures shall be considered new structures.

(D) Geotechnical reports pursuant to this section that address the need to prevent potential damage to a primary structure shall address the necessity for shoreline stabilization by estimating time frames and rates of erosion and report on the urgency associated with the specific situation. As a general matter, hard armoring solutions should not be authorized except when a report confirms that that there is a significant possibility that such a structure will be damaged within three years as a result of shoreline erosion in the absence of such hard armoring measures, or where waiting until the need is that immediate, would foreclose the opportunity to use measures that avoid impacts on ecological functions. Thus, where the geotechnical report confirms a need to prevent potential damage to a primary structure, but the need is not as immediate as the three years, that report may still be used to justify more immediate authorization to protect against erosion using soft measures.

(E) When any structural shoreline stabilization measures are demonstrated to be necessary, pursuant to above provisions,
• limit the size of stabilization measures to the minimum necessary. Use measures designed to assure no net loss of shoreline ecological functions Soft approaches shall be used unless demonstrated not to be sufficient to protect primary structures, dwellings, and businesses.
• Ensure that publicly financed or subsidized shoreline erosion control measures do not restrict appropriate public access to the shoreline except where such access is determined to be infeasible because of incompatible uses, safety, security, or harm to ecological functions. See public access provisions; WAC 173-26-221(4). Where feasible, incorporate ecological restoration and public access improvements into the project.
• Mitigate new erosion control measures, including replacement structures, on feeder bluffs or other actions that affect beach sediment-producing areas to avoid and, if that is not possible, to minimize adverse impacts to sediment conveyance systems. Where sediment conveyance systems cross jurisdictional boundaries, local governments should coordinate shoreline management efforts. If beach erosion is threatening existing development, local governments should adopt master program provisions for a beach management district or other institutional mechanism to provide comprehensive mitigation for the adverse impacts of erosion control measures.
(F) For erosion or mass wasting due to upland conditions, see WAC 173-26-221(2)(c)(ii).

(b) Piers and docks.

New piers and docks shall be allowed only for water-dependent uses or public access. As used here, a dock associated with a single family residence is a water dependent use provided that it is designed and intended as a facility for access to watercraft and otherwise complies with the provisions of this section. Pier and dock construction shall be restricted to the minimum size necessary to meet the needs of the proposed water-dependent use. Water-related and water-enjoyment uses may be allowed as part of mixed-use development on over-water structures where they are clearly auxiliary to and in support of water-dependent uses, provided the minimum size requirement needed to meet the water-dependent use is not violated.

New pier or dock construction, excluding docks accessory to single-family residences, should be permitted only when the applicant has demonstrated that a specific need exists to support the intended water-dependent uses. If a port district or other public or commercial entity involving water-dependent uses has performed a needs analysis or comprehensive master plan projecting the future needs for pier or dock space, and if the plan or analysis is approved by the local government and consistent with these guidelines, it may serve as the necessary justification for pier design, size, and construction. The intent of this provision is to allow ports and other entities the flexibility necessary to provide for existing and future water-dependent uses.

Where new piers or docks are allowed, master programs should contain provisions to require new residential development of two or more dwellings to provide joint use or community dock facilities, when feasible, rather than allow individual docks for each residence.
Piers and docks, including those accessory to single-family residences, shall be designed and constructed to avoid or, if that is not possible, to minimize and mitigate the impacts to ecological functions, critical areas resources such as eelgrass beds and fish habitats and processes such as currents and littoral drift. See WAC 173-26-221 (2)(c)(iii) and (iv). Master programs should require that structures be made of materials that have been approved by applicable state agencies.

(c) Fill.

Fills shall be located, designed, and constructed to protect shoreline ecological functions and ecosystem-wide processes, including channel migration.

Fills waterward of the ordinary high-water mark shall be allowed only when necessary to support: water-dependent use, public access, cleanup and disposal of contaminated sediments as part of an interagency environmental clean-up plan, disposal of dredged material considered suitable under, and conducted in accordance with the Dredged Material Management Program of the Department of Natural Resources, expansion or alteration of transportation facilities of statewide significance currently located on the shoreline and then only upon a demonstration that alternatives to fill are not feasible, mitigation action, environmental restoration, beach nourishment or enhancement project . Fills waterward of the ordinary high-water mark for any use except ecological restoration should require a conditional use permit.

(d) Breakwaters, jetties, groins, and weirs.

Breakwaters, jetties, groins, and weirs located waterward of the ordinary high-water mark shall be allowed only where necessary to support water-dependent uses, public access, shoreline stabilization, or other specific public purpose. Breakwaters, jetties, groins, weirs, and similar structures should require a conditional use permit, except for those structures installed to protect or restore ecological functions, such as woody debris installed in streams. Breakwaters, jetties, groins, and weirs shall be designed to protect critical areas and shall provide for mitigation according to the sequence defined in WAC 173-26-201(2)(e).

(e) Beach and dunes management.

Washington's beaches and their associated dunes lie along the Pacific Ocean coast between Point Grenville and Cape Disappointment, and as shorelines of statewide significance are mandated to be managed from a statewide perspective by the Act. Beaches and dunes within shoreline jurisdiction shall be managed to conserve, protect, where appropriate develop, and where appropriate restore the resources and benefits of coastal beaches. Beaches and dunes should also be managed to reduce the hazard to human life and property from natural or human-induced actions associated with these areas.

Shoreline master programs in coastal marine areas shall provide for diverse and appropriate use of beach and dune areas consistent with their ecological, recreational, aesthetic, and economic values, and consistent with the natural limitations of beaches, dunes, and dune vegetation for development. Coastal master programs shall institute development setbacks from the shoreline to prevent impacts to the natural, functional, ecological, and aesthetic qualities of the dune.

"Dune modification" is the removal or addition of material to a dune, the reforming or reconfiguration of a dune, or the removal or addition of vegetation that will alter the dune's shape or sediment migration. Dune modification may be proposed for a number of purposes, including protection of property, flood and storm hazard reduction, erosion prevention, and ecological restoration.

Coastal dune modification shall be allowed only consistent with state and federal flood protection standards and when it will not result in a net loss of shoreline ecological functions or significant adverse impacts to other shoreline resources and values.

Dune modification to protect views of the water shall be allowed only on properties subdivided and developed prior to the adoption of the master program and where the view is completely obstructed for residences or water-enjoyment uses and where it can be demonstrated that the dunes did not obstruct views at the time of original occupancy, and then only in conformance with the above provisions.

(f) Dredging and dredge material disposal.
Dredging and dredge material disposal shall be done in a manner which avoids or minimizes significant ecological impacts and impacts which cannot be avoided should be mitigated in a manner that assures no net loss of shoreline ecological functions.
New development should be sited and designed to avoid or, if that is not possible, to minimize the need for new and maintenance dredging. Dredging for the purpose of establishing, expanding, or relocating or reconfiguring navigation channels and basins should be allowed where necessary for assuring safe and efficient accommodation of existing navigational uses and then only when significant ecological impacts are minimized and when mitigation is provided. Maintenance dredging of established navigation channels and basins should be restricted to maintaining previously dredged and/or existing authorized location, depth, and width.

Dredging waterward of the ordinary high-water mark for the primary purpose of obtaining fill material shall not be allowed, except when the material is necessary for the restoration of ecological functions. When allowed, the site where the fill is to be placed must be located waterward of the ordinary high-water mark. The project must be either associated with a MTCA or CERCLA habitat restoration project or, if approved through a shoreline conditional use permit, any other significant habitat enhancement project.

Master programs should include provisions for uses of suitable dredge material that benefit shoreline resources. Where applicable, master programs should provide for the implementation of adopted regional interagency dredge material management plans or watershed management planning.

Disposal of dredge material on shorelands or wetlands within a river's channel migration zones shall be discouraged. In the limited instances where it is allowed, such disposal shall require a conditional use permit. This provision is not intended to address discharge of dredge material into the flowing current of the river or in deep water within the channel where it does not substantially effect the geo-hydrologic character of the channel migration zone.

(g) Shoreline habitat and natural systems enhancement projects.
Shoreline habitat and natural systems enhancement projects include those activities proposed and conducted specifically for the purpose of establishing, restoring, or enhancing habitat for priority species in shorelines.

Master programs should include provisions fostering habitat and natural system enhancement projects. Such projects may include shoreline modification actions such as modification of vegetation, removal of non-native or invasive plants, shoreline stabilization, dredging, and filling, provided that the primary purpose of such actions is clearly restoration of the natural character and ecological functions of the shoreline. Master program provisions should assure that the projects address legitimate restoration needs and priorities and facilitate implementation of the restoration plan developed pursuant to WAC 173-26-201(2)(f).

WAC 173-26-241 Shoreline Uses.

(1) Applicability.
The provisions in this section apply to specific common uses and types of development to the extent they occur within shoreline jurisdiction. Master programs should include these, where applicable, and should include specific use provisions for other common uses and types of development in the jurisdiction. All uses and development must be consistent with the provisions of the environment designation in which they are located and the general regulations of the master program.

(2) General use provisions.

(a) Principles.
Shoreline master programs shall implement the following principles:

(i) Establish a system of use regulations and environment designation provisions consistent with WAC 173-26-201(2)(d) and 173-26-211 that gives preference to those uses that are consistent with the control of pollution and prevention of damage to the natural environment, or are unique to or dependent upon uses of the state's shoreline areas.
(ii) Ensure that all shoreline master program provisions concerning proposed development of property are established, as necessary, to protect the public's health, safety, and welfare, as well as the land and its vegetation and wildlife, and to protect property rights while implementing the policies of the Shoreline Management Act.
(iii) Reduce use conflicts by including provisions to prohibit or apply special conditions to those uses which are not consistent with the control of pollution and prevention of damage to the natural environment or are not unique to or dependent upon use of the state's shoreline. In implementing this provision, preference shall be given first to water-dependent uses, then to water-related uses and water-enjoyment uses.
(iv) Establish use regulations designed to assure no net loss of ecological functions associated with the shoreline.

(b) Conditional uses.
(i) Master programs shall define the types of uses and development that require shoreline conditional use permits pursuant to RCW 90.58.100(5). Requirements for a conditional use permit may be used for a variety of purposes, including:

- To effectively address unanticipated uses that are not classified in the master program as described in WAC 173-27-030.
- To address cumulative impacts.
- To provide the opportunity to require specially tailored environmental analysis or design criteria for types of use or development that may otherwise be inconsistent with a specific environment designation within a master program or with the Shoreline Management Act policies.

In these cases, allowing a given use as a conditional use could provide greater flexibility within the master program than if the use were prohibited outright.
(ii) If master programs permit the following types of uses and development, they should require a conditional use permit:

(A) Uses and development that may significantly impair or alter the public's use of the water areas of the state.
(B) Uses and development which, by their intrinsic nature, may have a significant ecological impact on shoreline ecological functions or shoreline resources depending on location, design, and site conditions.
(C) Development in critical saltwater habitats.

(iii) The provisions of this section are minimum requirements and are not intended to limit local government's ability to identify other uses and developments within the master program as conditional uses where necessary or appropriate.

(3) Standards.

Master programs shall establish a comprehensive program of use regulations for shorelines and shall incorporate provisions for specific uses consistent with the following as necessary to assure consistency with the policy of the act and where relevant within the jurisdiction.

(a) Agriculture
(i) For the purposes of this section, the terms agricultural activities, agricultural products, agricultural equipment and facilities and

agricultural land shall have the specific meanings as provided in WAC 173-26-020.
(ii) Master programs shall not require modification of or limit agricultural activities occurring on agricultural lands. In jurisdictions where agricultural activities occur, master programs shall include provisions addressing new agricultural activities on land not meeting the definition of agricultural land, conversion of agricultural lands to other uses, and other development on agricultural land that does not meet the definition of agricultural activities.
(iii) Nothing in this section limits or changes the terms of the current exception to the definition of substantial development. A substantial development permit is required for any agricultural development not specifically exempted by the provisions of RCW 90.58.030(3)(e)(iv).
(iv) Master programs shall use definitions consistent with the definitions found in WAC 173-26-020 (3).
(v) New agricultural activities are activities that meet the definition of agricultural activities but are proposed on land not currently in agricultural use. Master programs shall include provisions for new agricultural activities to assure that:

(A) Specific uses and developments in support of agricultural use are consistent the environment designation in which the land is located.
(B) Agricultural uses and development in support of agricultural uses, are located and designed to assure no net loss of ecological functions and to not have a significant adverse impact on other shoreline resources and values. Measures appropriate to meet this requirements include provisions addressing water quality protection, and vegetation conservation, as described in WAC 173-26-220(5) and (6). Requirements for buffers for agricultural development shall be based on scientific and technical information and management practices adopted by the applicable state agencies necessary to preserve the ecological functions and qualities of the shoreline environment.

(vi) Master programs shall include provisions to assure that development on agricultural land that does not meet the definition of agricultural activities, and the conversion of agricultural land to non-agricultural uses, shall be consistent the environment designation, and the general and specific use regulations applicable to the proposed use and do not result in a net loss of ecological functions associated with the shoreline.

(b) Aquaculture.

Aquaculture is the culture or farming of food fish, shellfish, or other aquatic plants and animals. This activity is of statewide interest. Properly managed, it can result in long-term over short-term benefit and can protect the resources and ecology of the shoreline.

Aquaculture is dependent on the use of the water area and, when consistent with control of pollution and prevention of damage to the environment, is a preferred use of the water area. Local government should consider local ecological conditions and provide limits and conditions to assure appropriate compatible types of aquaculture for the local conditions as necessary to assure no net loss of ecological functions.

Potential locations for aquaculture are relatively restricted due to specific requirements for water quality, temperature, flows, oxygen content, adjacent land uses, wind protection, commercial navigation, and, in marine waters, salinity. The technology associated with some forms of present-day aquaculture is still in its formative stages and experimental. Local shoreline master programs should therefore recognize the necessity for some latitude in the development of this use as well as its potential impact on existing uses and natural systems.

Aquaculture should not be permitted in areas where it would result in a net loss of ecological functions, adversely impact eelgrass and macroalgae, or significantly conflict with navigation and other water-dependent uses. Aquacultural facilities should be designed and located so as not to spread disease to native aquatic life, establish new nonnative species which cause significant ecological impacts, or significantly impact the aesthetic qualities of the shoreline. Impacts to ecological functions shall be mitigated according to the mitigation sequence described in WAC 173-26-020.

(c) Boating facilities.

For the purposes of this chapter, “boating facilities” excludes docks serving four or fewer single-family residences. Shoreline master programs shall contain provisions to assure no net loss of ecological functions as a result of development of boating facilities while providing the boating public recreational opportunities on waters of the state.

Where applicable, shoreline master programs should, at a minimum, contain:

(i) Provisions to ensure that boating facilities are located only at sites with suitable environmental conditions, shoreline configuration, access, and neighboring uses.
(ii) Provisions that assure that facilities meet health, safety, and welfare requirements. Master programs may reference other regulations to accomplish this requirement.
(iii) Regulations to avoid, or if that is not possible, to mitigate aesthetic impacts.
(iv) Provisions for public access in new marinas, particularly where water-enjoyment uses are

associated with the marina, in accordance with WAC 173-26-221(4).
(v) Regulations to limit the impacts to shoreline resources from boaters living in their vessels (live-aboard).
(vi) Regulations that assure that the development of boating facilities, and associated and accessory uses, will not result in a net loss of shoreline ecological functions or other significant adverse impacts.
(vii) Regulations to protect the rights of navigation.
(viii) Regulations restricting vessels from extended mooring on waters of the state except as allowed by applicable state regulations and unless a lease or permission is obtained from the state and impacts to navigation and public access are mitigated.

(d) Commercial development.

Master programs shall first give preference to water-dependent commercial uses over non-water-dependent commercial uses; and second, give preference to water-related and water-enjoyment commercial uses over non-water-oriented commercial uses.

The design, layout and operation of certain commercial uses directly affects their classification with regard to whether or not they qualify as water related or water enjoyment uses. Master programs shall assure that commercial uses that may be authorized as water related or water enjoyment uses are required to incorporate appropriate design and operational elements so that they meet the definition of water related or water enjoyment uses.

Master programs should require that public access and ecological restoration be considered as potential mitigation of impacts to shoreline resources and values for all water-related or water-dependent commercial development unless such improvements are demonstrated to be infeasible or inappropriate. Where commercial use is propose for location on land in public ownership, public access should be required. Refer to WAC 173-26-221(4) for public access provisions.

Master programs should prohibit non-water-oriented commercial uses on the shoreline unless they meet the following criteria:

(i) The use is part of a mixed-use project that includes water-dependent uses and provides a significant public benefit with respect to the Shoreline Management Act's objectives such as providing public access and ecological restoration; or
(ii) Navigability is severely limited at the proposed site; and the commercial use provides a significant public benefit with respect to the Shoreline Management Act's objectives such as providing public access and ecological restoration.

In areas designated for commercial use, non-water-oriented commercial development may be allowed if the site is physically separated from the shoreline by another property or public right of way.

Non-water-dependent commercial uses should not be allowed over water except in existing structures or in the limited instances where they are auxiliary to and necessary in support of water-dependent uses.

Master Programs shall assure that commercial development will not result in a net loss of shoreline ecological functions or have significant adverse impact to other shoreline uses, resources and values provided for in 90.58.020RCW such as navigation, recreation and public access.

(e) Forest practices.

Local master programs should rely on the Forest Practices Act and rules implementing the act and the Forest and Fish Report as adequate management of commercial forest uses within shoreline jurisdiction. However, local governments shall, where applicable, apply this chapter to Class IV-General forest practices where shorelines are being converted or are expected to be converted to non-forest uses.

Forest practice conversions and other Class IV-General forest practices where there is a likelihood of conversion to non-forest uses, shall assure no net loss of shoreline ecological functions and shall maintain the ecological quality of the watershed's hydrologic system. Master programs shall establish provisions to ensure that all such practices are conducted in a manner consistent with the master program environment designation provisions and the provisions of this chapter. Applicable shoreline master programs should contain provisions to ensure that when forest lands are converted to another use, there will be no net loss of shoreline ecological functions or significant adverse impacts to other shoreline uses, resources and values provided for in 90.58.020RCW such as navigation, recreation and public access.

Master programs shall implement the provisions of RCW 90.58.150 regarding selective removal of timber harvest on shorelines of statewide significance. Exceptions to this standard shall be by conditional use permit only.

Lands designated as "forest lands" pursuant to RCW 36.70A.170 shall be designated consistent with either the "natural," "rural conservancy," environment designation. Where forest practices fall within the applicability of the Forest Practices Act, local governments should consult with the department of natural resources, other applicable agencies, and local timber owners and operators.

(f) Industry.

Master programs shall first give preference to water-dependent industrial uses over non-water-dependent

industrial uses; and second, give preference to water-related industrial uses over non-water-oriented industrial uses.

Regional and statewide needs for water-dependent and water-related industrial facilities should be carefully considered in establishing master program environment designations, use provisions, and space allocations for industrial uses and supporting facilities. Lands designated for industrial development should not include shoreline areas with severe environmental limitations, such as critical areas.
Where industrial development is allowed, master programs shall include provisions that assure that industrial development will be located, designed, or constructed in a manner that assures no net loss of shoreline ecological functions and such that it does not have significant adverse impacts to other shoreline resources and values.

Master Programs should require that industrial development consider incorporating public access as mitigation for impacts to shoreline resources and values unless public access cannot be provided in a manner that does not result in significant interference with operations or hazards to life or property, as provided in WAC 173-26-221(4). Where industrial use is propose for location on land in public ownership, public access should be required. Industrial development and redevelopment should be encouraged to locate where environmental cleanup and restoration of the shoreline area can be incorporated.

New non-water-oriented industrial development should be prohibited on shorelines except when:

(i) The use is part of a mixed-use project that includes water-dependent uses and provides a significant public benefit with respect to the Shoreline Management Act's objectives such as providing public access and ecological restoration; or
(ii) Navigability is severely limited at the proposed site; and the industrial use provides a significant public benefit with respect to the Shoreline Management Act's objectives such as providing public access and ecological restoration.

In areas designated for industrial use, non-water-oriented industrial uses may be allowed if the site is physically separated from the shoreline by another property or public right of way.

(g) In-stream structural uses.

"In-stream structure" means a structure placed by humans within a stream or river waterward of the ordinary high water mark that either causes or has the potential to cause water impoundment or the diversion, obstruction, or modification of water flow. In-stream structures may include those for hydroelectric generation, irrigation, water supply, flood control, transportation, utility service transmission, fish habitat enhancement, or other purpose.

In-stream structures shall provide for the protection and preservation, of ecosystem-wide processes, ecological functions, and cultural resources, including, but not limited to, fish and fish passage, wildlife and water resources, shoreline critical areas, hydrogeological processes, and natural scenic vistas. The location and planning of in-stream structures shall give due consideration to the full range of public interests, watershed functions and processes, and environmental concerns, with special emphasis on protecting and restoring priority habitats and species.

(h) Mining.

Mining is the removal of sand, gravel, soil, minerals, and other earth materials for commercial and other uses. Historically, the most common form of mining in shoreline areas is for sand and gravel because of the geomorphic association of rivers and sand and gravel deposits. Mining in the shoreline generally alters the natural character, resources, and ecology of shorelines of the state and may impact critical shoreline resources and ecological functions of the shoreline. However, in some circumstances, mining may be designed to have benefits for shoreline resources, such as creation of off channel habitat for fish or habitat for wildlife. Activities associated with shoreline mining, such as processing and transportation, also generally have the potential to impact shoreline resources unless the impacts of those associated activities are evaluated and properly managed in accordance with applicable provisions of the master program.

A shoreline master program should accomplish two purposes in addressing mining. First, identify where mining may be an appropriate use of the shoreline, which is addressed in this section and in the environment designation sections above. Second, ensure that when mining or associated activities in the shoreline are authorized, those activities will be properly sited, designed, conducted, and completed so that it will cause no net loss of ecological functions of the shoreline.

(i) Identification of shoreline areas where mining may be designated as appropriate shall:

(A) Be consistent with the environment designation provisions of WAC 173-26-211 and where applicable WAC 173-26-251(2) regarding shorelines of statewide significance; and
(B) Be consistent with local government designation of mineral resource lands with long term significance as provided for RCW 36.70A.170(1)(c), RCW 36.70A.130, and RCW 36.70A.131; and
(C) Be based on a showing that mining is dependent on a shoreline location in the city or county, or portion thereof, which requires evaluation of geologic factors such as the distribution and availability of mineral resources for that jurisdiction, as well as evaluation of need for such mineral resources, economic, transportation, and land use factors. This showing may rely on analysis or studies prepared for

purposes of GMA designations, be integrated with any relevant environmental review conducted under SEPA (RCW 43.21C), or otherwise be shown in a manner consistent with RCW 90.58.100(1) and WAC 173-26-201(2)(a).

(ii) Master programs shall include policies and regulations for mining, when authorized, that accomplish the following:

(A) New mining and associated activities shall be designed and conducted to comply with the regulations of the environment designation and the provisions applicable to critical areas where relevant. Accordingly, meeting the no net loss of ecological function standard shall include avoidance and mitigation of adverse impacts during the course of mining and reclamation. It is appropriate, however, to determine whether there will be no net loss of ecological function based on evaluation of final reclamation required for the site. Preference shall be given to mining proposals that result in the creation, restoration, or enhancement of habitat for priority species.

(B) Master program provisions and permit requirements for mining should be coordinated with the requirements of chapter 78.44 RCW.

(C) Master programs shall assure that proposed subsequent use of mined property is consistent with the provisions of the environment designation in which the property is located and that reclamation of disturbed shoreline areas provides appropriate ecological functions consistent with the setting.

(D) Mining within the active channel or channels (a location waterward of the ordinary high-water mark) of a river shall not be permitted unless:

(I) Removal of specified quantities of sand and gravel or other materials at specific locations will not adversely affect the natural processes of gravel transportation for the river system as a whole; and

(II) The mining and any associated permitted activities will not have significant adverse impacts to habitat for priority species nor cause a net loss of ecological functions of the shoreline.

(III) The determinations required by paragraphs I and II above shall be made consistent with RCW 90.58.100(1) and WAC 173-26-201(2)(a). Such evaluation of impacts should be appropriately integrated with relevant environmental review requirements of SEPA (RCW 43.21C) and the SEPA rules (WAC 197-11).

(IV) In considering renewal, extension or reauthorization of gravel bar and other in-channel mining operations in locations where they have previously been conducted local government shall require compliance with this subsection (D) to the extent that no such review has previously been conducted. Where there has been prior review, local government shall review previous determinations comparable to the requirements of this section to assure compliance with this subsection (D) under current site conditions.

(V) The provisions of this section do not apply to dredging of authorized navigation channels when conducted in accordance with WAC 173-27-231(3)(f).

(E) Mining within any channel migration zone that is within Shoreline Management Act jurisdiction shall require a shoreline conditional use permit.

(i) Recreational development.

Recreational development includes commercial and public facilities designed and used to provide recreational opportunities to the public. Master programs should assure that shoreline recreational development is given priority and is primarily related to access to, enjoyment and use of the water and shorelines of the State.

Commercial recreational development should be consistent with the provisions for commercial development in (d) above. Provisions related to public recreational development shall assure that the facilities are located, designed and operated in a manner consistent with the purpose of the environment designation in which they are located and such that no net loss of shoreline ecological functions or ecosystem-wide processes results.

In accordance with RCW 90.58.100(4), master program provisions shall reflect that state-owned shorelines are particularly adapted to providing wilderness beaches, ecological study areas, and other recreational uses for the public and give appropriate special consideration to the same.

For all jurisdictions planning under the Growth Management Act, master program recreation policies shall be consistent with growth projections and level-of-service standards established by the applicable comprehensive plan.

(j) Residential development.

Single-family residences are the most common form of shoreline development and are identified as a priority use when developed in a manner consistent with control of pollution and prevention of damage to the natural environment. Without proper management, single family residential use can cause significant damage to the shoreline area through cumulative impacts from shoreline armoring, storm water runoff, septic systems, introduction of pollutants, and vegetation modification and removal. Residential development also includes multifamily

development and the creation of new residential lots through land division.

Master programs shall include policies and regulations that assure no net loss of shoreline ecological functions will result from residential development. Such provisions should include specific regulations for setbacks and buffer areas, density, shoreline armoring, vegetation conservation requirements, and, where applicable, on-site sewage system standards for all residential development and uses and applicable to divisions of land in shoreline jurisdiction.

Residential development, including appurtenant structures and uses, should be sufficiently set back from steep slopes and shorelines vulnerable to erosion so that structural improvements, including bluff walls and other stabilization structures, are not required to protect such structures and uses. (See RCW 90.58.100(6).)

New over-water residences, including floating homes, are not a preferred use and should be prohibited. It is recognized that certain existing communities of floating and/or over water homes exist and should be reasonably accommodated to allow improvements associated with life safety matters and property rights to be addressed provided that any expansion of existing communities is the minimum necessary to assure consistency with constitutional and other legal limitations that protect private property.

New multiunit residential development, including the subdivision of land for more than four parcels, should provide community and/or public access in conformance to the local government's public access planning and this chapter.

Master programs shall include standards for the creation of new residential lots through land division that accomplish the following:

(i) Plats and subdivisions must be designed, configured and developed in a manner that assures that no net loss of ecological functions results from the plat or subdivision at full build-out of all lots.
(ii) Prevent the need for new shoreline stabilization or flood hazard reduction measures that would cause significant impacts to other properties or public improvements or a net loss of shoreline ecological functions.
(iii) Implement the provisions of WAC 173-26-211 and 173-26-221.

(k) Transportation and parking.

Master programs shall include policies and regulations to provide safe, reasonable, and adequate circulation systems to, and through or over shorelines where necessary and otherwise consistent these guidelines.

Transportation and parking plans and projects shall be consistent with the master program public access policies, public access plan, and environmental protection provisions.

Circulation system planning shall include systems for pedestrian, bicycle, and public transportation where appropriate. Circulation planning and projects should support existing and proposed shoreline uses that are consistent with the master program.

Plan, locate, and design proposed transportation and parking facilities where routes will have the least possible adverse effect on unique or fragile shoreline features, will not result in a net loss of shoreline ecological functions or adversely impact existing or planned water-dependent uses. Where other options are available and feasible, new roads or road expansions should not be built within shoreline jurisdiction.

Parking facilities in shorelines are not a preferred use and shall be allowed only as necessary to support an authorized use. Shoreline master programs shall include policies and regulations to minimize the environmental and visual impacts of parking facilities.

(l) Utilities.

These provisions apply to services and facilities that produce, convey, store, or process power, gas, sewage, communications, oil, waste, and the like. On-site utility features serving a primary use, such as a water, sewer or gas line to a residence, are "accessory utilities" and shall be considered a part of the primary use.
Master programs shall include provisions to assure that:

- All utility facilities are designed and located to assure no net loss shoreline ecological functions, preserve the natural landscape, and minimize conflicts with present and planned land and shoreline uses while meeting the needs of future populations in areas planned to accommodate growth.
- Utility production and processing facilities, such as power plants and sewage treatment plants, or parts of those facilities, that are non-water-oriented shall not be allowed in shoreline areas unless it can be demonstrated that no other feasible option is available.
- Transmission facilities for the conveyance of services, such as power lines, cables, and pipelines, shall be located outside of the shoreline area where feasible and when necessarily located within the shoreline area shall assure no net loss of shoreline ecological functions.
- Utilities should be located in existing rights of way and corridors whenever possible.
- Development of pipelines and cables on tidelands, particularly those running roughly parallel to the shoreline, and development of facilities that may require periodic maintenance which disrupt shoreline ecological functions should be discouraged except where no other feasible alternative exists. When permitted, provisions shall assure that the facilities do not result in a net loss of shoreline ecological

functions or significant impacts to other shoreline resources and values.

WAC 173-26-251 Shorelines of statewide significance.

(1) Applicability.

The following section applies to local governments preparing master programs that include shorelines of statewide significance as defined in RCW 90.58.030.

(2) Principles.

Chapter 90.58 RCW raises the status of shorelines of statewide significance in two ways. First, the Shoreline Management Act sets specific preferences for uses of shorelines of statewide significance. RCW 90.58.020 states:

The legislature declares that the interest of all of the people shall be paramount in the management of shorelines of statewide significance. The department, in adopting guidelines for shorelines of statewide significance, and local government, in developing master programs for shorelines of statewide significance, shall give preference to uses in the following order of preference which:

> *(1) Recognize and protect the statewide interest over local interest;*
> *(2) Preserve the natural character of the shoreline;*
> *(3) Result in long term over short term benefit;*
> *(4) Protect the resources and ecology of the shoreline;*
> *(5) Increase public access to publicly owned areas of the shorelines;*
> *(6) Increase recreational opportunities for the public in the shoreline;*
> *(7) Provide for any other element as defined in RCW 90.58.100 deemed appropriate or necessary.*

Second, the Shoreline Management Act calls for a higher level of effort in implementing its objectives on shorelines of statewide significance. RCW 90.58.090(4) states:

> *The department shall approve those segments of the master program relating to shorelines of statewide significance only after determining the program provides the optimum implementation of the policy of this chapter to satisfy the statewide interest.*

Optimum implementation involves special emphasis on statewide objectives and consultation with state agencies. The state's interests may vary, depending upon the geographic region, type of shoreline, and local conditions. Optimum implementation may involve ensuring that other comprehensive planning policies and regulations support Shoreline Management Act objectives.

Because shoreline ecological resources are linked to other environments, implementation of ecological objectives requires effective management of whole ecosystems. Optimum implementation places a greater imperative on identifying, understanding, and managing ecosystem-wide processes and ecological functions that sustain resources of statewide importance.

(3) Master program provisions for shorelines of statewide significance.

Because shorelines of statewide significance are major resources from which all people of the state derive benefit, local governments that are preparing master program provisions for shorelines of statewide significance shall implement the following:

(a) Statewide interest.
To recognize and protect statewide interest over local interest, consult with applicable state agencies, affected Indian tribes, and statewide interest groups and consider their recommendations in preparing shoreline master program provisions. Recognize and take into account state agencies' policies, programs, and recommendations in developing use regulations. For example, if an anadromous fish species is affected, the Washington State departments of fish and wildlife and ecology and the governor's salmon recovery office, as well as affected Indian tribes, should, at a minimum, be consulted.

(b) Preserving resources for future generations.
Prepare master program provisions on the basis of preserving the shorelines for future generations. For example, actions that would convert resources into irreversible uses or detrimentally alter natural conditions characteristic of shorelines of statewide significance should be severely limited. Where natural resources of statewide importance are being diminished over time, master programs shall include provisions to contribute to the restoration of those resources.

(c) Priority uses.
Establish shoreline environment designation policies, boundaries, and use provisions that give preference to those uses described in RCW 90.58.020(1) through (7). More specifically:

> (i) Identify the extent and importance of ecological resources of statewide importance and potential impacts to those resources, both inside and outside the local government's geographic jurisdiction.
> (ii) Preserve sufficient shorelands and submerged lands to accommodate current and projected demand for economic resources of statewide importance, such as commercial shellfish beds and navigable harbors. Base projections on statewide or regional analyses, requirements for essential public facilities, and comment from related industry associations, affected Indian tribes, and state agencies.
> (iii) Base public access and recreation requirements on demand projections that take into account the activities of state agencies and the interests of the citizens of the state to visit

public shorelines with special scenic qualities or cultural or recreational opportunities.

(d) Resources of statewide importance.

Establish development standards that:

(i) Ensure the long-term protection of ecological resources of statewide importance, such as anadromous fish habitats, forage fish spawning and rearing areas, shellfish beds, and unique environments. Standards shall consider incremental and cumulative impacts of permitted development and include provisions to insure no net loss of shoreline ecosystems and ecosystem-wide processes.

(ii) Provide for the shoreline needs of water-oriented uses and other shoreline economic resources of statewide importance.

(iii) Provide for the right of the public to use, access, and enjoy public shoreline resources of statewide importance.

(e) Comprehensive plan consistency.

Assure that other local comprehensive plan provisions are consistent with and support as a high priority the policies for shorelines of statewide significance. Specifically, shoreline master programs should include policies that incorporate the priorities and optimum implementation directives of chapter 90.58 RCW into comprehensive plan provisions and implementing development regulations.

WAC 173-26-020 Definitions

In addition to the definitions and concepts set forth in RCW 90.58.030, as amended, and the other implementing rules for the SMA, as used herein, the following words and phrases shall have the following meanings:

(1) “Act” means the Washington State Shoreline Management Act, chapter 90.58 RCW.

(2)”Adoption by rule” means an official action by the department to make a local government shoreline master program effective through rule consistent with the requirements of the Administrative Procedure Act, chapter 34.05 RCW, thereby incorporating the adopted shoreline master program or amendment into the state master program.

(3) (a) “Agricultural activities” means agricultural uses and practices including, but not limited to: Producing, breeding, or increasing agricultural products; rotating and changing agricultural crops; allowing land used for agricultural activities to lie fallow in which it is plowed and tilled but left unseeded; allowing land used for agricultural activities to lie dormant as a result of adverse agricultural market conditions; allowing land used for agricultural activities to lie dormant because the land is enrolled in a local, state, or federal conservation program, or the land is subject to a conservation easement; conducting agricultural operations; maintaining, repairing, and replacing agricultural equipment; maintaining, repairing, and replacing agricultural facilities, provided that the replacement facility is no closer to the shoreline than the original facility; and maintaining agricultural lands under production or cultivation;

(b) “Agricultural products” includes but is not limited to horticultural, viticultural, floricultural, vegetable, fruit, berry, grain, hops, hay, straw, turf, sod, seed, and apiary products; feed or forage for livestock; Christmas trees; hybrid cottonwood and similar hardwood trees grown as crops and harvested within twenty years of planting; and livestock including both the animals themselves and animal products including but not limited to meat, upland finfish, poultry and poultry products, and dairy products;

(c) “Agricultural equipment” and “agricultural facilities” includes, but is not limited to:

(i) The following used in agricultural operations: Equipment; machinery; constructed shelters, buildings, and ponds; fences; upland finfish rearing facilities; water diversion, withdrawal, conveyance, and use equipment and facilities including but not limited to pumps, pipes, tapes, canals, ditches, and drains;

(ii) corridors and facilities for transporting personnel, livestock, and equipment to, from, and within agricultural lands;

(iii) farm residences and associated equipment, lands, and facilities; and

(iv) roadside stands and on-farm markets for marketing fruit or vegetables; and (d) “Agricultural land” means those specific land areas on which agriculture activities are conducted as of the date of adoption of a local master program pursuant to these guidelines as evidenced by aerial photography or other documentation. After the effective date of the master program land converted to agricultural use is subject to compliance with the requirements of the master program.

(4) “Amendment” means a revision, update, addition, deletion, and/or reenactment to an existing shoreline master program.

(5) “Approval” means an official action by a local government legislative body agreeing to submit a proposed shoreline master program or amendments to the department for review and official action pursuant to this chapter; or an official action by the department to make a local government shoreline master program effective, thereby incorporating the approved shoreline master program or amendment into the state master program.

(6) “Channel migration zone (CMZ)” means the area along a river within which the channel(s) can be reasonably predicted to migrate over time as a result of natural and normally occurring hydrological and related processes when considered with the characteristics of the river and its surroundings.

(7)”Department” means the state department of ecology.

(8)"Development regulations" means the controls placed on development or land uses by a county or city, including, but not limited to, zoning ordinances, critical areas ordinances, all portions of a shoreline master program other than goals and policies approved or adopted under chapter 90.58 RCW, planned unit development ordinances, subdivision ordinances, and binding site plan ordinances together with any amendments thereto.

(9)"Document of record" means the most current shoreline master program officially approved or adopted by rule by the department for a given local government jurisdiction, including any changes resulting from appeals filed pursuant to RCW 90.58.190.

(10) "Drift cell," "drift sector," or "littoral cell" means a particular reach of marine shore in which littoral drift may occur without significant interruption and which contains any natural sources of such drift and also accretion shore forms created by such drift.

(11) "Ecological functions" or "shoreline functions" means the work performed or role played by the physical, chemical, and biological processes that contribute to the maintenance of the aquatic and terrestrial environments that constitute the shoreline's natural ecosystem. See Section 200(2)(c).

(12) "Ecosystem-wide processes" means the suite of naturally occurring physical and geologic processes of erosion, transport, and deposition; and specific chemical processes that shape landforms within a specific shoreline ecosystem and determine both the types of habitat and the associated ecological functions.

(13)"Feasible" means, for the purpose of this chapter, that an action, such as a development project, mitigation, or preservation requirement, meets all of the following conditions:

(a) The action can be accomplished with technologies and methods that have been used in the past in similar circumstances, or studies or tests have demonstrated in similar circumstances that such approaches are currently available and likely to achieve the intended results;
(b) The action provides a reasonable likelihood of achieving its intended purpose; and
(c) The action does not physically preclude achieving the project's primary intended legal use. In cases where these guidelines require certain actions unless they are infeasible, the burden of proving infeasibility is on the applicant. In determining an action's infeasibility, the reviewing agency may weigh the action's relative public costs and public benefits, considered in the short- and long-term time frames.

(14)"Fill" means the addition of soil, sand, rock, gravel, sediment, earth retaining structure, or other material to an area waterward of the ordinary high water mark, in wetlands, or on shorelands in a manner that raises the elevation or creates dry land.

(15)"Flood plain" is synonymous with one hundred-year floodplain and means that land area susceptible to inundation with a one percent chance of being equaled or exceeded in any given year. The limit of this area shall be based upon flood ordinance regulation maps or a reasonable method which meets the objectives of the act.

(16) "Geotechnical report" or "geotechnical analysis" means a scientific study or evaluation conducted by a qualified expert that includes a description of the ground and surface hydrology and geology, the affected land form and its susceptibility to mass wasting, erosion, and other geologic hazards or processes, conclusions and recommendations regarding the effect of the proposed development on geologic conditions, the adequacy of the site to be developed, the impacts of the proposed development, alternative approaches to the proposed development, and measures to mitigate potential site-specific and cumulative geological and hydrological impacts of the proposed development, including the potential adverse impacts to adjacent and down-current properties. Geotechnical reports shall conform to accepted technical standards and must be prepared by qualified professional engineers or geologists() who have professional expertise about the regional and local shoreline geology and processes.

(17)"Grading" means the movement or redistribution of the soil, sand, rock, gravel, sediment, or other material on a site in a manner that alters the natural contour of the land.

(18)"Guidelines" means those standards adopted by the department to implement the policy of chapter 90.58 RCW for regulation of use of the shorelines of the state prior to adoption of master programs. Such standards shall also provide criteria for local governments and the department in developing and amending master programs.

(19) "Local government" means any county, incorporated city or town which contains within its boundaries shorelines of the state subject to chapter 90.58 RCW.

(20) "Marine" means pertaining to tidally influenced waters, including oceans, sounds, straits, marine channels, and estuaries, including the Pacific Ocean, Puget Sound, Straits of Georgia and Juan de Fuca, and the bays, estuaries and inlets associated therewith.

(21) "May" means the action is acceptable, provided it conforms to the provisions of this chapter.

(22) "Must" means a mandate; the action is required.

(23) "Nonwater-oriented uses" means those uses that are not water-dependent, water-related, or water-enjoyment.

(24) "Priority habitat" means a habitat type with unique or significant value to one or more species. An area classified

and mapped as priority habitat must have one or more of the following attributes:

- Comparatively high fish or wildlife density;
- Comparatively high fish or wildlife species diversity;
- Fish spawning habitat; • Important wildlife habitat;
- Important fish or wildlife seasonal range;
- Important fish or wildlife movement corridor;
- Rearing and foraging habitat;
- Important marine mammal haul-out; • Refugia habitat;
- Limited availability;
- High vulnerability to habitat alteration;
- Unique or dependent species; or
- Shellfish bed.

A priority habitat may be described by a unique vegetation type or by a dominant plant species that is of primary importance to fish and wildlife (such as oak woodlands or eelgrass meadows).

A priority habitat may also be described by a successional stage (such as, old growth and mature forests). Alternatively, a priority habitat may consist of a specific habitat element (such as a consolidated marine/estuarine shoreline, talus slopes, caves, snags) of key value to fish and wildlife. A priority habitat may contain priority and/or non-priority fish and wildlife.

(25) "Priority species" means species requiring protective measures and/or management guidelines to ensure their persistence at genetically viable population levels. Priority species are those that meet any of the criteria listed below.

(a) Criterion 1. State-listed or state proposed species. State-listed species are those native fish and wildlife species legally designated as endangered (WAC 232-12-014), threatened (WAC 232-12-011), or sensitive (WAC 232-12-011). State proposed species are those fish and wildlife species that will be reviewed by the department of fish and wildlife (POL-M-6001) for possible listing as endangered, threatened, or sensitive according to the process and criteria defined in WAC 232-12-297.

(b) Criterion 2. Vulnerable aggregations. Vulnerable aggregations include those species or groups of animals susceptible to significant population declines, within a specific area or statewide, by virtue of their inclination to congregate. Examples include heron colonies, seabird concentrations, and marine mammal congregations.

(c) Criterion 3. Species of recreational, commercial, and/or tribal importance. Native and nonnative fish, shellfish, and wildlife species of recreational or commercial importance and recognized species used for tribal ceremonial and subsistence purposes that are vulnerable to habitat loss or degradation.

(d) Criterion 4. Species listed under the federal ESA as either proposed, threatened, or endangered.

(26) "Provisions" means policies, regulations, standards, guideline criteria or environment designations.

(27) "Restore", "Restoration" or "ecological restoration" means the reestablishment or upgrading of impaired ecological shoreline processes or functions. This may be accomplished through measures including but not limited to re-vegetation, removal of intrusive shoreline structures and removal or treatment of toxic materials. Restoration does not imply a requirement for returning the shoreline area to aboriginal or pre-European settlement conditions.

(28) "Shall" means a mandate; the action must be done.

(29) "Shoreline areas" and "shoreline jurisdiction" means all "shorelines of the state" and "shorelands" as defined in RCW 90.58.030.

(30) "Shoreline master program" or "master program" means the comprehensive use plan for a described area, and the use regulations together with maps, diagrams, charts, or other descriptive material and text, a statement of desired goals, and standards developed in accordance with the policies enunciated in RCW 90.58.020. As provided in RCW 36.70A.480, the goals and policies of a shoreline master program for a county or city approved under chapter 90.58 RCW shall be considered an element of the county or city's comprehensive plan. All other portions of the shoreline master program for a county or city adopted under chapter 90.58 RCW, including use regulations, shall be considered a part of the county or city's development regulations.

(31)"Shoreline modifications" means 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, breakwater, pier, weir, dredged basin, fill, bulkhead, or other shoreline structure. They can include other actions, such as clearing, grading, or application of chemicals.

(32) "Should" means that the particular action is required unless there is a demonstrated, compelling reason, based on policy of the Shoreline Management Act and this chapter, against taking the action.

(33)"Significant vegetation removal" means the removal or alteration of trees, shrubs, and/or ground cover by clearing, grading, cutting, burning, chemical means, or other activity that causes significant ecological impacts to functions provided by such vegetation. The removal of invasive or noxious weeds does not constitute significant vegetation removal. Tree pruning, not including tree topping, where it does not affect ecological functions, does not constitute significant vegetation removal.

(34) "State master program" means the cumulative total of all shoreline master programs and amendments thereto approved or adopted by rule by the department.

(35) "Substantially degrade" means to cause significant ecological impact.

(36) “Water-dependent use” means a use or portion of a use which cannot exist in a location that is not adjacent to the water and which is dependent on the water by reason of the intrinsic nature of its operations.

(37) “Water-enjoyment use” means a recreational use or other use that facilitates public access to the shoreline as a primary characteristic of the use; or a use that provides for recreational use or aesthetic enjoyment of the shoreline for a substantial number of people as a general characteristic of the use and which through location, design, and operation ensures the public’s ability to enjoy the physical and aesthetic qualities of the shoreline. In order to qualify as a water-enjoyment use, the use must be open to the general public and the shoreline-oriented space within the project must be devoted to the specific aspects of the use that fosters shoreline enjoyment.

(38) “Water-oriented use” means a use that is water-dependent, water-related, or water-enjoyment, or a combination of such uses.

(39) “Water quality” means the physical characteristics of water within shoreline jurisdiction, including water quantity, hydrological, physical, chemical, aesthetic, recreation-related, and biological characteristics. Where used in this chapter, the term “water quantity” refers only to development and uses regulated under this chapter and affecting water quantity, such as impermeable surfaces and storm water handling practices. Water quantity, for purposes of this chapter, does not mean the withdrawal of ground water or diversion of surface water pursuant to RCW 90.03.250 through 90.03.340.

(40) “Water-related use” means a use or portion of a use which is not intrinsically dependent on a waterfront location but whose economic viability is dependent upon a waterfront location because:

(a) The use has a functional requirement for a waterfront location such as the arrival or shipment of materials by water or the need for large quantities of water; or

(b) The use provides a necessary service supportive of the water-dependent uses and the proximity of the use to its customers makes its services less expensive and/or more convenient.

Appendix B

Chapter 90.58 RCW

SHORELINE MANAGEMENT ACT OF 1971

Chapter 90.58 RCW
SHORELINE MANAGEMENT ACT OF 1971

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RCW 90.58.010
Short title.

This chapter shall be known and may be cited as the "Shoreline Management Act of 1971".

[1971 ex.s. c 286 § 1.]

RCW 90.58.020
Legislative findings -- State policy enunciated -- Use preference.

The 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. The legislature further finds that much of the shorelines of the state and the uplands adjacent thereto are in private ownership; that 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, therefor, 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.

It is the policy of the state to provide for the management of the shorelines of the state by planning for and fostering all reasonable and appropriate uses. This policy is designed to insure the development of these shorelines in a manner which, while allowing for limited reduction of rights of the public in the navigable waters, will promote and enhance the public interest. This policy contemplates protecting against adverse effects to the public health, the land and its vegetation and wildlife, and the waters of the state and their aquatic life, while protecting generally public rights of navigation and corollary rights incidental thereto.

The legislature declares that the interest of all of the people shall be paramount in the management of shorelines of statewide significance. The department, in adopting guidelines for shorelines of statewide significance, and local government, in developing master programs for shorelines of statewide significance, shall give preference to uses in the following order of preference which:

(1) Recognize and protect the statewide interest over local interest;

(2) Preserve the natural character of the shoreline;

(3) Result in long term over short term benefit;

(4) Protect the resources and ecology of the shoreline;

(5) Increase public access to publicly owned areas of the shorelines;

(6) Increase recreational opportunities for the public in the shoreline;

(7) Provide for any other element as defined in RCW 90.58.100 deemed appropriate or necessary.

In the implementation of this policy the public's opportunity to enjoy the physical and aesthetic qualities of natural shorelines of the state shall be preserved to the greatest extent feasible consistent with the overall best interest of the state and the people generally. To this end uses shall be preferred which are consistent with control of pollution and prevention of damage to the natural environment, or are unique to or dependent upon use of the state's shoreline. Alterations of the natural condition of the shorelines of the state, in those limited instances when authorized, shall be given priority for single family residences and their appurtenant structures, ports, shoreline recreational uses including but not limited to parks, marinas, piers, and other improvements facilitating public access to shorelines of the state, industrial and commercial developments which are particularly dependent on their location on or use of the shorelines of the state and other development that will provide an opportunity for substantial numbers of the people to enjoy the shorelines of the state. Alterations of the natural condition of the shorelines and shorelands of the state shall be recognized by the department. Shorelines and shorelands of the state shall be appropriately classified and these classifications shall be revised when circumstances warrant regardless of whether the change in circumstances occurs through man-made causes or natural causes. Any areas resulting from alterations of the natural condition of the shorelines and shorelands of the state no longer meeting the definition of "shorelines of the state" shall not be subject to the provisions of chapter 90.58 RCW.

Permitted uses in the shorelines of the state shall be designed and conducted in a manner to minimize, insofar as practical, any resultant damage to the ecology and environment of the shoreline area and any interference with the public's use of the water.

[1995 c 347 § 301; 1992 c 105 § 1; 1982 1st ex.s. c 13 § 1; 1971 ex.s. c 286 § 2.]

NOTES:

Finding -- Severability -- Part headings and table of contents not law -- 1995 c 347: See notes following RCW 36.70A.470.

RCW 90.58.030
Definitions and concepts.

As used in this chapter, unless the context otherwise requires, the following definitions and concepts apply:

(1) Administration:

(a) "Department" means the department of ecology;

(b) "Director" means the director of the department of ecology;

(c) "Local government" means any county, incorporated city, or town which contains within its boundaries

any lands or waters subject to this chapter;

(d) "Person" means an individual, partnership, corporation, association, organization, cooperative, public or municipal corporation, or agency of the state or local governmental unit however designated;

(e) "Hearing board" means the shoreline hearings board established by this chapter.

(2) Geographical:

(a) "Extreme low tide" means the lowest line on the land reached by a receding tide;

(b) "Ordinary high water mark" on all lakes, streams, and tidal water is that mark that will be found by examining the bed and banks and ascertaining where the presence and action of waters are so common and usual, and so long continued in all ordinary years, as to mark upon the soil a character distinct from that of the abutting upland, in respect to vegetation as that condition exists on June 1, 1971, as it may naturally change thereafter, or as it may change thereafter in accordance with permits issued by a local government or the department: PROVIDED, That in any area where the ordinary high water mark cannot be found, the ordinary high water mark adjoining salt water shall be the line of mean higher high tide and the ordinary high water mark adjoining fresh water shall be the line of mean high water;

(c) "Shorelines of the state" are the total of all "shorelines" and "shorelines of statewide significance" within the state;

(d) "Shorelines" means all of the water areas of the state, including reservoirs, and their associated shorelands, together with the lands underlying them; except (i) shorelines of statewide significance; (ii) shorelines on segments of streams upstream of a point where the mean annual flow is twenty cubic feet per second or less and the wetlands associated with such upstream segments; and (iii) shorelines on lakes less than twenty acres in size and wetlands associated with such small lakes;

(e) "Shorelines of statewide significance" means the following shorelines of the state:

(i) The area between the ordinary high water mark and the western boundary of the state from Cape Disappointment on the south to Cape Flattery on the north, including harbors, bays, estuaries, and inlets;

(ii) Those areas of Puget Sound and adjacent salt waters and the Strait of Juan de Fuca between the ordinary high water mark and the line of extreme low tide as follows:

(A) Nisqually Delta -- from DeWolf Bight to Tatsolo Point,

(B) Birch Bay -- from Point Whitehorn to Birch Point,

(C) Hood Canal -- from Tala Point to Foulweather Bluff,

(D) Skagit Bay and adjacent area -- from Brown Point to Yokeko Point, and

(E) Padilla Bay -- from March Point to William Point;

(iii) Those areas of Puget Sound and the Strait of Juan de Fuca and adjacent salt waters north to the Canadian line and lying seaward from the line of extreme low tide;

(iv) Those lakes, whether natural, artificial, or a combination thereof, with a surface acreage of one thousand acres or more measured at the ordinary high water mark;

(v) Those natural rivers or segments thereof as follows:

(A) Any west of the crest of the Cascade range downstream of a point where the mean annual flow is

measured at one thousand cubic feet per second or more,

(B) Any east of the crest of the Cascade range downstream of a point where the annual flow is measured at two hundred cubic feet per second or more, or those portions of rivers east of the crest of the Cascade range downstream from the first three hundred square miles of drainage area, whichever is longer;

(vi) Those shorelands associated with (i), (ii), (iv), and (v) of this subsection (2)(e);

(f) "Shorelands" or "shoreland areas" means those lands extending landward for two hundred feet in all directions as measured on a horizontal plane from the ordinary high water mark; floodways and contiguous floodplain areas landward two hundred feet from such floodways; and all wetlands and river deltas associated with the streams, lakes, and tidal waters which are subject to the provisions of this chapter; the same to be designated as to location by the department of ecology.

(i) Any county or city may determine that portion of a one-hundred-year-flood plain to be included in its master program as long as such portion includes, as a minimum, the floodway and the adjacent land extending landward two hundred feet therefrom.

(ii) Any city or county may also include in its master program land necessary for buffers for critical areas, as defined in chapter 36.70A RCW, that occur within shorelines of the state, provided that forest practices regulated under chapter 76.09 RCW, except conversions to nonforest land use, on lands subject to the provisions of this subsection (2)(f)(ii) are not subject to additional regulations under this chapter;

(g) "Floodway" means those portions of the area of a river valley lying streamward from the outer limits of a watercourse upon which flood waters are carried during periods of flooding that occur with reasonable regularity, although not necessarily annually, said floodway being identified, under normal condition, by changes in surface soil conditions or changes in types or quality of vegetative ground cover condition. The floodway shall not include those lands that can reasonably be expected to be protected from flood waters by flood control devices maintained by or maintained under license from the federal government, the state, or a political subdivision of the state;

(h) "Wetlands" means areas that are inundated or saturated by surface water or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas. Wetlands do not include those artificial wetlands intentionally created from nonwetland sites, including, but not limited to, irrigation and drainage ditches, grass-lined swales, canals, detention facilities, wastewater treatment facilities, farm ponds, and landscape amenities, or those wetlands created after July 1, 1990, that were unintentionally created as a result of the construction of a road, street, or highway. Wetlands may include those artificial wetlands intentionally created from nonwetland areas to mitigate the conversion of wetlands.

(3) Procedural terms:

(a) "Guidelines" means those standards adopted to implement the policy of this chapter for regulation of use of the shorelines of the state prior to adoption of master programs. Such standards shall also provide criteria to local governments and the department in developing master programs;

(b) "Master program" shall mean the comprehensive use plan for a described area, and the use regulations together with maps, diagrams, charts, or other descriptive material and text, a statement of desired goals, and standards developed in accordance with the policies enunciated in RCW 90.58.020;

(c) "State master program" is the cumulative total of all master programs approved or adopted by the department of ecology;

(d) "Development" means a use consisting of the construction or exterior alteration of structures; dredging; drilling; dumping; filling; removal of any sand, gravel, or minerals; bulkheading; driving of piling; placing of

obstructions; or any project of a permanent or temporary nature which interferes with the normal public use of the surface of the waters overlying lands subject to this chapter at any state of water level;

(e) "Substantial development" shall mean any development of which the total cost or fair market value exceeds five thousand dollars, or any development which materially interferes with the normal public use of the water or shorelines of the state. The dollar threshold established in this subsection (3)(e) must be adjusted for inflation by the office of financial management every five years, beginning July 1, 2007, based upon changes in the consumer price index during that time period. "Consumer price index" means, for any calendar year, that year's annual average consumer price index, Seattle, Washington area, for urban wage earners and clerical workers, all items, compiled by the bureau of labor and statistics, United States department of labor. The office of financial management must calculate the new dollar threshold and transmit it to the office of the code reviser for publication in the Washington State Register at least one month before the new dollar threshold is to take effect. The following shall not be considered substantial developments for the purpose of this chapter:

(i) Normal maintenance or repair of existing structures or developments, including damage by accident, fire, or elements;

(ii) Construction of the normal protective bulkhead common to single family residences;

(iii) Emergency construction necessary to protect property from damage by the elements;

(iv) Construction and practices normal or necessary for farming, irrigation, and ranching activities, including agricultural service roads and utilities on shorelands, and the construction and maintenance of irrigation structures including but not limited to head gates, pumping facilities, and irrigation channels. A feedlot of any size, all processing plants, other activities of a commercial nature, alteration of the contour of the shorelands by leveling or filling other than that which results from normal cultivation, shall not be considered normal or necessary farming or ranching activities. A feedlot shall be an enclosure or facility used or capable of being used for feeding livestock hay, grain, silage, or other livestock feed, but shall not include land for growing crops or vegetation for livestock feeding and/or grazing, nor shall it include normal livestock wintering operations;

(v) Construction or modification of navigational aids such as channel markers and anchor buoys;

(vi) Construction on shorelands by an owner, lessee, or contract purchaser of a single family residence for his own use or for the use of his or her family, which residence does not exceed a height of thirty-five feet above average grade level and which meets all requirements of the state agency or local government having jurisdiction thereof, other than requirements imposed pursuant to this chapter;

(vii) Construction of a dock, including a community dock, designed for pleasure craft only, for the private noncommercial use of the owner, lessee, or contract purchaser of single and multiple family residences. This exception applies if either: (A) In salt waters, the fair market value of the dock does not exceed two thousand five hundred dollars; or (B) in fresh waters, the fair market value of the dock does not exceed ten thousand dollars, but if subsequent construction having a fair market value exceeding two thousand five hundred dollars occurs within five years of completion of the prior construction, the subsequent construction shall be considered a substantial development for the purpose of this chapter;

(viii) Operation, maintenance, or construction of canals, waterways, drains, reservoirs, or other facilities that now exist or are hereafter created or developed as a part of an irrigation system for the primary purpose of making use of system waters, including return flow and artificially stored ground water for the irrigation of lands;

(ix) The marking of property lines or corners on state owned lands, when such marking does not significantly interfere with normal public use of the surface of the water;

(x) Operation and maintenance of any system of dikes, ditches, drains, or other facilities existing on September 8, 1975, which were created, developed, or utilized primarily as a part of an agricultural drainage or diking system;

(xi) Site exploration and investigation activities that are prerequisite to preparation of an application for development authorization under this chapter, if:

(A) The activity does not interfere with the normal public use of the surface waters;

(B) The activity will have no significant adverse impact on the environment including, but not limited to, fish, wildlife, fish or wildlife habitat, water quality, and aesthetic values;

(C) The activity does not involve the installation of a structure, and upon completion of the activity the vegetation and land configuration of the site are restored to conditions existing before the activity;

(D) A private entity seeking development authorization under this section first posts a performance bond or provides other evidence of financial responsibility to the local jurisdiction to ensure that the site is restored to preexisting conditions; and

(E) The activity is not subject to the permit requirements of RCW 90.58.550;

(xii) The process of removing or controlling an aquatic noxious weed, as defined in RCW 17.26.020, through the use of an herbicide or other treatment methods applicable to weed control that are recommended by a final environmental impact statement published by the department of agriculture or the department jointly with other state agencies under chapter 43.21C RCW.

[2003 c 321 § 2; 2002 c 230 § 2; 1996 c 265 § 1. Prior: 1995 c 382 § 10; 1995 c 255 § 5; 1995 c 237 § 1; 1987 c 474 § 1; 1986 c 292 § 1; 1982 1st ex.s. c 13 § 2; 1980 c 2 § 3; 1979 ex.s. c 84 § 3; 1975 1st ex.s. c 182 § 1; 1973 1st ex.s. c 203 § 1; 1971 ex.s. c 286 § 3.]

NOTES:

Finding -- Intent -- 2003 c 321: "(1) The legislature finds that the final decision and order in *Everett Shorelines Coalition v. City of Everett and Washington State Department of Ecology*, Case No. 02-3-0009c, issued on January 9, 2003, by the central Puget Sound growth management hearings board was a case of first impression interpreting the addition of the shoreline management act into the growth management act, and that the board considered the appeal and issued its final order and decision without the benefit of shorelines guidelines to provide guidance on the implementation of the shoreline management act and the adoption of shoreline master programs.

(2) This act is intended to affirm the legislature's intent that:

(a) The shoreline management act be read, interpreted, applied, and implemented as a whole consistent with decisions of the shoreline hearings board and Washington courts prior to the decision of the central Puget Sound growth management hearings board in *Everett Shorelines Coalition v. City of Everett and Washington State Department of Ecology*;

(b) The goals of the growth management act, including the goals and policies of the shoreline management act, set forth in RCW 36.70A.020 and included in RCW 36.70A.020 by RCW 36.70A.480, continue to be listed without an order of priority; and

(c) Shorelines of statewide significance may include critical areas as defined by RCW 36.70A.030(5), but that shorelines of statewide significance are not critical areas simply because they are shorelines of statewide significance.

(3) The legislature intends that critical areas within the jurisdiction of the shoreline management act shall be governed by the shoreline management act and that critical areas outside the jurisdiction of the shoreline management act shall be governed by the growth management act. The legislature further intends that the quality of information currently required by the shoreline management act to be applied to the protection of critical areas

within shorelines of the state shall not be limited or changed by the provisions of the growth management act." [2003 c 321 § 1.]

Finding -- Intent -- 2002 c 230: "The legislature finds that the dollar threshold for what constitutes substantial development under the shoreline management act has not been changed since 1986. The legislature recognizes that the effects of inflation have brought in many activities under the jurisdiction of chapter 90.58 RCW that would have been exempted under its original provisions. It is the intent of the legislature to modify the current dollar threshold for what constitutes substantial development under the shoreline management act, and to have this threshold readjusted on a five-year basis." [2002 c 230 § 1.]

Severability -- Effective date -- 1995 c 255: See RCW 17.26.900 and 17.26.901.

Severability -- 1986 c 292: "If any provision of this act or its application to any person or circumstance is held invalid, the remainder of the act or the application of the provision to other persons or circumstances is not affected." [1986 c 292 § 5.]

Intent -- 1980 c 2; 1979 ex.s. c 84: "The legislature finds that high tides and hurricane force winds on February 13, 1979, caused conditions resulting in the catastrophic destruction of the Hood Canal bridge on state route 104, a state highway on the federal-aid system; and, as a consequence, the state of Washington has sustained a sudden and complete failure of a major segment of highway system with a disastrous impact on transportation services between the counties of Washington's Olympic peninsula and the remainder of the state. The governor has by proclamation found that these conditions constitute an emergency. To minimize the economic loss and hardship to residents of the Puget Sound and Olympic peninsula regions, it is the intent of 1979 ex.s. c 84 to authorize the department of transportation to undertake immediately all necessary actions to restore interim transportation services across Hood Canal and Puget Sound and upon the Kitsap and Olympic peninsulas and to design and reconstruct a permanent bridge at the site of the original Hood Canal bridge. The department of transportation is directed to proceed with such actions in an environmentally responsible manner that would meet the substantive objectives of the state environmental policy act and the shorelines management act, and shall consult with the department of ecology in the planning process. The exemptions from the state environmental policy act and the shorelines management act contained in RCW 43.21C.032 and 90.58.030 are intended to approve and ratify the timely actions of the department of transportation taken and to be taken to restore interim transportation services and to reconstruct a permanent Hood Canal bridge without procedural delays." [1980 c 2 § 1; 1979 ex.s. c 84 § 1.]

RCW 90.58.040
Program applicable to shorelines of the state.

The shoreline management program of this chapter shall apply to the shorelines of the state as defined in this chapter.

[1971 ex.s. c 286 § 4.]

RCW 90.58.045
Environmental excellence program agreements -- Effect on chapter.

Notwithstanding any other provision of law, any legal requirement under this chapter, including any standard, limitation, rule, or order is superseded and replaced in accordance with the terms and provisions of an environmental excellence program agreement, entered into under chapter 43.21K RCW.

[1997 c 381 § 28.]

NOTES:

Purpose -- 1997 c 381: See RCW 43.21K.005.

RCW 90.58.050
Program as cooperative between local government and state -- Responsibilities differentiated.

This chapter establishes a cooperative program of shoreline management between local government and the state. Local government shall have the primary responsibility for initiating the planning required by this chapter and administering the regulatory program consistent with the policy and provisions of this chapter. The department shall act primarily in a supportive and review capacity with an emphasis on providing assistance to local government and on insuring compliance with the policy and provisions of this chapter.

[1995 c 347 § 303; 1971 ex.s. c 286 § 5.]

NOTES:

Finding -- Severability -- Part headings and table of contents not law -- 1995 c 347: See notes following RCW 36.70A.470.

RCW 90.58.060
Review and adoption of guidelines -- Public hearings, notice of -- Amendments.

(1) The department shall periodically review and adopt guidelines consistent with RCW 90.58.020, containing the elements specified in RCW 90.58.100 for:

(a) Development of master programs for regulation of the uses of shorelines; and

(b) Development of master programs for regulation of the uses of shorelines of statewide significance.

(2) Before adopting or amending guidelines under this section, the department shall provide an opportunity for public review and comment as follows:

(a) The department shall mail copies of the proposal to all cities, counties, and federally recognized Indian tribes, and to any other person who has requested a copy, and shall publish the new guidelines in the Washington State register. Comments shall be submitted in writing to the department within sixty days from the date the proposal has been published in the register.

(b) The department shall hold at least four public hearings on the proposal in different locations throughout the state to provide a reasonable opportunity for residents in all parts of the state to present statements and views on the new guidelines. Notice of the hearings shall be published at least once in each of the three weeks immediately preceding the hearing in one or more newspapers of general circulation in each county of the state. If an amendment to the guidelines addresses an issue limited to one geographic area, the number and location of hearings may be adjusted consistent with the intent of this subsection to assure all parties a reasonable opportunity to comment on the proposed amendment. The department shall accept written comments on the proposal during the sixty-day public comment period and for seven days after the final public hearing.

(c) At the conclusion of the public comment period, the department shall review the comments received and modify the proposal consistent with the provisions of this chapter. The proposal shall then be published for adoption pursuant to the provisions of chapter 34.05 RCW.

(3) The department may adopt amendments to the guidelines not more than once each year. Such amendments

shall be limited to: (a) Addressing technical or procedural issues that result from the review and adoption of master programs under the guidelines; or (b) issues of guideline compliance with statutory provisions.

[2003 c 262 § 1; 1995 c 347 § 304; 1971 ex.s. c 286 § 6.]

NOTES:

Finding -- Severability -- Part headings and table of contents not law -- 1995 c 347: See notes following RCW 36.70A.470.

RCW 90.58.065
Application of guidelines and master programs to agricultural activities.

(1) The guidelines adopted by the department and master programs developed or amended by local governments according to RCW 90.58.080 shall not require modification of or limit agricultural activities occurring on agricultural lands. In jurisdictions where agricultural activities occur, master programs developed or amended after June 13, 2002, shall include provisions addressing new agricultural activities on land not meeting the definition of agricultural land, conversion of agricultural lands to other uses, and development not meeting the definition of agricultural activities. Nothing in this section limits or changes the terms of the *current exception to the definition of substantial development in RCW 90.58.030(3)(e)(iv). This section applies only to this chapter, and shall not affect any other authority of local governments.

(2) For the purposes of this section:

(a) "Agricultural activities" means agricultural uses and practices including, but not limited to: Producing, breeding, or increasing agricultural products; rotating and changing agricultural crops; allowing land used for agricultural activities to lie fallow in which it is plowed and tilled but left unseeded; allowing land used for agricultural activities to lie dormant as a result of adverse agricultural market conditions; allowing land used for agricultural activities to lie dormant because the land is enrolled in a local, state, or federal conservation program, or the land is subject to a conservation easement; conducting agricultural operations; maintaining, repairing, and replacing agricultural equipment; maintaining, repairing, and replacing agricultural facilities, provided that the replacement facility is no closer to the shoreline than the original facility; and maintaining agricultural lands under production or cultivation;

(b) "Agricultural products" includes but is not limited to horticultural, viticultural, floricultural, vegetable, fruit, berry, grain, hops, hay, straw, turf, sod, seed, and apiary products; feed or forage for livestock; Christmas trees; hybrid cottonwood and similar hardwood trees grown as crops and harvested within twenty years of planting; and livestock including both the animals themselves and animal products including but not limited to meat, upland finfish, poultry and poultry products, and dairy products;

(c) "Agricultural equipment" and "agricultural facilities" includes, but is not limited to: (i) The following used in agricultural operations: Equipment; machinery; constructed shelters, buildings, and ponds; fences; upland finfish rearing facilities; water diversion, withdrawal, conveyance, and use equipment and facilities including but not limited to pumps, pipes, tapes, canals, ditches, and drains; (ii) corridors and facilities for transporting personnel, livestock, and equipment to, from, and within agricultural lands; (iii) farm residences and associated equipment, lands, and facilities; and (iv) roadside stands and on-farm markets for marketing fruit or vegetables; and

(d) "Agricultural land" means those specific land areas on which agriculture activities are conducted.

(3) The department and local governments shall assure that local shoreline master programs use definitions consistent with the definitions in this section.

[2002 c 298 § 1.]

NOTES:

***Reviser's note:** "Current" first appears in chapter 298, Laws of 2002.

Implementation -- 2002 c 298: "The provisions of this act do not become effective until the earlier of either January 1, 2004, or the date the department of ecology amends or updates chapter 173-16 or 173-26 WAC." [2002 c 298 § 2.]

RCW 90.58.070
Local governments to submit letters of intent -- Department to act upon failure of local government.

(1) Local governments are directed with regard to shorelines of the state in their various jurisdictions to submit to the director of the department, within six months from June 1, 1971, letters stating that they propose to complete an inventory and develop master programs for these shorelines as provided for in RCW 90.58.080.

(2) If any local government fails to submit a letter as provided in subsection (1) of this section, or fails to adopt a master program for the shorelines of the state within its jurisdiction in accordance with the time schedule provided in this chapter, the department shall carry out the requirements of RCW 90.58.080 and adopt a master program for the shorelines of the state within the jurisdiction of the local government.

[1971 ex.s. c 286 § 7.]

RCW 90.58.080
Timetable for local governments to develop or amend master programs -- Review of master programs -- Grants.

(1) Local governments shall develop or amend a master program for regulation of uses of the shorelines of the state consistent with the required elements of the guidelines adopted by the department in accordance with the schedule established by this section.

(2)(a) Subject to the provisions of subsections (5) and (6) of this section, each local government subject to this chapter shall develop or amend its master program for the regulation of uses of shorelines within its jurisdiction according to the following schedule:

(i) On or before December 1, 2005, for the city of Port Townsend, the city of Bellingham, the city of Everett, Snohomish county, and Whatcom county;

(ii) On or before December 1, 2009, for King county and the cities within King county greater in population than ten thousand;

(iii) Except as provided by (a)(i) and (ii) of this subsection, on or before December 1, 2011, for Clallam, Clark, Jefferson, King, Kitsap, Pierce, Snohomish, Thurston, and Whatcom counties and the cities within those counties;

(iv) On or before December 1, 2012, for Cowlitz, Island, Lewis, Mason, San Juan, Skagit, and Skamania counties and the cities within those counties;

(v) On or before December 1, 2013, for Benton, Chelan, Douglas, Grant, Kittitas, Spokane, and Yakima counties and the cities within those counties; and

(vi) On or before December 1, 2014, for Adams, Asotin, Columbia, Ferry, Franklin, Garfield, Grays Harbor, Klickitat, Lincoln, Okanogan, Pacific, Pend Oreille, Stevens, Wahkiakum, Walla Walla, and Whitman counties

and the cities within those counties.

(b) Nothing in this subsection (2) shall preclude a local government from developing or amending its master program prior to the dates established by this subsection (2).

(3)(a) Following approval by the department of a new or amended master program, local governments required to develop or amend master programs on or before December 1, 2009, as provided by subsection (2)(a)(i) and (ii) of this section, shall be deemed to have complied with the schedule established by subsection (2)(a)(iii) of this section and shall not be required to complete master program amendments until seven years after the applicable dates established by subsection (2)(a)(iii) of this section. Any jurisdiction listed in subsection (2)(a)(i) of this section that has a new or amended master program approved by the department on or after March 1, 2002, but before July 27, 2003, shall not be required to complete master program amendments until seven years after the applicable date provided by subsection (2)(a)(iii) of this section.

(b) Following approval by the department of a new or amended master program, local governments choosing to develop or amend master programs on or before December 1, 2009, shall be deemed to have complied with the schedule established by subsection (2)(a)(iii) through (vi) of this section and shall not be required to complete master program amendments until seven years after the applicable dates established by subsection (2)(a)(iii) through (vi) of this section.

(4) Local governments shall conduct a review of their master programs at least once every seven years after the applicable dates established by subsection (2)(a)(iii) through (vi) of this section. Following the review required by this subsection (4), local governments shall, if necessary, revise their master programs. The purpose of the review is:

(a) To assure that the master program complies with applicable law and guidelines in effect at the time of the review; and

(b) To assure consistency of the master program with the local government's comprehensive plan and development regulations adopted under chapter 36.70A RCW, if applicable, and other local requirements.

(5) Local governments are encouraged to begin the process of developing or amending their master programs early and are eligible for grants from the department as provided by RCW 90.58.250, subject to available funding. Except for those local governments listed in subsection (2)(a)(i) and (ii) of this section, the deadline for completion of the new or amended master programs shall be two years after the date the grant is approved by the department. Subsequent master program review dates shall not be altered by the provisions of this subsection.

(6)(a) Grants to local governments for developing and amending master programs pursuant to the schedule established by this section shall be provided at least two years before the adoption dates specified in subsection (2) of this section. To the extent possible, the department shall allocate grants within the amount appropriated for such purposes to provide reasonable and adequate funding to local governments that have indicated their intent to develop or amend master programs during the biennium according to the schedule established by subsection (2) of this section. Any local government that applies for but does not receive funding to comply with the provisions of subsection (2) of this section may delay the development or amendment of its master program until the following biennium.

(b) Local governments with delayed compliance dates as provided in (a) of this subsection shall be the first priority for funding in subsequent biennia, and the development or amendment compliance deadline for those local governments shall be two years after the date of grant approval.

(c) Failure of the local government to apply in a timely manner for a master program development or amendment grant in accordance with the requirements of the department shall not be considered a delay resulting from the provisions of (a) of this subsection.

(7) Notwithstanding the provisions of this section, all local governments subject to the requirements of this chapter that have not developed or amended master programs on or after March 1, 2002, shall, no later than

December 1, 2014, develop or amend their master programs to comply with guidelines adopted by the department after January 1, 2003.

[2003 c 262 § 2; 1995 c 347 § 305; 1974 ex.s. c 61 § 1; 1971 ex.s. c 286 § 8.]

NOTES:

Finding -- Severability -- Part headings and table of contents not law -- 1995 c 347: See notes following RCW 36.70A.470.

RCW 90.58.090
Approval of master program or segments or amendments -- Procedure -- Departmental alternatives when shorelines of statewide significance -- Later adoption of master program supersedes departmental program.

(1) A master program, segment of a master program, or an amendment to a master program shall become effective when approved by the department. Within the time period provided in RCW 90.58.080, each local government shall have submitted a master program, either totally or by segments, for all shorelines of the state within its jurisdiction to the department for review and approval.

(2) Upon receipt of a proposed master program or amendment, the department shall:

(a) Provide notice to and opportunity for written comment by all interested parties of record as a part of the local government review process for the proposal and to all persons, groups, and agencies that have requested in writing notice of proposed master programs or amendments generally or for a specific area, subject matter, or issue. The comment period shall be at least thirty days, unless the department determines that the level of complexity or controversy involved supports a shorter period;

(b) In the department's discretion, conduct a public hearing during the thirty-day comment period in the jurisdiction proposing the master program or amendment;

(c) Within fifteen days after the close of public comment, request the local government to review the issues identified by the public, interested parties, groups, and agencies and provide a written response as to how the proposal addresses the identified issues;

(d) Within thirty days after receipt of the local government response pursuant to (c) of this subsection, make written findings and conclusions regarding the consistency of the proposal with the policy of RCW 90.58.020 and the applicable guidelines, provide a response to the issues identified in (c) of this subsection, and either approve the proposal as submitted, recommend specific changes necessary to make the proposal approvable, or deny approval of the proposal in those instances where no alteration of the proposal appears likely to be consistent with the policy of RCW 90.58.020 and the applicable guidelines. The written findings and conclusions shall be provided to the local government, all interested persons, parties, groups, and agencies of record on the proposal;

(e) If the department recommends changes to the proposed master program or amendment, within thirty days after the department mails the written findings and conclusions to the local government, the local government may:

(i) Agree to the proposed changes. The receipt by the department of the written notice of agreement constitutes final action by the department approving the amendment; or

(ii) Submit an alternative proposal. If, in the opinion of the department, the alternative is consistent with the purpose and intent of the changes originally submitted by the department and with this chapter it shall approve the changes and provide written notice to all recipients of the written findings and conclusions. If the department determines the proposal is not consistent with the purpose and intent of the changes proposed by the department,

the department may resubmit the proposal for public and agency review pursuant to this section or reject the proposal.

(3) The department shall approve the segment of a master program relating to shorelines unless it determines that the submitted segments are not consistent with the policy of RCW 90.58.020 and the applicable guidelines.

(4) The department shall approve the segment of a master program relating to critical areas as defined by RCW 36.70A.030(5) provided the master program segment is consistent with RCW 90.58.020 and applicable shoreline guidelines, and if the segment provides a level of protection of critical areas at least equal to that provided by the local government's critical areas ordinances adopted and thereafter amended pursuant to RCW 36.70A.060(2).

(5) The department shall approve those segments of the master program relating to shorelines of statewide significance only after determining the program provides the optimum implementation of the policy of this chapter to satisfy the statewide interest. If the department does not approve a segment of a local government master program relating to a shoreline of statewide significance, the department may develop and by rule adopt an alternative to the local government's proposal.

(6) In the event a local government has not complied with the requirements of RCW 90.58.070 it may thereafter upon written notice to the department elect to adopt a master program for the shorelines within its jurisdiction, in which event it shall comply with the provisions established by this chapter for the adoption of a master program for such shorelines.

Upon approval of such master program by the department it shall supersede such master program as may have been adopted by the department for such shorelines.

(7) A master program or amendment to a master program takes effect when and in such form as approved or adopted by the department. Shoreline master programs that were adopted by the department prior to July 22, 1995, in accordance with the provisions of this section then in effect, shall be deemed approved by the department in accordance with the provisions of this section that became effective on that date. The department shall maintain a record of each master program, the action taken on any proposal for adoption or amendment of the master program, and any appeal of the department's action. The department's approved document of record constitutes the official master program.

[2003 c 321 § 3; 1997 c 429 § 50; 1995 c 347 § 306; 1971 ex.s. c 286 § 9.]

NOTES:

Finding -- Intent -- 2003 c 321: See note following RCW 90.58.030.

Severability -- 1997 c 429: See note following RCW 36.70A.3201.

Finding -- Severability -- Part headings and table of contents not law -- 1995 c 347: See notes following RCW 36.70A.470.

RCW 90.58.100
Programs as constituting use regulations -- Duties when preparing programs and amendments thereto -- Program contents.

(1) The master programs provided for in this chapter, when adopted or approved by the department shall constitute use regulations for the various shorelines of the state. In preparing the master programs, and any amendments thereto, the department and local governments shall to the extent feasible:

(a) Utilize a systematic interdisciplinary approach which will insure the integrated use of the natural and social sciences and the environmental design arts;

(b) Consult with and obtain the comments of any federal, state, regional, or local agency having any special expertise with respect to any environmental impact;

(c) Consider all plans, studies, surveys, inventories, and systems of classification made or being made by federal, state, regional, or local agencies, by private individuals, or by organizations dealing with pertinent shorelines of the state;

(d) Conduct or support such further research, studies, surveys, and interviews as are deemed necessary;

(e) Utilize all available information regarding hydrology, geography, topography, ecology, economics, and other pertinent data;

(f) Employ, when feasible, all appropriate, modern scientific data processing and computer techniques to store, index, analyze, and manage the information gathered.

(2) The master programs shall include, when appropriate, the following:

(a) An economic development element for the location and design of industries, industrial projects of statewide significance, transportation facilities, port facilities, tourist facilities, commerce and other developments that are particularly dependent on their location on or use of the shorelines of the state;

(b) A public access element making provision for public access to publicly owned areas;

(c) A recreational element for the preservation and enlargement of recreational opportunities, including but not limited to parks, tidelands, beaches, and recreational areas;

(d) A circulation element consisting of the general location and extent of existing and proposed major thoroughfares, transportation routes, terminals, and other public utilities and facilities, all correlated with the shoreline use element;

(e) A use element which considers the proposed general distribution and general location and extent of the use on shorelines and adjacent land areas for housing, business, industry, transportation, agriculture, natural resources, recreation, education, public buildings and grounds, and other categories of public and private uses of the land;

(f) A conservation element for the preservation of natural resources, including but not limited to scenic vistas, aesthetics, and vital estuarine areas for fisheries and wildlife protection;

(g) An historic, cultural, scientific, and educational element for the protection and restoration of buildings, sites, and areas having historic, cultural, scientific, or educational values;

(h) An element that gives consideration to the statewide interest in the prevention and minimization of flood damages; and

(i) Any other element deemed appropriate or necessary to effectuate the policy of this chapter.

(3) The master programs shall include such map or maps, descriptive text, diagrams and charts, or other descriptive material as are necessary to provide for ease of understanding.

(4) Master programs will reflect that state-owned shorelines of the state are particularly adapted to providing wilderness beaches, ecological study areas, and other recreational activities for the public and will give appropriate special consideration to same.

(5) Each master program shall contain provisions to allow for the varying of the application of use regulations of the program, including provisions for permits for conditional uses and variances, to insure that strict implementation of a program will not create unnecessary hardships or thwart the policy enumerated in RCW 90.58.020. Any such varying shall be allowed only if extraordinary circumstances are shown and the public interest suffers no substantial detrimental effect. The concept of this subsection shall be incorporated in the rules adopted by the department relating to the establishment of a permit system as provided in RCW 90.58.140(3).

(6) Each master program shall contain standards governing the protection of single family residences and appurtenant structures against damage or loss due to shoreline erosion. The standards shall govern the issuance of substantial development permits for shoreline protection, including structural methods such as construction of bulkheads, and nonstructural methods of protection. The standards shall provide for methods which achieve effective and timely protection against loss or damage to single family residences and appurtenant structures due to shoreline erosion. The standards shall provide a preference for permit issuance for measures to protect single family residences occupied prior to January 1, 1992, where the proposed measure is designed to minimize harm to the shoreline natural environment.

[1997 c 369 § 7; 1995 c 347 § 307; 1992 c 105 § 2; 1991 c 322 § 32; 1971 ex.s. c 286 § 10.]

NOTES:

Finding -- Severability -- Part headings and table of contents not law -- 1995 c 347: See notes following RCW 36.70A.470.

Findings -- Intent -- 1991 c 322: See note following RCW 86.12.200.

Industrial project of statewide significance -- Defined: RCW 43.157.010.

RCW 90.58.110
Development of program within two or more adjacent local government jurisdictions -- Development of program in segments, when.

(1) Whenever it shall appear to the director that a master program should be developed for a region of the shorelines of the state which includes lands and waters located in two or more adjacent local government jurisdictions, the director shall designate such region and notify the appropriate units of local government thereof. It shall be the duty of the notified units to develop cooperatively an inventory and master program in accordance with and within the time provided in RCW 90.58.080.

(2) At the discretion of the department, a local government master program may be adopted in segments applicable to particular areas so that immediate attention may be given to those areas of the shorelines of the state in most need of a use regulation.

[1971 ex.s. c 286 § 11.]

RCW 90.58.120
Adoption of rules, programs, etc., subject to RCW 34.05.310 through 34.05.395 -- Public hearings, notice of -- Public inspection after approval or adoption.

All rules, regulations, designations, and guidelines, issued by the department, and master programs and amendments adopted by the department pursuant to RCW 90.58.070(2) or *90.58.090(4) shall be adopted or approved in accordance with the provisions of RCW 34.05.310 through 34.05.395 insofar as such provisions are not inconsistent with the provisions of this chapter. In addition:

(1) Prior to the adoption by the department of a master program, or portion thereof pursuant to RCW

90.58.070(2) or *90.58.090(4), at least one public hearing shall be held in each county affected by a program or portion thereof for the purpose of obtaining the views and comments of the public. Notice of each such hearing shall be published at least once in each of the three weeks immediately preceding the hearing in one or more newspapers of general circulation in the county in which the hearing is to be held.

(2) All guidelines, regulations, designations, or master programs adopted or approved under this chapter shall be available for public inspection at the office of the department or the appropriate county and city. The terms "adopt" and "approve" for purposes of this section, shall include modifications and rescission of guidelines.

[1995 c 347 § 308; 1989 c 175 § 182; 1975 1st ex.s. c 182 § 2; 1971 ex.s. c 286 § 12.]

NOTES:

***Reviser's note:** RCW 90.58.090 was amended by 2003 c 321 § 3, changing subsection (4) to subsection (5).

Finding -- Severability -- Part headings and table of contents not law -- 1995 c 347: See notes following RCW 36.70A.470.

Effective date -- 1989 c 175: See note following RCW 34.05.010.

RCW 90.58.130
Involvement of all persons and entities having interest, means.

To insure that all persons and entities having an interest in the guidelines and master programs developed under this chapter are provided with a full opportunity for involvement in both their development and implementation, the department and local governments shall:

(1) Make reasonable efforts to inform the people of the state about the shoreline management program of this chapter and in the performance of the responsibilities provided in this chapter, shall not only invite but actively encourage participation by all persons and private groups and entities showing an interest in shoreline management programs of this chapter; and

(2) Invite and encourage participation by all agencies of federal, state, and local government, including municipal and public corporations, having interests or responsibilities relating to the shorelines of the state. State and local agencies are directed to participate fully to insure that their interests are fully considered by the department and local governments.

[1971 ex.s. c 286 § 13.]

RCW 90.58.140
Development permits -- Grounds for granting -- Administration by local government, conditions -- Applications -- Notices -- Rescission -- Approval when permit for variance or conditional use.

(1) A development shall not be undertaken on the shorelines of the state unless it is consistent with the policy of this chapter and, after adoption or approval, as appropriate, the applicable guidelines, rules, or master program.

(2) A substantial development shall not be undertaken on shorelines of the state without first obtaining a permit from the government entity having administrative jurisdiction under this chapter.

A permit shall be granted:

(a) From June 1, 1971, until such time as an applicable master program has become effective, only when the development proposed is consistent with: (i) The policy of RCW 90.58.020; and (ii) after their adoption, the guidelines and rules of the department; and (iii) so far as can be ascertained, the master program being developed for the area;

(b) After adoption or approval, as appropriate, by the department of an applicable master program, only when the development proposed is consistent with the applicable master program and this chapter.

(3) The local government shall establish a program, consistent with rules adopted by the department, for the administration and enforcement of the permit system provided in this section. The administration of the system so established shall be performed exclusively by the local government.

(4) Except as otherwise specifically provided in subsection (11) of this section, the local government shall require notification of the public of all applications for permits governed by any permit system established pursuant to subsection (3) of this section by ensuring that notice of the application is given by at least one of the following methods:

(a) Mailing of the notice to the latest recorded real property owners as shown by the records of the county assessor within at least three hundred feet of the boundary of the property upon which the substantial development is proposed;

(b) Posting of the notice in a conspicuous manner on the property upon which the project is to be constructed; or

(c) Any other manner deemed appropriate by local authorities to accomplish the objectives of reasonable notice to adjacent landowners and the public.

The notices shall include a statement that any person desiring to submit written comments concerning an application, or desiring to receive notification of the final decision concerning an application as expeditiously as possible after the issuance of the decision, may submit the comments or requests for decisions to the local government within thirty days of the last date the notice is to be published pursuant to this subsection. The local government shall forward, in a timely manner following the issuance of a decision, a copy of the decision to each person who submits a request for the decision.

If a hearing is to be held on an application, notices of such a hearing shall include a statement that any person may submit oral or written comments on an application at the hearing.

(5) The system shall include provisions to assure that construction pursuant to a permit will not begin or be authorized until twenty-one days from the date the permit decision was filed as provided in subsection (6) of this section; or until all review proceedings are terminated if the proceedings were initiated within twenty-one days from the date of filing as defined in subsection (6) of this section except as follows:

(a) In the case of any permit issued to the state of Washington, department of transportation, for the construction and modification of SR 90 (I-90) on or adjacent to Lake Washington, the construction may begin after thirty days from the date of filing, and the permits are valid until December 31, 1995;

(b) Construction may be commenced no sooner than thirty days after the date of the appeal of the board's decision is filed if a permit is granted by the local government and (i) the granting of the permit is appealed to the shorelines hearings board within twenty-one days of the date of filing, (ii) the hearings board approves the granting of the permit by the local government or approves a portion of the substantial development for which the local government issued the permit, and (iii) an appeal for judicial review of the hearings board decision is filed pursuant to chapter 34.05 RCW. The appellant may request, within ten days of the filing of the appeal with the court, a hearing before the court to determine whether construction pursuant to the permit approved by the hearings board or to a revised permit issued pursuant to the order of the hearings board should not commence. If, at the conclusion of the hearing, the court finds that construction pursuant to such a permit would involve a

significant, irreversible damaging of the environment, the court shall prohibit the permittee from commencing the construction pursuant to the approved or revised permit until all review proceedings are final. Construction pursuant to a permit revised at the direction of the hearings board may begin only on that portion of the substantial development for which the local government had originally issued the permit, and construction pursuant to such a revised permit on other portions of the substantial development may not begin until after all review proceedings are terminated. In such a hearing before the court, the burden of proving whether the construction may involve significant irreversible damage to the environment and demonstrating whether such construction would or would not be appropriate is on the appellant;

(c) If the permit is for a substantial development meeting the requirements of subsection (11) of this section, construction pursuant to that permit may not begin or be authorized until twenty-one days from the date the permit decision was filed as provided in subsection (6) of this section.

If a permittee begins construction pursuant to subsections (a), (b), or (c) of this subsection, the construction is begun at the permittee's own risk. If, as a result of judicial review, the courts order the removal of any portion of the construction or the restoration of any portion of the environment involved or require the alteration of any portion of a substantial development constructed pursuant to a permit, the permittee is barred from recovering damages or costs involved in adhering to such requirements from the local government that granted the permit, the hearings board, or any appellant or intervener.

(6) Any decision on an application for a permit under the authority of this section, whether it is an approval or a denial, shall, concurrently with the transmittal of the ruling to the applicant, be filed with the department and the attorney general. With regard to a permit other than a permit governed by subsection (10) of this section, "date of filing" as used herein means the date of actual receipt by the department. With regard to a permit for a variance or a conditional use, "date of filing" means the date a decision of the department rendered on the permit pursuant to subsection (10) of this section is transmitted by the department to the local government. The department shall notify in writing the local government and the applicant of the date of filing.

(7) Applicants for permits under this section have the burden of proving that a proposed substantial development is consistent with the criteria that must be met before a permit is granted. In any review of the granting or denial of an application for a permit as provided in RCW 90.58.180 (1) and (2), the person requesting the review has the burden of proof.

(8) Any permit may, after a hearing with adequate notice to the permittee and the public, be rescinded by the issuing authority upon the finding that a permittee has not complied with conditions of a permit. If the department is of the opinion that noncompliance exists, the department shall provide written notice to the local government and the permittee. If the department is of the opinion that the noncompliance continues to exist thirty days after the date of the notice, and the local government has taken no action to rescind the permit, the department may petition the hearings board for a rescission of the permit upon written notice of the petition to the local government and the permittee if the request by the department is made to the hearings board within fifteen days of the termination of the thirty-day notice to the local government.

(9) The holder of a certification from the governor pursuant to chapter 80.50 RCW shall not be required to obtain a permit under this section.

(10) Any permit for a variance or a conditional use by local government under approved master programs must be submitted to the department for its approval or disapproval.

(11)(a) An application for a substantial development permit for a limited utility extension or for the construction of a bulkhead or other measures to protect a single family residence and its appurtenant structures from shoreline erosion shall be subject to the following procedures:

(i) The public comment period under subsection (4) of this section shall be twenty days. The notice provided under subsection (4) of this section shall state the manner in which the public may obtain a copy of the local government decision on the application no later than two days following its issuance;

(ii) The local government shall issue its decision to grant or deny the permit within twenty-one days of the last day of the comment period specified in (i) of this subsection; and

(iii) If there is an appeal of the decision to grant or deny the permit to the local government legislative authority, the appeal shall be finally determined by the legislative authority within thirty days.

(b) For purposes of this section, a limited utility extension means the extension of a utility service that:

(i) Is categorically exempt under chapter 43.21C RCW for one or more of the following: Natural gas, electricity, telephone, water, or sewer;

(ii) Will serve an existing use in compliance with this chapter; and

(iii) Will not extend more than twenty-five hundred linear feet within the shorelines of the state.

[1995 c 347 § 309; 1992 c 105 § 3; 1990 c 201 § 2; 1988 c 22 § 1; 1984 c 7 § 386; 1977 ex.s. c 358 § 1; 1975-'76 2nd ex.s. c 51 § 1; 1975 1st ex.s. c 182 § 3; 1973 2nd ex.s. c 19 § 1; 1971 ex.s. c 286 § 14.]

NOTES:

Finding -- Severability -- Part headings and table of contents not law -- 1995 c 347: See notes following RCW 36.70A.470.

Finding -- Intent -- 1990 c 201: "The legislature finds that delays in substantial development permit review for the extension of vital utility services to existing and lawful uses within the shorelines of the state have caused hardship upon existing residents without serving any of the purposes and policies of the shoreline management act. It is the intent of this act to provide a more expeditious permit review process for that limited category of utility extension activities only, while fully preserving safeguards of public review and appeal rights regarding permit applications and decisions." [1990 c 201 § 1.]

Severability -- 1984 c 7: See note following RCW 47.01.141.

RCW 90.58.143
Time requirements -- Substantial development permits, variances, conditional use permits.

(1) The time requirements of this section shall apply to all substantial development permits and to any development authorized pursuant to a variance or conditional use permit authorized under this chapter. Upon a finding of good cause, based on the requirements and circumstances of the project proposed and consistent with the policy and provisions of the master program and this chapter, local government may adopt different time limits from those set forth in subsections (2) and (3) of this section as a part of action on a substantial development permit.

(2) Construction activities shall be commenced or, where no construction activities are involved, the use or activity shall be commenced within two years of the effective date of a substantial development permit. However, local government may authorize a single extension for a period not to exceed one year based on reasonable factors, if a request for extension has been filed before the expiration date and notice of the proposed extension is given to parties of record on the substantial development permit and to the department.

(3) Authorization to conduct construction activities shall terminate five years after the effective date of a substantial development permit. However, local government may authorize a single extension for a period not to exceed one year based on reasonable factors, if a request for extension has been filed before the expiration date and notice of the proposed extension is given to parties of record and to the department.

(4) The effective date of a substantial development permit shall be the date of filing as provided in RCW 90.58.140(6). The permit time periods in subsections (2) and (3) of this section do not include the time during which a use or activity was not actually pursued due to the pendency of administrative appeals or legal actions or due to the need to obtain any other government permits and approvals for the development that authorize the development to proceed, including all reasonably related administrative or legal actions on any such permits or approvals.

[1997 c 429 § 51; 1996 c 62 § 1.]

NOTES:

Severability -- 1997 c 429: See note following RCW 36.70A.3201.

RCW 90.58.147
Substantial development permit -- Exemption for projects to improve fish or wildlife habitat or fish passage.

(1) A public or private project that is designed to improve fish or wildlife habitat or fish passage shall be exempt from the substantial development permit requirements of this chapter when all of the following apply:

(a) The project has been approved by the department of fish and wildlife;

(b) The project has received hydraulic project approval by the department of fish and wildlife pursuant to chapter 77.55 RCW; and

(c) The local government has determined that the project is substantially consistent with the local shoreline master program. The local government shall make such determination in a timely manner and provide it by letter to the project proponent.

(2) Fish habitat enhancement projects that conform to the provisions of RCW 77.55.290 are determined to be consistent with local shoreline master programs.

[2003 c 39 § 49; 1998 c 249 § 4; 1995 c 333 § 1.]

NOTES:

Findings -- Purpose -- Report -- Effective date -- 1998 c 249: See notes following RCW 77.55.290.

RCW 90.58.150
Selective commercial timber cutting, when.

With respect to timber situated within two hundred feet abutting landward of the ordinary high water mark within shorelines of statewide significance, the department or local government shall allow only selective commercial timber cutting, so that no more than thirty percent of the merchantable trees may be harvested in any ten year period of time: PROVIDED, That other timber harvesting methods may be permitted in those limited instances where the topography, soil conditions or silviculture practices necessary for regeneration render selective logging ecologically detrimental: PROVIDED FURTHER, That clear cutting of timber which is solely incidental to the preparation of land for other uses authorized by this chapter may be permitted.

[1971 ex.s. c 286 § 15.]

RCW 90.58.160
Prohibition against surface drilling for oil or gas, where.

Surface drilling for oil or gas is prohibited in the waters of Puget Sound north to the Canadian boundary and the Strait of Juan de Fuca seaward from the ordinary high water mark and on all lands within one thousand feet landward from said mark.

[1971 ex.s. c 286 § 16.]

RCW 90.58.170
Shorelines hearings board -- Established -- Members -- Chairman -- Quorum for decision -- Expenses of members.

A shorelines hearings board sitting as a quasi judicial body is hereby established within the environmental hearings office under RCW 43.21B.005. The shorelines hearings board shall be made up of six members: Three members shall be members of the pollution control hearings board; two members, one appointed by the association of Washington cities and one appointed by the association of county commissioners, both to serve at the pleasure of the associations; and the commissioner of public lands or his or her designee. The chairman of the pollution control hearings board shall be the chairman of the shorelines hearings board. Except as provided in RCW 90.58.185, a decision must be agreed to by at least four members of the board to be final. The members of the shorelines board shall receive the compensation, travel, and subsistence expenses as provided in RCW 43.03.050 and 43.03.060.

[1994 c 253 § 1; 1988 c 128 § 76; 1979 ex.s. c 47 § 6; 1971 ex.s. c 286 § 17.]

NOTES:

Intent -- 1979 ex.s. c 47: See note following RCW 43.21B.005.

RCW 90.58.175
Rules and regulations.

The shorelines hearings board may adopt rules and regulations governing the administrative practice and procedure in and before the board.

[1973 1st ex.s. c 203 § 3.]

RCW 90.58.180
Appeals from granting, denying, or rescinding permits -- Board to act -- Local government appeals to board -- Grounds for declaring rule, regulation, or guideline invalid -- Appeals to court.

(1) Any person aggrieved by the granting, denying, or rescinding of a permit on shorelines of the state pursuant to RCW 90.58.140 may, except as otherwise provided in chapter 43.21L RCW, seek review from the shorelines hearings board by filing a petition for review within twenty-one days of the date of filing as defined in RCW 90.58.140(6).

Within seven days of the filing of any petition for review with the board as provided in this section pertaining to a final decision of a local government, the petitioner shall serve copies of the petition on the department, the office of the attorney general, and the local government. The department and the attorney general may intervene to protect the public interest and insure that the provisions of this chapter are complied with at any time within fifteen days from the date of the receipt by the department or the attorney general of a copy of the petition for review filed pursuant to this section. The shorelines hearings board shall schedule review proceedings on the petition for review without regard as to whether the period for the department or the attorney general to intervene has or has not expired.

(2) The department or the attorney general may obtain review of any final decision granting a permit, or granting or denying an application for a permit issued by a local government by filing a written petition with the shorelines hearings board and the appropriate local government within twenty-one days from the date the final decision was filed as provided in RCW 90.58.140(6).

(3) The review proceedings authorized in subsections (1) and (2) of this section are subject to the provisions of chapter 34.05 RCW pertaining to procedures in adjudicative proceedings. Judicial review of such proceedings of the shorelines hearings board is governed by chapter 34.05 RCW. The board shall issue its decision on the appeal authorized under subsections (1) and (2) of this section within one hundred eighty days after the date the petition is filed with the board or a petition to intervene is filed by the department or the attorney general, whichever is later. The time period may be extended by the board for a period of thirty days upon a showing of good cause or may be waived by the parties.

(4) Any person may appeal any rules, regulations, or guidelines adopted or approved by the department within thirty days of the date of the adoption or approval. The board shall make a final decision within sixty days following the hearing held thereon.

(5) The board shall find the rule, regulation, or guideline to be valid and enter a final decision to that effect unless it determines that the rule, regulation, or guideline:

(a) Is clearly erroneous in light of the policy of this chapter; or

(b) Constitutes an implementation of this chapter in violation of constitutional or statutory provisions; or

(c) Is arbitrary and capricious; or

(d) Was developed without fully considering and evaluating all material submitted to the department during public review and comment; or

(e) Was not adopted in accordance with required procedures.

(6) If the board makes a determination under subsection (5)(a) through (e) of this section, it shall enter a final decision declaring the rule, regulation, or guideline invalid, remanding the rule, regulation, or guideline to the department with a statement of the reasons in support of the determination, and directing the department to adopt, after a thorough consultation with the affected local government and any other interested party, a new rule, regulation, or guideline consistent with the board's decision.

(7) A decision of the board on the validity of a rule, regulation, or guideline shall be subject to review in superior court, if authorized pursuant to chapter 34.05 RCW. A petition for review of the decision of the shorelines hearings board on a rule, regulation, or guideline shall be filed within thirty days after the date of final decision by the shorelines hearings board.

[2003 c 393 § 22; 1997 c 199 § 1; 1995 c 347 § 310; 1994 c 253 § 3; 1989 c 175 § 183; 1986 c 292 § 2; 1975-'76 2nd ex.s. c 51 § 2; 1975 1st ex.s. c 182 § 4; 1973 1st ex.s. c 203 § 2; 1971 ex.s. c 286 § 18.]

NOTES:

Implementation -- Effective date -- 2003 c 393: See RCW 43.21L.900 and 43.21L.901.

Finding -- Severability -- Part headings and table of contents not law -- 1995 c 347: See notes following RCW 36.70A.470.

Effective date -- 1989 c 175: See note following RCW 34.05.010.

Severability -- 1986 c 292: See note following RCW 90.58.030.

Appeal under this chapter also subject of appeal under state environmental policy act: RCW 43.21C.075.

RCW 90.58.185
Appeals involving single family residences -- Composition of board -- Rules to expedite appeals.

***** CHANGE IN 2005 *** (SEE 1838.SL) *****

(1) In the case of an appeal involving a single family residence or appurtenance to a single family residence, including a dock or pier designed to serve a single family residence, the request for review may be heard by a panel of three board members, at least one and not more than two of whom shall be members of the pollution control hearings board. Two members of the three must agree to issue a final decision of the board.

(2) The board shall define by rule alternative processes to expedite appeals. These alternatives may include: Mediation, upon agreement of all parties; submission of testimony by affidavit; or other forms that may lead to less formal and faster resolution of appeals.

[1994 c 253 § 2.]

RCW 90.58.190
Appeal of department's decision to adopt or amend a master program.

(1) The appeal of the department's decision to adopt a master program or amendment pursuant to RCW 90.58.070(2) or 90.58.090(5) is governed by RCW 34.05.510 through 34.05.598.

(2)(a) The department's decision to approve, reject, or modify a proposed master program or amendment adopted by a local government planning under RCW 36.70A.040 shall be appealed to the growth management hearings board with jurisdiction over the local government. The appeal shall be initiated by filing a petition as provided in RCW 36.70A.250 through 36.70A.320.

(b) If the appeal to the growth management hearings board concerns shorelines, the growth management hearings board shall review the proposed master program or amendment solely for compliance with the requirements of this chapter, the policy of RCW 90.58.020 and the applicable guidelines, the internal consistency provisions of RCW 36.70A.070, 36.70A.040(4),35.63.125 , and 35A.63.105, and chapter 43.21C RCW as it relates to the adoption of master programs and amendments under chapter 90.58 RCW.

(c) If the appeal to the growth management hearings board concerns a shoreline of statewide significance, the board shall uphold the decision by the department unless the board, by clear and convincing evidence, determines that the decision of the department is inconsistent with the policy of RCW 90.58.020 and the applicable guidelines.

(d) The appellant has the burden of proof in all appeals to the growth management hearings board under this subsection.

(e) Any party aggrieved by a final decision of a growth management hearings board under this subsection may

appeal the decision to superior court as provided in RCW 36.70A.300.

(3)(a) The department's decision to approve, reject, or modify a proposed master program or master program amendment by a local government not planning under RCW 36.70A.040 shall be appealed to the shorelines hearings board by filing a petition within thirty days of the date of the department's written notice to the local government of the department's decision to approve, reject, or modify a proposed master program or master program amendment as provided in RCW 90.58.090(2).

(b) In an appeal relating to shorelines, the shorelines hearings board shall review the proposed master program or master program amendment and, after full consideration of the presentations of the local government and the department, shall determine the validity of the local government's master program or amendment in light of the policy of RCW 90.58.020 and the applicable guidelines.

(c) In an appeal relating to shorelines of statewide significance, the shorelines hearings board shall uphold the decision by the department unless the board determines, by clear and convincing evidence that the decision of the department is inconsistent with the policy of RCW 90.58.020 and the applicable guidelines.

(d) Review by the shorelines hearings board shall be considered an adjudicative proceeding under chapter 34.05 RCW, the Administrative Procedure Act. The aggrieved local government shall have the burden of proof in all such reviews.

(e) Whenever possible, the review by the shorelines hearings board shall be heard within the county where the land subject to the proposed master program or master program amendment is primarily located. The department and any local government aggrieved by a final decision of the hearings board may appeal the decision to superior court as provided in chapter 34.05 RCW.

(4) A master program amendment shall become effective after the approval of the department or after the decision of the shorelines hearings board to uphold the master program or master program amendment, provided that the board may remand the master program or master program adjustment to the local government or the department for modification prior to the final adoption of the master program or master program amendment.

[2003 c 321 § 4; 1995 c 347 § 311; 1989 c 175 § 184; 1986 c 292 § 3; 1971 ex.s. c 286 § 19.]

NOTES:

Finding -- Intent -- 2003 c 321: See note following RCW 90.58.030.

Finding -- Severability -- Part headings and table of contents not law -- 1995 c 347: See notes following RCW 36.70A.470.

Effective date -- 1989 c 175: See note following RCW 34.05.010.

Severability -- 1986 c 292: See note following RCW 90.58.030.

RCW 90.58.195
Shoreline master plan review -- Local governments with coastal waters or coastal shorelines.

(1) The department of ecology, in cooperation with other state agencies and coastal local governments, shall prepare and adopt ocean use guidelines and policies to be used in reviewing, and where appropriate, amending, shoreline master programs of local governments with coastal waters or coastal shorelines within their boundaries. These guidelines shall be finalized by April 1, 1990.

(2) After the department of ecology has adopted the guidelines required in subsection (1) of this section,

counties, cities, and towns with coastal waters or coastal shorelines shall review their shoreline master programs to ensure that the programs conform with RCW 43.143.010 and 43.143.030 and with the department of ecology's ocean use guidelines. Amended master programs shall be submitted to the department of ecology for its approval under RCW 90.58.090 by June 30, 1991.

[1989 1st ex.s. c 2 § 13.]

RCW 90.58.200
Rules and regulations.

The department and local governments are authorized to adopt such rules as are necessary and appropriate to carry out the provisions of this chapter.

[1971 ex.s. c 286 § 20.]

RCW 90.58.210
Court actions to insure against conflicting uses and to enforce -- Civil penalty -- Review.

(1) Except as provided in RCW 43.05.060 through 43.05.080 and 43.05.150, the attorney general or the attorney for the local government shall bring such injunctive, declaratory, or other actions as are necessary to insure that no uses are made of the shorelines of the state in conflict with the provisions and programs of this chapter, and to otherwise enforce the provisions of this chapter.

(2) Any person who shall fail to conform to the terms of a permit issued under this chapter or who shall undertake development on the shorelines of the state without first obtaining any permit required under this chapter shall also be subject to a civil penalty not to exceed one thousand dollars for each violation. Each permit violation or each day of continued development without a required permit shall constitute a separate violation.

(3) The penalty provided for in this section shall be imposed by a notice in writing, either by certified mail with return receipt requested or by personal service, to the person incurring the same from the department or local government, describing the violation with reasonable particularity and ordering the act or acts constituting the violation or violations to cease and desist or, in appropriate cases, requiring necessary corrective action to be taken within a specific and reasonable time.

(4) Within thirty days after the notice is received, the person incurring the penalty may apply in writing to the department for remission or mitigation of such penalty. Upon receipt of the application, the department or local government may remit or mitigate the penalty upon whatever terms the department or local government in its discretion deems proper. Any penalty imposed pursuant to this section by the department shall be subject to review by the shorelines hearings board. Any penalty imposed pursuant to this section by local government shall be subject to review by the local government legislative authority. Any penalty jointly imposed by the department and local government shall be appealed to the shorelines hearings board.

[1995 c 403 § 637; 1986 c 292 § 4; 1971 ex.s. c 286 § 21.]

NOTES:

Findings -- Short title -- Intent -- 1995 c 403: See note following RCW 34.05.328.

Part headings not law -- Severability -- 1995 c 403: See RCW 43.05.903 and 43.05.904.

Severability -- 1986 c 292: See note following RCW 90.58.030.

RCW 90.58.220
General penalty.

In addition to incurring civil liability under RCW 90.58.210, any person found to have wilfully engaged in activities on the shorelines of the state in violation of the provisions of this chapter or any of the master programs, rules, or regulations adopted pursuant thereto shall be guilty of a gross misdemeanor, and shall be punished by a fine of not less than twenty-five nor more than one thousand dollars or by imprisonment in the county jail for not more than ninety days, or by both such fine and imprisonment: PROVIDED, That the fine for the third and all subsequent violations in any five-year period shall be not less than five hundred nor more than ten thousand dollars: PROVIDED FURTHER, That fines for violations of RCW 90.58.550, or any rule adopted thereunder, shall be determined under RCW 90.58.560.

[1983 c 138 § 3; 1971 ex.s. c 286 § 22.]

RCW 90.58.230
Violators liable for damages resulting from violation -- Attorney's fees and costs.

Any person subject to the regulatory program of this chapter who violates any provision of this chapter or permit issued pursuant thereto shall be liable for all damage to public or private property arising from such violation, including the cost of restoring the affected area to its condition prior to violation. The attorney general or local government attorney shall bring suit for damages under this section on behalf of the state or local governments. Private persons shall have the right to bring suit for damages under this section on their own behalf and on the behalf of all persons similarly situated. If liability has been established for the cost of restoring an area affected by a violation the court shall make provision to assure that restoration will be accomplished within a reasonable time at the expense of the violator. In addition to such relief, including money damages, the court in its discretion may award attorney's fees and costs of the suit to the prevailing party.

[1971 ex.s. c 286 § 23.]

RCW 90.58.240
Additional authority granted department and local governments.

In addition to any other powers granted hereunder, the department and local governments may:

(1) Acquire lands and easements within shorelines of the state by purchase, lease, or gift, either alone or in concert with other governmental entities, when necessary to achieve implementation of master programs adopted hereunder;

(2) Accept grants, contributions, and appropriations from any agency, public or private, or individual for the purposes of this chapter;

(3) Appoint advisory committees to assist in carrying out the purposes of this chapter;

(4) Contract for professional or technical services required by it which cannot be performed by its employees.

[1972 ex.s. c 53 § 1; 1971 ex.s. c 286 § 24.]

RCW 90.58.250
Intent -- Department to cooperate with local governments -- Grants for development of master programs.

(1) The legislature intends to eliminate the limits on state funding of shoreline master program development and amendment costs. The legislature further intends that the state will provide funding to local governments that is reasonable and adequate to accomplish the costs of developing and amending shoreline master programs consistent with the schedule established by RCW 90.58.080. Except as specifically described herein, nothing in chapter 262, Laws of 2003 is intended to alter the existing obligation, duties, and benefits provided by chapter 262, Laws of 2003 to local governments and the department.

(2) The department is directed to cooperate fully with local governments in discharging their responsibilities under this chapter. Funds shall be available for distribution to local governments on the basis of applications for preparation of master programs and the provisions of RCW 90.58.080(7). Such applications shall be submitted in accordance with regulations developed by the department. The department is authorized to make and administer grants within appropriations authorized by the legislature to any local government within the state for the purpose of developing a master shorelines program.

[2003 c 262 § 3; 1971 ex.s. c 286 § 25.]

RCW 90.58.260
State to represent its interest before federal agencies, interstate agencies and courts.

The state, through the department of ecology and the attorney general, shall represent its interest before water resource regulation management, development, and use agencies of the United States, including among others, the federal power commission, environmental protection agency, corps of engineers, department of the interior, department of agriculture and the atomic energy commission, before interstate agencies and the courts with regard to activities or uses of shorelines of the state and the program of this chapter. Where federal or interstate agency plans, activities, or procedures conflict with state policies, all reasonable steps available shall be taken by the state to preserve the integrity of its policies.

[1971 ex.s. c 286 § 26.]

RCW 90.58.270
Nonapplication to certain structures, docks, developments, etc., placed in navigable waters -- Nonapplication to certain rights of action, authority.

(1) Nothing in this statute shall constitute authority for requiring or ordering the removal of any structures, improvements, docks, fills, or developments placed in navigable waters prior to December 4, 1969, and the consent and authorization of the state of Washington to the impairment of public rights of navigation, and corollary rights incidental thereto, caused by the retention and maintenance of said structures, improvements, docks, fills or developments are hereby granted: PROVIDED, That the consent herein given shall not relate to any structures, improvements, docks, fills, or developments placed on tidelands, shorelands, or beds underlying said waters which are in trespass or in violation of state statutes.

(2) Nothing in this section shall be construed as altering or abridging any private right of action, other than a private right which is based upon the impairment of public rights consented to in subsection (1) hereof.

(3) Nothing in this section shall be construed as altering or abridging the authority of the state or local

governments to suppress or abate nuisances or to abate pollution.

(4) Subsection (1) of this section shall apply to any case pending in the courts of this state on June 1, 1971 relating to the removal of structures, improvements, docks, fills, or developments based on the impairment of public navigational rights.

[1971 ex.s. c 286 § 27.]

RCW 90.58.280
Application to all state agencies, counties, public and municipal corporations.

The provisions of this chapter shall be applicable to all agencies of state government, counties, and public and municipal corporations and to all shorelines of the state owned or administered by them.

[1971 ex.s. c 286 § 28.]

RCW 90.58.290
Restrictions as affecting fair market value of property.

The restrictions imposed by this chapter shall be considered by the county assessor in establishing the fair market value of the property.

[1971 ex.s. c 286 § 29.]

RCW 90.58.300
Department as regulating state agency -- Special authority.

The department of ecology is designated the state agency responsible for the program of regulation of the shorelines of the state, including coastal shorelines and the shorelines of the inner tidal waters of the state, and is authorized to cooperate with the federal government and sister states and to receive benefits of any statutes of the United States whenever enacted which relate to the programs of this chapter.

[1971 ex.s. c 286 § 30.]

RCW 90.58.310
Designation of shorelines of statewide significance by legislature -- Recommendation by director, procedure.

Additional shorelines of the state shall be designated shorelines of statewide significance only by affirmative action of the legislature.

The director of the department may, however, from time to time, recommend to the legislature areas of the shorelines of the state which have statewide significance relating to special economic, ecological, educational, developmental, recreational, or aesthetic values to be designated as shorelines of statewide significance.

Prior to making any such recommendation the director shall hold a public hearing in the county or counties where the shoreline under consideration is located. It shall be the duty of the county commissioners of each

county where such a hearing is conducted to submit their views with regard to a proposed designation to the director at such date as the director determines but in no event shall the date be later than sixty days after the public hearing in the county.

[1971 ex.s. c 286 § 31.]

RCW 90.58.320
Height limitation respecting permits.

No permit shall be issued pursuant to this chapter for any new or expanded building or structure of more than thirty-five feet above average grade level on shorelines of the state that will obstruct the view of a substantial number of residences on areas adjoining such shorelines except where a master program does not prohibit the same and then only when overriding considerations of the public interest will be served.

[1971 ex.s. c 286 § 32.]

RCW 90.58.340
Use policies for land adjacent to shorelines, development of.

All state agencies, counties, and public and municipal corporations shall review administrative and management policies, regulations, plans, and ordinances relative to lands under their respective jurisdictions adjacent to the shorelines of the state so as the [to] achieve a use policy on said land consistent with the policy of this chapter, the guidelines, and the master programs for the shorelines of the state. The department may develop recommendations for land use control for such lands. Local governments shall, in developing use regulations for such areas, take into consideration any recommendations developed by the department as well as any other state agencies or units of local government.

[1971 ex.s. c 286 § 34.]

RCW 90.58.350
Nonapplication to treaty rights.

Nothing in this chapter shall affect any rights established by treaty to which the United States is a party.

[1971 ex.s. c 286 § 35.]

RCW 90.58.355
Hazardous substance remedial actions -- Procedural requirements not applicable.

The procedural requirements of this chapter shall not apply to any person conducting a remedial action at a facility pursuant to a consent decree, order, or agreed order issued pursuant to chapter 70.105D RCW, or to the department of ecology when it conducts a remedial action under chapter 70.105D RCW. The department of ecology shall ensure compliance with the substantive requirements of this chapter through the consent decree, order, or agreed order issued pursuant to chapter 70.105D RCW, or during the department-conducted remedial action, through the procedures developed by the department pursuant to RCW 70.105D.090.

[1994 c 257 § 20.]

NOTES:

Severability -- 1994 c 257: See note following RCW 36.70A.270.

RCW 90.58.360
Existing requirements for permits, certificates, etc., not obviated.

Nothing in this chapter shall obviate any requirement to obtain any permit, certificate, license, or approval from any state agency or local government.

[1971 ex.s. c 286 § 36.]

RCW 90.58.370
Processing of permits or authorizations for emergency water withdrawal and facilities to be expedited.

All state and local agencies with authority under this chapter to issue permits or other authorizations in connection with emergency water withdrawals and facilities authorized under RCW 43.83B.410 shall expedite the processing of such permits or authorizations in keeping with the emergency nature of such requests and shall provide a decision to the applicant within fifteen calendar days of the date of application.

[1989 c 171 § 11; 1987 c 343 § 5.]

NOTES:

Severability -- 1989 c 171: See note following RCW 43.83B.400.

Severability -- 1987 c 343: See note following RCW 43.83B.300.

RCW 90.58.380
Adoption of wetland manual.

The department by rule shall adopt a manual for the delineation of wetlands under this chapter that implements and is consistent with the 1987 manual in use on January 1, 1995, by the United States army corps of engineers and the United States environmental protection agency. If the corps of engineers and the environmental protection agency adopt changes to or a different manual, the department shall consider those changes and may adopt rules implementing those changes.

[1995 c 382 § 11.]

RCW 90.58.390
Certain secure community transition facilities not subject to chapter. ***(Expires June 30, 2009.)***

An emergency has been caused by the need to expeditiously site facilities to house sexually violent predators who have been committed under chapter 71.09 RCW. To meet this emergency, secure community transition facilities sited pursuant to the preemption provisions of RCW 71.09.342 and secure facilities sited pursuant to the

preemption provisions of RCW 71.09.250 are not subject to the provisions of this chapter.

This section expires June 30, 2009.

[2002 c 68 § 13.]

NOTES:

Purpose -- Severability -- Effective date -- 2002 c 68: See notes following RCW 36.70A.200.

RCW 90.58.515
Watershed restoration projects -- Exemption.

Watershed restoration projects as defined in RCW 89.08.460 are exempt from the requirement to obtain a substantial development permit. Local government shall review the projects for consistency with the locally adopted shoreline master program in an expeditious manner and shall issue its decision along with any conditions within forty-five days of receiving a complete consolidated application form from the applicant. No fee may be charged for accepting and processing applications for watershed restoration projects as used in this section.

[1995 c 378 § 16.]

RCW 90.58.550
Oil or natural gas exploration in marine waters -- Definitions -- Application for permit -- Requirements -- Review -- Enforcement.

(1) Within this section the following definitions apply:

(a) "Exploration activity" means reconnaissance or survey work related to gathering information about geologic features and formations underlying or adjacent to marine waters;

(b) "Marine waters" include the waters of Puget Sound north to the Canadian border, the waters of the Strait of Juan de Fuca, the waters between the western boundary of the state and the ordinary high water mark, and related bays and estuaries;

(c) "Vessel" includes ships, boats, barges, or any other floating craft.

(2) A person desiring to perform oil or natural gas exploration activities by vessel located on or within marine waters of the state shall first obtain a permit from the department of ecology. The department may approve an application for a permit only if it determines that the proposed activity will not:

(a) Interfere materially with the normal public uses of the marine waters of the state;

(b) Interfere with activities authorized by a permit issued under RCW 90.58.140(2);

(c) Injure the marine biota, beds, or tidelands of the waters;

(d) Violate water quality standards established by the department; or

(e) Create a public nuisance.

(3) Decisions on an application under subsection (2) of this section are subject to review only by the pollution

control hearings board under chapter 43.21B RCW.

(4) This section does not apply to activities conducted by an agency of the United States or the state of Washington.

(5) This section does not lessen, reduce, or modify RCW 90.58.160.

(6) The department may adopt rules necessary to implement this section.

(7) The attorney general shall enforce this section.

[1983 c 138 § 1.]

NOTES:

Ocean resources management act: Chapter 43.143 RCW.

Transport of petroleum products or hazardous substances: Chapter 88.40 RCW.

RCW 90.58.560
Oil or natural gas exploration -- Violations of RCW 90.58.550 -- Penalty -- Appeal.

(1) Except as provided in RCW 43.05.060 through 43.05.080 and 43.05.150, a person who violates RCW 90.58.550, or any rule adopted thereunder, is subject to a penalty in an amount of up to five thousand dollars a day for every such violation. Each and every such violation shall be a separate and distinct offense, and in case of a continuing violation, every day's continuance shall be and be deemed to be a separate and distinct violation. Every act of commission or omission which procures, aids or abets in the violation shall be considered a violation under the provisions of this section and subject to the penalty provided for in this section.

(2) The penalty shall be imposed by a notice in writing, either by certified mail with return receipt requested or by personal service, to the person incurring the penalty from the director or the director's representative describing such violation with reasonable particularity. The director or the director's representative may, upon written application therefor received within fifteen days after notice imposing any penalty is received by the person incurring the penalty, and when deemed to carry out the purposes of this chapter, remit or mitigate any penalty provided for in this section upon such terms as he or she deems proper, and shall have authority to ascertain the facts upon all such applications in such manner and under such regulations as he or she may deem proper.

(3) Any person incurring any penalty under this section may appeal the penalty to the hearings board as provided for in chapter 43.21B RCW. Such appeals shall be filed within thirty days of receipt of notice imposing any penalty unless an application for remission or mitigation is made to the department. When an application for remission or mitigation is made, such appeals shall be filed within thirty days of receipt of notice from the director or the director's representative setting forth the disposition of the application. Any penalty imposed under this section shall become due and payable thirty days after receipt of a notice imposing the same unless application for remission or mitigation is made or an appeal is filed. When an application for remission or mitigation is made, any penalty incurred hereunder shall become due and payable thirty days after receipt of notice setting forth the disposition of the application unless an appeal is filed from such disposition. Whenever an appeal of any penalty incurred under this section is filed, the penalty shall become due and payable only upon completion of all review proceedings and the issuance of a final order confirming the penalty in whole or in part.

(4) If the amount of any penalty is not paid to the department within thirty days after it becomes due and payable, the attorney general, upon the request of the director, shall bring an action in the name of the state of Washington in the superior court of Thurston county or of any county in which such violator may do business, to recover such penalty. In all such actions the procedure and rules of evidence shall be the same as an ordinary civil action except as otherwise in this chapter provided. All penalties recovered under this section shall be paid into the state treasury and credited to the general fund.

[1995 c 403 § 638; 1983 c 138 § 2.]

NOTES:

Findings -- Short title -- Intent -- 1995 c 403: See note following RCW 34.05.328.

Part headings not law -- Severability -- 1995 c 403: See RCW 43.05.903 and 43.05.904.

RCW 90.58.570
Consultation before responding to federal coastal zone management certificates.

The department of ecology shall consult with affected state agencies, local governments, Indian tribes, and the public prior to responding to federal coastal zone management consistency certifications for uses and activities occurring on the federal outer continental shelf.

[1989 1st ex.s. c 2 § 15.]

NOTES:

Severability -- 1989 1st ex.s. c 2: See RCW 43.143.902.

RCW 90.58.600
Conformance with chapter 43.97 RCW required.

With respect to the National Scenic Area, as defined in the Columbia [River] Gorge National Scenic Area Act, P.L. 99-663, the exercise of any power or authority by a local government or the department of ecology pursuant to this chapter shall be subject to and in conformity with the requirements of chapter 43.97 RCW, including the management plan regulations and ordinances adopted by the Columbia River Gorge commission pursuant to the Compact.

[1987 c 499 § 10.]

RCW 90.58.900
Liberal construction -- 1971 ex.s. c 286.

This chapter is exempted from the rule of strict construction, and it shall be liberally construed to give full effect to the objectives and purposes for which it was enacted.

[1971 ex.s. c 286 § 37.]

RCW 90.58.910
Severability -- 1971 ex.s. c 286.

If any provision of this chapter, or its application to any person or legal entity or circumstances, is held invalid, the remainder of the act, or the application of the provision to other persons or legal entities or circumstances, shall not be affected.

[1971 ex.s. c 286 § 40.]

RCW 90.58.911
Severability -- 1983 c 138.

If any provision of this act or its application to any person or circumstance is held invalid, the remainder of the act or the application of the provision to other persons or circumstances is not affected.

[1983 c 138 § 4.]

RCW 90.58.920
Effective date -- 1971 ex.s. c 286.

This chapter is necessary for the immediate preservation of the public peace, health and safety, the support of the state government, and its existing institutions. This 1971 act shall take effect on June 1, 1971. The director of ecology is authorized to immediately take such steps as are necessary to insure that this 1971 act is implemented on its effective date.

[1971 ex.s. c 286 § 41.]

Appendix C: WDOE Shoreline Master Program Submittal Checklist

SHORELINE MASTER PROGRAM SUBMITTAL CHECKLIST

This checklist is for use by local governments to satisfy the requirements of WAC 173-26-201(3)(a), relating to submittal of Shoreline Master Programs (SMPs) for review by the Department of Ecology (Ecology) under Chapter 173-26 WAC. The checklist does not create new or additional requirements beyond the provisions of that chapter.

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This checklist is intended to help in preparation and review of local shoreline master programs (SMPs). Local governments should include a checklist with all SMPs submitted for review by Ecology.

Information provided at the top of the checklist identifies what local jurisdiction and specific amendment (e.g. comprehensive update, environment re-designation or other topic) the checklist is submitted for, and who prepared it. Indicate in the location column where in the SMP (or other documents) the requirement is satisfied. If adopting other regulations by reference, identify what specific adopted version of a local ordinance is being used, and attach a copy of the relevant ordinance *(see example 1, below)*.

Draft submittals: For draft submittals, local governments may use the Comments column to note any questions or concerns about proposed language. Ecology may then use the Comment field to respond *(see example 2, below)*.

Final submittals: When submitting locally-approved SMPs for Ecology review, leave the comment field blank. Ecology will use the comment field to develop final comments on the SMP.

Ecology has attempted to make this checklist an accurate and concise summary of rule requirements, however the agency must rely solely on adopted state rules and law in approving or denying a master program. This document does not create new or additional requirements beyond the provisions of state laws and rules [WAC 173-26-201(3)(a)].

EXAMPLE 1: reference other documents if necessary

STATE RULE (WAC) REQUIREMENTS	*LOCATION*	*COMMENTS*
Inventory of existing data and materials. WAC 173-26-201(3)(c)(i) through (x).	Appendix A: Shoreline Inventory and Analysis, Section 2.	
Wetland buffer requirements are adequate to ensure wetland functions are protected and maintained in the long-term, taking into account ecological functions of the wetland, characteristics of the buffer, and potential impacts associated with adjacent land uses. WAC 173-26-221(2)(c)(i)(B)	City Ordinance CA 19.072, adopted July 17 2003, p. 32	

EXAMPLE 2: for draft submittals, use Comments column

STATE RULE (WAC) REQUIREMENTS	*LOCATION*	*COMMENTS*
High-intensity environment designation criteria: Areas within incorporated municipalities, "UGAs," and "rural areas of more intense development" *(see RCW 36.70A.070)* that currently support or are planned for high-intensity water-dependent uses. WAC 173-26-211(5)(d)(iii)	Urban Industrial, p. 15 Urban Mixed, p. 18 Also see Appendix B, Use Analysis, Chapter 3, p. 12.	**Local government:** SMP includes two urban designations that meet high-intensity criteria – Urban Industrial, and Urban Mixed. These alternative designations allow more specificity for public access, view and amenity requirements for the mixed use areas. **Ecology:** Proposed alternative designations are consistent with the purposes and policies of the high-intensity criteria, as per WAC 173-26-211(4)(c).

Acronyms and abbreviations	**For more information**
comp plan: Comprehensive Plan CUP: Conditional Use Permit SMA: Shoreline Management Act, RCW 90.58 SMP: Shoreline Master Program SSWS: Shorelines of Statewide Significance WAC: Washington Administrative Code	www.ecy.wa.gov/programs/sea/SMA/index.html Ecology SMA Policy Lead: Peter Skowlund: (360) 407-6522

SHORELINE MASTER PROGRAM SUBMITTAL CHECKLIST

Prepared for: (Jurisdiction Name) Name of Amendment: Prepared by: (Name) Date: / /		

STATE RULE (WAC) REQUIREMENTS	*LOCATION*	*COMMENTS*
DOCUMENTATION OF SMP DEVELOPMENT PROCESS		
Public involvement, communication, and coordination		
Documentation of **public involvement** throughout SMP development process. WAC 173-26-201(3)(b)(i) and WAC 173-26-090 and 100. For SSWS, see WAC 173-26-251(3)(a)		
Documentation of **communication with state agencies and affected Indian tribes** throughout SMP development. WAC 173-26-201(3)(b)(ii) and (iii), WAC 173-26-100(3). For saltwater shorelines, see WAC 173-26-221(2)(c)(iii)(B). For SSWS, see WAC 173-26-251(3)(a).		
Demonstration that **critical areas regulations** for shorelines are based on the SMA and the guidelines, and are at least equal to the current level of protection provided by the currently adopted critical areas ordinance. WAC 173-26-221(2)(b)(ii),(iii) and (c).		
Documentation of process to assure that proposed regulatory or administrative actions do not unconstitutionally infringe upon private **property rights**. See *"State of Washington, Attorney General's Recommended Process for Evaluation of Proposed Regulatory or Administrative Actions to Avoid Unconstitutional Takings of Private Property."* WAC 173-26-186(5).		
Final submittal includes: evidence of local government approval (or a locally approved "statement of intent to adopt"); new and/or amendatory text, environment designation maps (with boundary descriptions and justification for changes based on existing development patterns, biophysical capabilities and limitations, and the goals and aspirations of the local citizenry); a summary of the proposal together with staff reports and supporting materials; evidence of SEPA compliance; copies of all comments received with names and addresses. WAC 173-26-110 Submittal must include clear identification and transmittal of all provisions that make up the SMP. *This checklist, if complete, meets this requirement.* WAC 173-26-210(3)(a) and (h).		

STATE RULE (WAC) REQUIREMENTS	LOCATION	COMMENTS
Shoreline Inventory		
Inventory of existing data and materials. WAC 173-26-201(3)(c)(i) through (x). For jurisdictions with critical saltwater habitats, see WAC 173-26-221(2)(c)(iii)(A)&(B).		
Shoreline Analysis		
Characterization of shoreline ecosystems and their associated ecological functions that: identifies ecosystem-wide processes and ecological functions; assesses ecosystem-wide processes to determine their relationship to ecological functions; identifies specific measures necessary to protect and/or restore the ecological functions and ecosystem-wide processes. WAC 173-26-201(3)(d)(i)(A). Demonstration of how characterization was used to prepare master program policies and regulations that achieve no net loss of ecological functions necessary to support shoreline resources and to plan for restoration of impaired functions. WAC 173-26-201(3)(d)(i)(E). For vegetation, see WAC 173-26-221(5). For jurisdictions with critical saltwater habitats, see WAC 173-26-221(2)(c)(iii)(B). Description of data gaps, assumptions made and risks to ecological functions associated with SMP provisions. WAC 173-26-201(2)(a) Characterization includes maps of inventory information at appropriate scale. WAC 173-26-201(3)(c)		

STATE RULE (WAC) REQUIREMENTS	LOCATION	COMMENTS
Use analysis estimating future demand for shoreline space and potential use conflicts based on characterization of current shoreline use patterns and projected trends. Evidence that SMP ensures adequate shoreline space for projected shoreline preferred uses. Public access needs and opportunities within the jurisdiction are identified. Projections of regional economic need guide the designation of "high-intensity" shoreline. WAC 173-26-201(3)(d)(ii) & (v); WAC 173-26-211(5)(d)(ii)(B) For SMPs that allow **mining**, demonstration that siting of mines is consistent with requirements of WAC 173-26-241(3)(h)(i). For **SSWS**: evidence that SMP preserves adequate shorelands and submerged lands to accommodate current and projected demand for **economic resources of statewide importance** (e.g., commercial shellfish beds and navigable harbors) based on statewide or regional analyses, requirements for essential public facilities, and comment from related industry associations, affected Indian tribes, and state agencies. Evidence that **public access and recreation** requirements are based on demand projections that take into account activities of state agencies and interests of the citizens to visit public shorelines with special scenic qualities or cultural or recreational opportunities. WAC 173-26-251(3)(c)(ii) & (iii) **Optimum implementation** directives incorporated into comp plan and development regulations. WAC 173-26-251(2) & (3)(e) For **GMA** jurisdictions, SMP recreational provisions are consistent with growth projections and level-of-service standards contained in comp plan. WAC 173-26-241(3)(i)		
Restoration plan that: identifies degraded areas, impaired ecological functions, and potential restoration sites; Establishes restoration goals and priorities, including SMP goals and policies that provide for restoration of impaired ecological functions; Identifies existing restoration projects and programs; Identifies additional projects and programs needed to achieve local restoration goals, and implementation strategies including identifying prospective funding sources sets timelines and benchmarks for implementing restoration projects and programs; provides mechanisms or strategies to ensure that restoration projects and programs will be implemented according to plans and to appropriately review the effectiveness of the projects and programs in meeting the overall restoration goals. WAC 173-26-186(8)(c); 201(2)(c)&(f) For critical freshwater habitats: incentives to restore water connections impeded by previous development. WAC 173-26-221(2)(c)(iv)(C)(III). For **SSWS**, identification of where natural resources of statewide importance are being diminished over time, and master programs provisions that contribute to the restoration of those resources. WAC 173-26-251(3)(b)		

STATE RULE (WAC) REQUIREMENTS	*LOCATION*	*COMMENTS*
Evidence that each **environment designation** is consistent with guidelines criteria *[WAC 173-26-211(5)]*, as well as existing use pattern, the biological and physical character of the shoreline and the goals and aspirations of the community. WAC 173-26-211(2)(a). WAC 173-26-110(3) Lands designated as "forest lands of long-term significance" under RCW 36.70A.170 are designated either natural or rural conservancy shoreline environment designations. WAC 173-26-241(3)(e). For **SSWS**, demonstration that environment designation policies, boundaries, and use provisions implement SMA preferred use policies of RCW 90.58.020(1) through (7). WAC 173-26-251(3)(c)		
Assessment of how proposed policies and regulations cause, avoid, minimize and mitigate **cumulative impacts** to achieve no net loss policy. Include policies and regulations that address platting or subdividing of property, laying of utilities, and mapping of streets that establish a pattern for future development. Evaluation addresses: (i) *current circumstances* affecting the shorelines and relevant natural processes; (ii) reasonably *foreseeable future development* and use of the shoreline (including impacts from unregulated activities, exempt development, and other incremental impacts); and (iii) *beneficial effects* of any established regulatory programs under other local, state, and federal laws. WAC 173-26-201(3)(d)(iii) and WAC 173-26-186(8)(d) For jurisdictions with critical saltwater habitats, identification of methods for monitoring conditions and adapting management practices to new information. WAC 173-26-221(2)(c)(iii)(B). For **SSWS**, evidence that standards ensuring protection of ecological resources of statewide importance consider cumulative impacts of permitted development. WAC 173-26-251(3)(d)(i)		
SMP CONTENTS		
Any **goals** adopted as part of the SMP are consistent with the SMA. *(Note: Goal statements are not required.)*		
Policies (A) are consistent with guidelines and policies of the SMA; (B) address elements of RCW 90.58.100; and (C) include policies for environment designations, accompanied by a map or physical description of designation boundaries in sufficient detail to compare with comprehensive plan land use designations. (D) are consistent with constitutional and other legal limitations on regulation of private property. WAC 173-26-191(2)(a)(i) SMP implements **preferred use** policies of the SMA. WAC 173-26-201(2)(d)		
Regulations: (A) are sufficient in scope and detail to ensure the implementation of SMA, SMP guidelines, and SMP policies; (B) include environment designation regulations; (C) include general regulations, use regulations that address issues of concern in regard to specific uses, and shoreline modification regulations; and, (D) are consistent with constitutional and other legal limitations on the regulation of private property. WAC 173-26-191(2)(a)(ii)		

STATE RULE (WAC) REQUIREMENTS	*LOCATION*	*COMMENTS*
ENVIRONMENT DESIGNATIONS		
Each environment designation includes: Purpose statements, classification criteria, management policies, and regulations (types of shoreline uses permitted, conditionally permitted, and prohibited; building or structure height and bulk limits, setbacks, maximum density or minimum frontage requirements, and site development standards). WAC 173-26-211(2)(4).		
An up-to-date **map** accurately depicting environment designation boundaries on a map. If necessary, include common boundary descriptions. WAC 173-26-211(2)(b); WAC 173-26-110(3);		
Statement that **undesignated shorelines** are automatically assigned a conservancy environment designation. WAC 173-26-211(2)(e).		
Natural environment. WAC 173-26-211(5)(a)		
Designation criteria: Shorelines that are ecologically intact and performing functions that could be damaged by human activity, of particular scientific or educational interest, or unable to support human development without posing a safety threat. WAC 173-26-211(5)(a)(iii)		
Prohibition on new: uses that would substantially degrade ecological functions or natural character of shoreline. WAC 173-26-211(5)(a)(ii)(A) Commercial uses; industrial uses; nonwater oriented recreation; roads, utility corridors, and parking areas. WAC 173-26-211(5)(a)(ii)(B) development or significant vegetation removal that would reduce the capability of vegetation to perform normal ecological functions. WAC 173-26-211(5)(a)(ii)(G) subdivision of property in a configuration that will require significant vegetation removal or shoreline modification that adversely impacts ecological functions. WAC 173-26-211(5)(a)(ii)(G)		
For **single family residential development**: limits on density and intensity to protect ecological functions, and requirement for CUP. WAC 173-26-211(5)(a)(ii)(C)		
For **commercial forestry**: requirement for CUP, requirement to follow conditions of the State Forest Practices Act. WAC 173-26-211(5)(a)(ii)(D)		
For **agriculture**: low intensity use allowed if subject to appropriate limits or conditions to assure that the use does not expand or practices don't conflict with purpose of the designation. WAC 173-26-211(5)(a)(ii)(E)		
Low intensity public uses such as scientific, historical, cultural, educational research uses, and water-oriented recreational access allowed if ecological impacts are avoided. WAC 173-26-211(5)(a)(ii)(F)		

STATE RULE (WAC) REQUIREMENTS	LOCATION	COMMENTS
Rural conservancy. WAC 173-26-211(5)(b)		
Designation criteria: areas outside municipalities or UGAs with: (A) low-intensity, resource-based uses, (B) low-intensity residential uses, (C) environmental limitations such as steep banks or floodplains, (D) high recreational or cultural value, or (E) low-intensity water-dependent uses. WAC 173-26-211(5)(b)(iii)		
Restrictions on **use and development that would degrade or permanently deplete resources**. Water-dependent and water-enjoyment recreation facilities are preferred uses. Low intensity, water-oriented commercial and industrial uses limited to areas where those uses have located in the past or at sites that possess conditions and services to support the development. WAC 173-26-211(5)(b)(ii)(A) and (B) For SMPs that allow mining, see WAC 173-26-241(3)(h).		
Prohibition on **new structural shoreline stabilization and flood control works** except where there is documented need to protect an existing primary structure (provided mitigation is applied) or to protect ecological functions. WAC 173-26-211(5)(b)(ii)(C).		
Development standards for **residential use** that preserve existing character of the shoreline. Density, lot coverage, vegetation conservation and other provisions that ensure no net loss of shoreline ecological functions. Density or lot coverage limited to a maximum of ten percent total impervious surface area within the lot or parcel, or alternative standard that maintains the existing hydrologic character of the shoreline. (May include provisions allowing greater lot coverage for lots legally created prior to the adoption of a master program prepared under these guidelines, if lot coverage is minimized and vegetation is conserved.) WAC 173-26-211(5)(b)(ii)(D).		
Aquatic. WAC 173-26-211(5)(c)		
Designation criteria: Areas waterward of the ordinary high-water mark (OHWM). WAC 173-26-211(5)(c)(iii)		
New **over-water structures:** allowed only for water-dependent uses, public access, or ecological restoration. WAC 173-26-211(5)(c)(ii)(A) limited to the minimum necessary to support the structure's intended use. WAC 173-26-211(5)(c)(ii)(B)		
Multiple use of over-water facilities encouraged. WAC 173-26-211(5)(c)(ii)(C)		
Location and design of all developments and uses required to: minimize interference with surface navigation, to consider impacts to public views, and to allow for the safe, unobstructed passage of fish and wildlife, particularly those species dependent on migration. WAC 173-26-211(5)(c)(ii)(D) prevent water quality degradation and alteration of natural hydrographic conditions. WAC 173-26-211(5)(c)(ii)(F)		
Uses that adversely impact ecological functions of critical saltwater and freshwater habitats limited (except where necessary for other SMA objectives, and then only when their impacts are mitigated). WAC 173-26-211(5)(c)(ii)(E)		

STATE RULE (WAC) REQUIREMENTS	LOCATION	COMMENTS
High-intensity. WAC 173-26-211(5)(d)		
Designation criteria: Areas within incorporated municipalities, "UGAs," and "rural areas of more intense development" *(see RCW 36.70A.070)* that currently support or are planned for high-intensity water-dependent uses. WAC 173-26-211(5)(d)(iii)		
Priority given first to water-dependent uses, then to water-related and water-enjoyment uses. New non-water oriented uses prohibited except as part of mixed use developments, or where they do not conflict with or limit opportunities for water oriented uses or where there is no direct access to the shoreline. WAC 173-26-211(5)(d)(ii)(A)		
Full **use of existing urban areas required** before expansion of intensive development allowed. WAC 173-26-211(5)(d)(ii)(B)		
New development does not cause net loss of shoreline ecological functions. Environmental cleanup and restoration of the shoreline to comply with relevant state and federal laws assured. WAC 173-26-211(5)(d)(ii)(C)		
Visual and physical public access required where feasible. Sign control regulations, appropriate development siting, screening and architectural standards, and maintenance of natural vegetative buffers to achieve aesthetic objectives. WAC 173-26-211(5)(d)(ii)(D) and (E)		
Urban conservancy. WAC 173-26-211(5)(e)		
Designation criteria: Areas within incorporated municipalities, UGAs, and rural areas of more intense development that are not suitable for water-dependent uses and that are either suitable for water-related or water-enjoyment uses, are flood plains, have potential for ecological restoration, retain ecological functions, or have potential for development that incorporates ecological restoration. WAC 173-26-211(5)(e)(iii)		
Allowed uses are primarily those that preserve natural character of area, promote preservation of open space, floodplain or sensitive lands, or appropriate restoration. WAC 173-26-211(5)(e)(ii)(A) Priority given to water-oriented uses over non-water oriented uses. For shoreline areas adjacent to commercially navigable waters, water-dependent uses given highest priority. WAC 173-26-211(5)(e)(ii)(D) For SMPs that allow mining, see WAC 173-26-241(3)(h).		
Standards for shoreline stabilization measures, vegetation conservation, water quality, and shoreline modifications that ensure new development does not result in a net loss of shoreline ecological functions or degrade other shoreline values. WAC 173-26-211(5)(e)(ii)(B)		
Public access and recreation required where feasible and ecological impacts are mitigated. WAC 173-26-211(5)(e)(ii)(C)		

STATE RULE (WAC) REQUIREMENTS	*LOCATION*	*COMMENTS*
Shoreline residential. WAC 173-26-211(5)(f)		
Designation criteria: Areas within incorporated municipalities, Urban Growth Areas (UGAs), "rural areas of more intense development," and "master planned resorts" (see RCW 36.70A.360) that are predominantly residential development or planned and platted for residential development. WAC 173-26-211(5)(f)(iii)		
Standards for density or minimum frontage width, setbacks, buffers, shoreline stabilization, critical areas protection, and water quality protection assure no net loss of ecological function. WAC 173-26-211(5)(f)(ii)(A)		
Multifamily and multi-lot residential and recreational developments provide **public access** and joint use for community recreational facilities. WAC 173-26-211(5)(f)(ii) (B)		
Access, utilities, and public services required to be available and adequate to serve existing needs and/or planned future development. WAC 173-26-211(5)(f)(ii)(C)		
Commercial development limited to water-oriented uses. WAC 173-26-211(5)(f)(ii)(D)		
GENERAL POLICIES AND REGULATIONS		
Archaeological and Historical Resources. WAC 173-26-221(1)		
Developers and property owners required to **stop work** and notify the local government, state office of archaeology and historic preservation and affected Indian tribes if archaeological resources are uncovered during excavation. WAC 173-26-221(1)(c)(i)		
Permits issued in areas documented to contain archaeological resources require **site inspection** or evaluation by a professional archaeologist in coordination with affected Indian tribes WAC 173-26-221(1)(c)(ii)		
Critical areas. WAC 173-26-221(2)		
Policies and regulations for critical areas (designated under GMA) located within shorelines of the state: (i) are consistent with SMP guidelines, and (ii) provide a level of protection to critical areas within the shoreline area that is at least equal to that provided by the local government's existing critical area regulations adopted pursuant to the GMA for comparable areas other than shorelines. WAC 173-26-221(2)(a) and (c) **Planning objectives** are for protection *and restoration* of degraded ecological functions and ecosystem-wide processes. **Regulatory provisions** *protect* existing ecological functions and ecosystem-wide processes. WAC 173-26-221(2)(b)(iv) Critical area provisions **promote human uses and values**, such as public access and aesthetic values, provided they do not significantly adversely impact ecological functions. WAC 173-26-221(2)(b)(v)		

STATE RULE (WAC) REQUIREMENTS	*LOCATION*	*COMMENTS*
If SMP includes **optional expansion** of jurisdiction: Clear description of the inclusion of any land necessary for buffers of critical areas that occur within shorelines of the state, accurately depicting new SMP jurisdiction consistent with RCW 90.58.030(2)(f)(ii) and WAC 173-26-221(2)(a).		
Wetlands. WAC 173-26-221(2)(c)(i)		
Wetlands **definition** are consistent with WAC 173-22.		
Provisions requiring wetlands **delineation** method are consistent with WAC 173-22-035.		
Regulations address all **uses and activities** listed in WAC 173-26-221(2)(c)(i)(A) to achieve no net loss of wetland area and functions including lost time when the wetland does not perform the function. [WAC 173-26-221(2)(c)(i)(A) + (C)]		
Wetlands **rating** or categorization system is based on rarity, irreplaceability, or sensitivity to disturbance of a wetland and the functions the wetland provides. Use Ecology Rating system or regionally specific, scientifically based method. WAC 173-26-221(2)(c)(i)(B)]		
Buffer requirements are adequate to ensure wetland functions are protected and maintained in the long-term, taking into account ecological functions of the wetland, characteristics of the buffer, and potential impacts associated with adjacent land uses. WAC 173-26-221(2)(c)(i)(B)		
Wetland **mitigation** requirements are consistent with WAC 173-26-201(2)(e) and which are based on the wetland rating. WAC 173-26-221(2)(c)(i)(E) and (F)		
Compensatory mitigation allowed only after mitigation sequencing is applied and higher priority means of mitigation are determined to be infeasible. Compensatory mitigation requirements include (I) replacement ratios; (II) Performance standards for evaluating success; (III) long-term monitoring and reporting procedures; and (IV) long-term protection and management of compensatory mitigation sites. WAC 173-26-221(2)(c)(i)(F) Compensatory mitigation requirements are consistent with preference for "in-kind and nearby" replacement, and include requirement for watershed plan if off-site mitigation is proposed. WAC 173-173-26-201(2)(e)(B)		
Geologically Hazardous Areas. WAC 173-26-221(2)(c)(ii)		
Prohibition on **new development** (or creation of new lots) that would: cause foreseeable risk from geological conditions during the life of the development prohibited. WAC 173-26-221(2)(c)(ii)(B) require structural shoreline stabilization over the life of the development. (Exceptions allowed where stabilization needed to protect allowed uses where no alternative locations are available and no net loss of ecological functions will result.) WAC 173-26-221(2)(c)(ii)(C)		

STATE RULE (WAC) REQUIREMENTS	*LOCATION*	*COMMENTS*
New stabilization structures for existing primary residential structures allowed only where no alternatives (including relocation or reconstruction of existing structures), are feasible, and less expensive than the proposed stabilization measure, and then only if no net loss of ecological functions will result. WAC 173-26-221(2)(c)(ii)(D)		
Critical Saltwater Habitats. WAC 173-26-221(2)(c)(iii)		
Prohibition on **new docks, bulkheads, bridges, fill, floats, jetties, utility crossings** and other human-made structures that intrude into or over critical saltwater habitats, except where: public need is clearly demonstrated; avoidance of impacts is not feasible or would result in unreasonable cost; the project include appropriate mitigation; and the project is consistent with resource protection and species recovery. Private, non-commercial docks for individual residential or community use allowed if it is infeasible to avoid impacts by alternative alignment or location and the project results in no net loss of ecological functions. WAC 173-26-221(2)(c)(iii)(C)		
Where inventory of critical saltwater habitat has not been done, all over water and near-shore developments in marine and estuarine waters require habitat assessment of site and adjacent beach sections. WAC 173-26-221(2)(c)(iii)(C)		
Critical Freshwater Habitats. WAC 173-26-221(2)(c)(iv)		
Requirements that ensure **new development** within stream channel, channel migration zone, wetlands, floodplain, hyporheic zone, does not cause a net loss of ecological functions. WAC 173-26-221(2)(c)(iv)(C)(I) and WAC 173-26-221(2)(c)(iv)(B)(II)		
Authorization of appropriate **restoration projects** is facilitated. WAC 173-26-221(2)(c)(iv)(C)(III)		
Regulations **protect hydrologic connections** between water bodies, water courses, and associated wetlands. WAC 173-26-221(2)(c)(iv)(C)(IV)		
Flood Hazard Reduction. WAC 173-26-221(3)		
New **development within the channel migration zone or floodway** limited to uses and activities listed in WAC 173-26-221(3)(b) and (3)(c)(i)		
New structural flood hazard reduction measures allowed only: where demonstrated to be necessary, and when non-structural methods are infeasible and mitigation is accomplished. landward of associated wetlands and buffer areas except where no alternative exists as documented in a geotechnical analysis. WAC 173-26-221(3)(c)(ii) & (iii)		
New **publicly funded dikes or levees** required to dedicate and improve public access (see exceptions). WAC 173-26-221(3)(c)(iv)		

STATE RULE (WAC) REQUIREMENTS	*LOCATION*	*COMMENTS*
Removal of gravel for flood control allowed only if biological and geomorphological study demonstrates a long-term benefit to flood hazard reduction, no net loss of ecological functions, and extraction is part of a comprehensive flood management solution. WAC 173-26-221(3)(c)(v)		
Public Access. WAC 173-26-221(4)		
Policies and regulations protect and enhance both **physical and visual access**. WAC 173-26-221(4)(d)(i)		
Public entities are required to incorporate public access measures as part of each development project, unless access is incompatible with safety, security, or environmental protection. WAC 173-26-221(4)(d)(ii)		
Non-water-dependent uses (including water-enjoyment, water-related uses) and subdivisions of land into more than four parcels include standards for dedication and improvement of public access. WAC 173-26-221(4)(d)(iii)		
Maximum height limits, setbacks, and view corridors minimize **impacts to existing views** from public property or substantial numbers of residences. WAC 173-26-221(4)(d)(iv); RCW 90.58.320		
Vegetation Conservation (Clearing and Grading). WAC 173-26-221(5)		
Vegetation **standards** implement the principles in WAC 173-26-221(5)(b). Methods to do this may include setback or buffer requirements, clearing and grading standards, regulatory incentives, environment designation standards, or other master program provisions. WAC 173-26-221(5)(c)		
Selective **pruning** of trees for safety and view protection is allowed and removal of noxious weeds is authorized. WAC 173-26-221(5)(c)		
Water Quality. WAC 173-26-221(6)		
Provisions protect against **adverse impacts to water quality** and storm water quantity and ensure mutual consistency between SMP and other regulations addressing water quality. WAC 173-26-221(6)		

STATE RULE (WAC) REQUIREMENTS	LOCATION	COMMENTS
SHORELINE MODIFICATIONS		
SMP: (a) allows structural shoreline modifications only where demonstrated to be necessary to support or protect an allowed primary structure or a legally existing shoreline use that is in danger of loss or substantial damage or are necessary for mitigation or enhancement; (b) limits shoreline modifications in number and extent; (c) allows only shoreline modifications that are appropriate to the specific type of shoreline and environmental conditions for which they are proposed; (d) gives preference to those types of shoreline modifications that have a lesser impact on ecological functions. Policies promote "soft" over "hard" shoreline modification measures (f) incorporates all feasible measures to protect ecological shoreline functions and ecosystem-wide processes as modifications occur; (g) requires mitigation sequencing. WAC 173-26-231(2); WAC 173-26-231(3)(a)(ii) and (iii);		
Shoreline Stabilization. WAC 173-26-231(3)(a)		
Definition: structural and nonstructural methods to address erosion impacts to property and dwellings, businesses, or structures caused by natural processes, such as current, flood, tides, wind, or wave action. WAC 173-26-231(3)(a)(i) Definition of new stabilization measures include enlargement of existing structures. WAC 173-26-231(3)(a)(iii)(C), last bullet; WAC 173-26-231(3)(a)(iii)(B)(I), 5th bullet)		
Standards setting forth **circumstances under which shoreline alteration is permitted**, and for the design and type of protective measures and devices. WAC 173-26-231(3)(a)(ii)		
New development *(including newly created parcels)* required to be designed and located to prevent the need for future shoreline stabilization, based upon geotechnical analysis. New development on steep slopes and bluffs required to be set back to prevent need for future shoreline stabilization during life of the project, based upon geotechnical analysis. New development that would require shoreline stabilization which causes significant impacts to adjacent or down-current properties and shoreline areas is prohibited. WAC 173-26-231(3)(a)(iii)(A)		
New structural stabilization measures are not allowed except when necessity is demonstrated. Specific requirements for *how to demonstrate need* are established for: (I) existing primary structures; (II) new non-water-dependent development including Single Family Residences; (III) water-dependent development; and (IV) ecological restoration/toxic clean-up remediation projects. WAC 173-26-231(3)(a)(iii)(B)		
Replacement of existing stabilization structures is based on demonstrated need. Waterward encroachment of replacement structure only allowed for residences occupied prior to January 1, 1992, or for soft shoreline stabilization measures that provide restoration of ecological functions. WAC 173-26-231(3)(a)(iii)(C)		

STATE RULE (WAC) REQUIREMENTS	*LOCATION*	*COMMENTS*
Geotechnical reports prepared to demonstrate need include estimates of rate of erosion and urgency (damage within 3 years) and evaluate alternative solutions. WAC 173-26-231(3)(a)(iii)(D)		
Shoreline stabilization structures are limited to the **minimum size** necessary. WAC 173-26-231(3)(a)(iii)(E)		
Public access required as part of publicly financed shoreline erosion control measures. WAC 173-26-231(3)(a)(iii)(E)		
Impacts to sediment transport required to be avoided or minimized. WAC 173-26-231(3)(a)(iii)(E)		
Piers and Docks. WAC 173-26-231(3)(b)		
New piers and docks: allowed only for water-dependent uses or public access restricted to the minimum size necessary to serve a proposed water-dependent use. permitted only when specific need is demonstrated (except for docks accessory to single-family residences). Note: Docks associated with single family residences are defined as water dependent uses provided they are designed and intended as a facility for access to watercraft. WAC 173-26-231(3)(b)		
When permitted, **new residential development** of more than two dwellings required to provide joint use or community docks, rather than individual docks. WAC 173-26-231(3)(b)		
Design and construction of all piers and docks required to avoid, minimize and mitigate for impacts to ecological processes and functions and be constructed of approved materials. WAC 173-26-231(3)(b)		
Fill. WAC 173-26-231(3)(c)		
Definition of "fill" consistent with WAC 173-26-020(14)		
Location, design, and construction of all fills protect ecological processes and functions, including channel migration. WAC 173-26-231(3)(c)		
Fill **waterward of the OHWM** allowed only by shoreline conditional use permit, for: water-dependent use; public access; cleanup and disposal of contaminated sediments as part of an interagency environmental clean-up plan; disposal of dredged material in accordance with DNR Dredged Material Management Program; expansion or alteration of transportation facilities of statewide significance currently located on the shoreline (if alternatives to fill are shown not feasible); mitigation action, environmental restoration, beach nourishment or enhancement project. WAC 173-26-231(3)(c)		

STATE RULE (WAC) REQUIREMENTS	LOCATION	COMMENTS
Breakwaters, Jetties, and Weirs. WAC 173-26-231(3)(d)		
Structures **waterward of the ordinary high-water mark** allowed only for water-dependent uses, public access, shoreline stabilization, or other specific public purpose. WAC 173-26-231(3)(d)		
Shoreline **conditional use permit** required for all structures except protection/restoration projects. WAC 173-26-231(3)(d)		
Protection of critical areas and appropriate mitigation required. WAC 173-26-231(3)(d)		
Dunes Management. WAC 173-26-231(3)(e)		
Development setbacks from dunes prevent impacts to the natural, functional, ecological, and aesthetic qualities of the dunes. WAC 173-26-231(3)(e)		
Dune **modifications** allowed only when consistent with state and federal flood protection standards and result in no net loss of ecological processes and functions. WAC 173-26-231(3)(e)		
Dune modification to protect **views** of the water shall be allowed only on properties subdivided and developed prior to the adoption of the master program and where the view is completely obstructed for residences or water-enjoyment uses and where it can be demonstrated that the dunes did not obstruct views at the time of original occupancy. WAC 173-26-231(3)(e)		
Dredging and Dredge Material Disposal. WAC 173-26-231(3)(f)		
Dredging and dredge material disposal **avoids or minimizes** significant ecological impacts. Impacts which cannot be avoided are mitigated. WAC 173-26-231(3)(f)		
New development siting and design avoids the need for new and maintenance dredging. WAC 173-26-231(3)(f)		
Dredging to **establish, expand, relocate or reconfigure navigation channels** allowed only where needed to accommodate existing navigational uses and then only when significant ecological impacts are minimized and when mitigation is provided. WAC 173-26-231(3)(f)		
Maintenance dredging of established navigation channels and basins restricted to maintaining previously dredged and/or existing authorized location, depth, and width. WAC 173-26-231(3)(f)		
Dredging for fill materials prohibited except for projects associated with MTCA or CERCLA habitat restoration, or any other significant restoration effort approved by a shoreline CUP. Placement of fill must be *waterward* of OHWM. WAC 173-26-231(3)(f)		
Uses of dredge material that benefits shoreline resources are addressed. If applicable, addressed through implementation of regional interagency dredge material management plans or watershed plan. WAC 173-26-231(3)(f)		

STATE RULE (WAC) REQUIREMENTS	*LOCATION*	*COMMENTS*
Disposal within river channel migration zones discouraged, and in limited instances when allowed, require CUP. (Note: not intended to address discharge of dredge material into the flowing current of the river or in deep water within the channel where it does not substantially effect the geo-hydrologic character of the channel migration zone). WAC 173-26-231(3)(f)		
Shoreline Habitat and Natural Systems Enhancement Projects. WAC 173-26-231(3)(g)		
Provisions that **foster habitat and natural system enhancement projects**, provided the primary purpose is restoration of the natural character and functions of the shoreline, and only when consistent with implementation of the restoration plan developed pursuant to WAC 173-26-201(2)(f)		
SPECIFIC SHORELINE USES		
Agriculture. WAC 173-26-241(3)(a)		
Use of agriculture related **terms** is consistent with the specific meanings provided in WAC 173-26-020. WAC 173-26-241(3)(a)(ii) and (iv)		
Provisions address **new agricultural activities**, conversion of agricultural lands to other uses, and other development not meeting the definition of agricultural activities. Provisions assure that development in support of agricultural uses is: (A) consistent with the environment designation; and (B) located and designed to assure no net loss of ecological functions and not have a significant adverse impact on other shoreline resources and values. WAC 173-26-241(3)(a)(ii) & (v)		
Shoreline **substantial development permit** is required for all agricultural development not specifically exempted by the provisions of RCW 90.58.030(3)(e)(iv)		
Conversion of agricultural land to non-agricultural uses is consistent with the environment designation, and regulations applicable to the proposed use do not result in a net loss of ecological functions. WAC 173-26-241(3)(a)(vi)		
Aquaculture. WAC 173-26-241(3)(b)		
Location and design requirements for aquaculture facilities avoid: loss of ecological functions, impacts to eelgrass and macroalgae, significant conflict with navigation and water-dependent uses, the spreading of disease, introduction of non-native species, or impacts to shoreline aesthetic qualities. Impacts to functions are mitigated. WAC 173-26-241(3)(b)		
Boating Facilities. WAC 173-26-241(3)(c)		
Definition: Boating facility standards do not apply to docks serving four or fewer SFRs. WAC 173-26-241(3)(c)		
Boating facilities **restricted to suitable locations**. WAC 173-26-241(3)(c)(i)		
Provisions ensuring **health, safety, and welfare requirements** are met. WAC 173-26-241(3)(c)(ii)		

STATE RULE (WAC) REQUIREMENTS	*LOCATION*	*COMMENTS*
Provisions to avoid or mitigate **aesthetic impacts**. See WAC 173-26-241(3)(c)(iii)		
Public access required in new boating facilities. WAC 173-26-241(3)(c)(iv)		
Impacts of **live-aboard vessels** are limited. WAC 173-26-241(3)(c)(v)		
Provisions assuring no net loss of ecological functions as a result of development of boating facilities while providing public recreational opportunities. WAC 173-26-241(3)(c)(vi)		
Navigation rights are protected. WAC 173-26-241(3)(c)(vii)		
Extended moorage on waters of the state without a lease or permission is restricted, and mitigation of impacts to navigation and access is required. WAC 173-26-241(3)(c)(viii)		
Commercial Development. WAC 173-26-241(3)(d)		
Preference given first to water-dependent uses, then to water-oriented commercial uses. WAC 173-26-241(3)(d)		
Water-enjoyment and water-related commercial uses required to provide public access and ecological restoration where feasible and avoid impacts to existing navigation, recreation, and public access. WAC 173-26-241(3)(d)		
New **non-water-oriented commercial uses** prohibited unless they are part of a mixed-use project, navigation is severely limited, and the use provides a significant public benefit with respect to SMA objectives. WAC 173-26-241(3)(d)		
Non-water-dependent commercial uses over water prohibited except in existing structures, and where necessary to support water-dependent uses. WAC 173-26-241(3)(d)		
Forest Practices. WAC 173-26-241(3)(e)		
Forest practices not covered by the Forest Practices Act, especially Class IV-General forest practices involving **conversions** to non-forest use result in no net loss of ecological functions and avoid impacts to navigation, recreation and public access. WAC 173-26-241(3)(e)		
SMP limits removal of trees on **shorelines of statewide significance** (RCW 90.58.150). Exceptions to this standard require shorelines conditional use permit. WAC 173-26-241(3)(e)		
Industry. WAC 173-26-241(3)(f)		
Preference given first to water-dependent uses, then to water-oriented industrial uses. WAC 173-26-241(3)(f)		
Location, design, and construction of industrial uses and redevelopment required to assure no net loss of ecological functions. WAC 173-26-241(3)(f)		

STATE RULE (WAC) REQUIREMENTS	*LOCATION*	*COMMENTS*
Industrial uses and redevelopment encouraged to locate where environmental **cleanup and restoration** can be accomplished. WAC 173-26-241(3)(f)		
Public access required unless such a requirement would interfere with operations or create hazards to life or property. WAC 173-26-241(3)(f)		
New **non-water-oriented industrial uses** prohibited unless they are part of a mixed-use project, navigation is severely limited, and the use provides a significant public benefit with respect to SMA objectives. WAC 173-26-241(3)(f)		
In-Stream Structures. WAC 173-26-241(3)(g)		
Definition: structure is waterward of the ordinary high water mark and either causes or has the potential to cause water impoundment or the diversion, obstruction, or modification of water flow. WAC 173-26-241(3)(g)		
In-stream structures **protect and preserve** ecosystem-wide processes, ecological functions, and cultural resources, including, fish and fish passage, wildlife and water resources, shoreline critical areas, hydrogeological processes, and natural scenic vistas. WAC 173-26-241(3)(g)		
Mining. WAC 173-26-241(3)(h)		
Policies and regulations for new mining projects: require **design and operation** to avoid and mitigate for adverse impacts during the course of mining and reclamation **achieve no net loss** of ecological functions based on required final reclamation give **preference** to proposals that create, restore or enhance habitat for priority species are coordinated with state **Surface Mining Reclamation** Act requirements. assure subsequent **use of reclaimed sites** is consistent with environment designation and SMP standards. See WAC 173-26-241(3)(h)(ii)(A) – (C)		
Mining waterward of OHWM is prohibited unless: (I) Removal of specified quantities of materials in specified locations will not adversely impact natural gravel transport; (II) The mining will not significantly impact priority species and the ecological functions upon which they depend; and (III) these determinations are integrated with relevant SEPA requirements. WAC 173-26-241(3)(h)(ii)(D)		
Renewal, extension, or reauthorization of in-stream and gravel bar mining activities require review for compliance with these new guidelines requirements. WAC 173-26-241(3)(h)(ii)(D)(IV)		
Mining within the Channel Migration Zone requires a shoreline conditional use permit. WAC 173-26-241(3)(h)(ii)(E)		
Recreational Development. WAC 173-26-241(3)(i)		
Definition includes both commercial and public recreation developments. WAC 173-26-241(3)(i)		

STATE RULE (WAC) REQUIREMENTS	*LOCATION*	*COMMENTS*
Priority given to recreational development for access to and use of the water. WAC 173-26-241(3)(i)		
Location, design and operation of facilities are consistent with purpose of environment designations in which they are allowed. WAC 173-26-241(3)(i)		
Recreational development achieves **no net loss** of ecological processes and functions. WAC 173-26-241(3)(i)		
Residential Development. WAC 173-26-241(3)(j)		
Definition includes single-family residences, multifamily development, and the creation of new residential lots through land division. WAC 173-26-241(3)(j)		
Single-family residences identified as a priority use only when developed in a manner consistent with control of pollution and prevention of damage to the natural environment. WAC 173-26-241(3)(j)		
No net loss of ecological functions assured with specific **standards** for setback of structures sufficient to avoid future stabilization, buffers, density, shoreline stabilization, and on-site sewage disposal. WAC 173-26-241(3)(j)		
New **over-water residences and floating homes** prohibited. Appropriate accommodation for existing floating or over-water homes. WAC 173-26-241(3)(j)		
New **multiunit residential development** (including subdivision of land for more than four parcels) required to provide community and/or public access in conformance to local public access plans. WAC 173-26-241(3)(j)		
New (subdivided) lots required to be designed, configured and developed to: (i) Prevent the loss of ecological functions at full build-out; (ii) Prevent the need for new shoreline stabilization or flood hazard reduction measures; and (iii) Be consistent with applicable SMP environment designations and standards. WAC 173-26-241(3)(j)		
Transportation Facilities. WAC 173-26-241(3)(k)		
Proposed transportation and parking facilities required to **plan, locate, and design** where routes will have the least possible adverse effect on unique or fragile shoreline features, will not result in a net loss of shoreline ecological functions or adversely impact existing or planned water dependent uses. WAC 173-26-241(3)(k)		
Circulation system plans include systems for **pedestrian, bicycle, and public transportation** where appropriate. WAC 173-26-241(3)(k)		
Parking allowed only as necessary to support an authorized shoreline use and which minimize environmental and visual impacts of parking facilities. WAC 173-26-241(3)(k)		

STATE RULE (WAC) REQUIREMENTS	*LOCATION*	*COMMENTS*
Utilities. WAC 173-26-241(3)(l)		
Design, location and maintenance of utilities required to assure no net loss of ecological functions. WAC 173-26-241(3)(l)		
Utilities required to be **located in existing rights-of-ways** whenever possible. WAC 173-26-241(3)(l)		
Utility production and processing facilities and transmission facilities required to be **located outside of SMA jurisdiction**, unless no other feasible option exists. WAC 173-26-241(3)(l)		
SMP ADMINISTRATIVE PROVISIONS		
The statement: "All proposed uses and development occurring within shoreline jurisdiction must conform to chapter 90.58 RCW, the Shoreline Management Act and this master program" whether or not a permit is required. WAC 173-26-191(2)(a)(iii)(A)		
Administrative provisions ensure permit procedures and enforcement are conducted in a manner consistent with relevant **constitutional limitations** on regulation of private property. WAC 173-26-186(5) and WAC 191(2)(a)(iii)(A)		
Identification of specific uses and development that require a shoreline **conditional use permit (CUP)**. Standards for reviewing CUPs and variances conform to WAC 173-27. WAC 191(2)(a)(iii)(B) and WAC 173-26-241(2)(b)		
Administrative, **enforcement**, and **permit review** procedures conform to the SMA and state rules *(see RCW 90.58.140, 143, 210 and 220 and WAC 173-27)*. WAC 191(2)(a)(iii)(C), WAC 173-26-201(3)(d)(vi)		
Mechanism for tracking, and periodically evaluating the **cumulative effects** of all project review actions in shoreline areas. WAC 173-26-191(2)(a)(iii)(D)		
SMP **definitions** are consistent with all definitions in WAC 173-26-020, and other relevant WACs.		

APPENDIX D

BRIEF HISTORY OF THE SHORELINE MANAGEMENT ACT AND GUIDELINE ADOPTION AND REVISION

1970
Washington Environmental Council collects enough signatures to send Initiative 43 to the Legislature
1971
Legislature adopts an alternative shoreline management law that is based on the initiative. Through an emergency clause, the law took effect on June 1, 1971; as directed in that law, Ecology began developing regulatory guidelines to help local governments implement the Shoreline Management Act of 1971.
July 1972
Department of Ecology formally adopts shoreline management guidelines. The guidelines provide details to help cities and counties craft local "shoreline master programs" (ordinances) that manage shoreline areas consistent with the policy of the SMA.
November 1972
Both Initiative 43 and the legislature's alternative law (listed as Initiative 43-B), appear on the ballot (*general elections were still being held only in even numbered years at that time*). Initiative 43-B is adopted, thus affirming the law adopted by the legislature the previous year.
July 1974
The deadline for all cities and counties to adopt shoreline master programs (two years after Ecology adopts or amends the states shoreline management guidelines). About 20% of the local governments met the deadline; 95% completed master programs by 1979 (the last county to adopt an SMP was Stevens County, in September 1999; a few very small cities have never completed a master program). Many local governments revised and updated their master programs over the years to make them even more protective than state guidelines, while others have never been updated.
1990
Legislature passes the Growth Management Act.
1991-94
In response to local government requests, Ecology develops and implements the Shorelands-Growth Management Project to help local governments integrate SMA with GMA. While the two laws are found to be generally compatible, there are procedural, technical and legal questions; the conclusion is the two laws need to be amended to make them work better together. This issue is presented to the Governor's Regulatory Reform Task Force in 1994.
1995
In response to Governor's Regulatory Reform Task Force recommendations, the legislature enacts a law that makes a variety of changes in both the SMA and GMA, and directs Ecology to review the SMA guidelines every five years.
1996
Ecology conducts four focus groups on issues and concerns related to the shoreline guidelines, and conducted a public-opinion poll of 840 residents to assess public views of shoreline

management issues. Also convened a broad-based Shorelines Policy Advisory Group to draft revised guidelines; the preliminary draft was then circulated for comment to local governments, and other interested parties.

January 1997

Local governments and port districts ask Ecology to put the guidelines rule development on hold until the Land-Use Study Commission (LUSC) is consulted. Ecology agrees.

July-October 1997

A subcommittee of the LUSC holds 7 public meetings to address SMA/GMA integration issues. The work group reached no consensus but issued a report with directions for achieving more "efficient and effective" shoreline regulations; and related legislation and documenting the need for updated guidelines.

May 1998

With endorsement of the Governor and the Joint Natural Resources Cabinet, Ecology establishes a broad-based Shorelines Guidelines Commission, which held 19 public meetings, reviewed two drafts of the guidelines, and issued a final report in February 1999, advising Ecology to proceed with a broader rule adoption process.

April 1999

Ecology begins the first round of "official" public comment on shoreline management guidelines – the first update in 27 years. Initially, the comment period was set to end in June and include four public hearings; due to extensive public interest, five more hearings were added and the comment period was extended by another 45 days.

Fall 1999

After receiving about 2,500 comments, Ecology decides to withdraw the draft guidelines, rewrite them, and submit them for a new round of public comment in 2000.

December 1999

An unofficial, revised draft is circulated to local officials, legislators and other interested parties for review and comment throughout the 2000 legislative session.

June 2000

Department of Ecology formally begins public comment on a revised set of draft guidelines. The proposal would have established two options for cities and counties in updating their shoreline master programs: Path A responded to local governments that wanted more flexibility in meeting the standards of the Shoreline Management Act; Path B contained more-specific measures for protecting shoreline functions and had been blessed by federal fish agencies as meeting endangered-species requirements.

November 29, 2000

Ecology adopts new shoreline management guidelines.

December 2000

The Association of Washington Business (representing a coalition of business organizations, cities and counties) and the Washington Aggregates & Concrete Association appeal the new guidelines to the Shoreline Hearings Board. The
Washington Environmental Council leads an environmental coalition that intervenes in support of the guidelines.

August 27, 2001

In a split decision, The Shoreline Hearings Board rules that Ecology failed to properly conduct the review process and that certain provisions of Path B exceeded statutory authority. The ruling invalidates the new guidelines, but does not invalidate Ecology's repeal of the previous

guidelines – thus leaving the state with no shoreline guidelines, although local master programs are still in effect.

September 25, 2001

Based Ecology Director Tom Fitzsimmons' belief that mediation could be successful, Governor and Attorney General convene mediation talks aimed at reaching a legal settlement (the parties all filed appeals to the SHB ruling to preserve their standing in court). The parties to the lawsuit appoint representatives to a steering committee that does the negotiating. Former State Supreme Court Justice Richard Guy, land-use attorney Dick Settle, and Bill Ross serve as mediators.

December 20, 2002

The negotiators sign and enter an agreement containing:

1) new guidelines to propose for rule-making;
2) a package of legislation to propose in 2003 (e.g., replace the 2-year update schedule for local governments with a phased- in schedule – through 2014 and provide $2 million in the 2003-05 budget for a first small group of cities and counties to get started); and
3) how to conclude the lawsuit.

(Source: WDOE, 12/13/02)

Appendix E.

Additional Description of Selected Species Identified as Threatened or Endangered.

Chinook Salmon (*Oncorhynchus tshawytscha*)

Among chinook salmon, two distinct types have evolved:

The stream-type chinook is found most commonly in headwater streams.

The ocean-type chinook is commonly found in coastal streams.

The difference between these life-history types is physical, with both genetic and morphological foundations (USACE 2001a). Chinook salmon remain in the ocean for 3 to 4 years before returning to their parent streams to spawn. Adult female chinook typically prepare a spawning bed, called a redd, in a stream area with suitable gravel composition (between 1.3 and 10 centimeters in diameter), water depth, and velocity. Redds vary widely in size and location within the stream or river. The adult female chinook may deposit eggs in four or five nesting pockets within a single redd. After laying the eggs, the adult chinook guards the redd from 4 to 25 days before dying. Chinook salmon eggs hatch within 33 to 178 days after deposition, depending on water temperatures, dissolved oxygen concentrations, and other physical and chemical factors. Stream flow, gravel quality, and silt load all significantly influence the survival of developing chinook salmon eggs. The alevin reside in the nests for 2 to 3 weeks while absorbing their yolk sacs. Juvenile chinook may spend from 3 months to 2 years in freshwater after emergence and before migrating to estuarine areas as smolts, then into the ocean to feed and mature. The timing and duration of freshwater rearing are related to genetic and environmental determinants and vary highly in life-history types (Ricker 1972; Healy 1991). Juvenile chinook salmon feed primarily on aquatic insect larvae and terrestrial insects, typically in the near-shore areas. The juvenile fry rear in their natal streams for varying lengths of time depending on hatch date, water temperature, and behavioral characteristics (i.e., stream-type or ocean-type). In general, juvenile stream-type chinook remain in freshwater until their second spring, whereas ocean-type juveniles migrate downstream to estuarine and marine areas during the first few months after hatching. Ocean-type chinook tend to use estuaries and coastal areas more extensively for juvenile rearing than do stream-type chinook. Fall chinook fry usually feed for a short time, then undergo smoltification and migrate to the ocean. Some fry rear for a year, especially juveniles in systems with lakes, before smoltification and migration to the Pacific Ocean (Wydoski and Whitney 1979; Emmet et al. 1991). During downstream migration, low dissolved-oxygenconcentrations and high water temperatures can hamper the swimming ability of juveniles. Juveniles that remain in stream systems for longer periods move upstream to take advantage of better water quality conditions and to escape extreme flow events. Juvenile preference for winter habitat has not been well studied. Use of the main channel, side channels, overhanging banks with cobble substrate, and backwater areas have all been reported (Healy 1991).

Status of Puget Sound Chinook Salmon

The Puget Sound chinook salmon was listed as a threatened species by the NOAA Marine Fisheries Service on March 24, 1999. This identified *evolutionarily significant unit* includes all naturally spawned populations of chinook salmon from rivers and streams flowing into Puget Sound, from the North Fork Nooksack River to the Elwha River on the Olympic Peninsula.

Occurrence in WRIA 3

The Skagit River supports what was historically the largest chinook population in Puget Sound. Spawning in the Skagit occurs in the main stem to the Gorge Dam and in the larger tributaries: the Sauk and Suiattle rivers, and the Finney, Bacon, Day, Illabot, Goodell, Buck, and Sulphur creeks. Chinook habitat in the Skagit basin has been affected by main stem flow fluctuations resulting from dams, glacial siltation, and floods. Five of the 22 independent populations identified by the Puget Sound Technical Recovery Team for the Puget Sound chinook evolutionarily significant unit (Lower Skagit River, Upper Skagit River, Cascade River, Lower Sauk River, and Upper Sauk River) use habitats within WRIA 3 for all or some of their life stages. Populations in the higher-elevation watersheds migrate through WRIA 3 to access spawning habitat. The Puget Sound Technical Recovery Team concludes that these independent populations, which serve as the foundation or primary building blocks of the evolutionarily significant unit, should be given the highest priority both for their protection and for activities that aid in their recovery.

Adult chinook return to the Skagit basin from April through September in three peaks: a spring peak from April through June, a summer peak from June through August, and a fall peak in September and October. Summer/fall chinook stocks are managed as an aggregate in the Skagit basin, and spring chinook stocks are managed independently (WDF et al. 1993). Six stocks have been identified in the Skagit basin as a whole: the lower Skagit, upper Skagit, lower Sauk, upper Sauk, Suiattle, and upper Cascade stock units. Each of these is summarized in greater detail below.

The lower Skagit main stem and tributaries stock is considered a native stock with wild production. The status of this stock is depressed based upon a long-term declining trend and a short-term severe trend in escapement levels. Escapement for this stock of fall chinook from 1974 through 1991 ranged from 1,200 to 5,500 fish each year, with an average of 2,800. Spawning takes place in the Skagit main stem and associated tributaries downstream from the mouth of the Sauk River during October.

The upper Skagit main stem and tributaries stock consists of a summer-run chinook. The stock is considered a native stock with wild production. The status of this stock is healthy. Escapement for this stock from 1974 through 1991 ranged from 3,300 to 12,900 fish each year, with an average of 7,500. Spawning takes place in the Skagit main stem and associated tributaries upstream of the Sauk River in September through early October.

The lower Sauk stock consists of summer-run fish. The stock is considered a native stock with wild production. The status of this stock is depressed based upon chronically low escapement levels. Between 1974 and 1991, escapement for this stock ranged from 400 to 2,700 fish each year, with an average of 1,150. Spawning takes place below river mile 39.7 of the Sauk River in September through early October.

The upper Sauk stock consists of spring-run fish. The stock is considered a native stock with wild production. The status of this stock is healthy. Between 1968 and 1991, escapement for this stock ranged from 100 to 1,800 fish each year, with an average of 600. Spawning takes place in the Sauk River main stem between Darrington and river mile 39.7 in late July through early September. The Suiattle stock consists of spring-run fish. The stock is considered a native stock

with wild production. The status of this stock is depressed based upon chronically low escapement levels. Between 1968 and 1991, escapement for this stock ranged from 300 to 1,800 fish each year, with an average of 650. Spawning takes place in the main stem of the Suiattle River and its tributaries in late July through early September.

The upper Cascade stock consists of spring-run fish. The stock is considered a native stock with wild production. The status of this stock and escapement numbers are unknown. Spawning takes place in the main stem of the Cascade River between river miles 6 and 19 in late July through early September. During migration to spawning sites, all stocks could pass through portions of the main stem Skagit River within the study areas, and portions of the study areas could be used for rearing, refuge, and feeding. Estuarine and near-shore areas could be used during the summer and fall when chinook migrate to salt water after their first or second year spent in freshwater. No chinook stocks are documented as spawning in the lower Skagit River, north Fidalgo Island, or Nookachamps study areas.

Critical Habitat in WRIA 3

WRIA 3 comprises Unit 5 (Lower Skagit Subbasin) of the proposed designation of critical habitat for Puget Sound chinook. This subbasin contains two occupied watersheds encompassing approximately 447 square miles (1,157.7 square km). Fish distribution and habitat use includes approximately 149 miles (239.8 km) of occupied riverine/estuarine habitat in the watersheds. The rivers in WRIA 3 that are included in the proposed critical habitat designation include the following: North Fork Skagit River, Skagit River, East Fork Nookachamps Creek, Day Creek, and Grandy Creek. Also included in WRIA 3 is a portion of the nearshore areas defined in Unit 19.

Occurrence in WRIA 10

Within the Puyallup basin, chinook populations have been divided into three distinct stocks based on run and spawning timing and the location of spawning grounds: White River spring, White River summer/fall, and Puyallup River fall (Meyers et al. 1998). White River spring chinook salmon spawn in September, whereas the White River summer/fall chinook spawn in October. Fish arriving at the fish trap in Buckley prior to August 15 are considered spring chinook, and those arriving afterward are considered summer/fall chinook. The White River summer/fall run may be the end of the spring run, and thus the two stocks defined for this river may be indistinguishable. Additional research is required to determine whether the runs are distinct (Meyers et al. 1998).

The origin of the White River spring stock is native stock reared in a hatchery setting (Hupp Springs and White River hatcheries). A small population of native natural spawners still returns to the river. These fish are transported from the fish trap at Buckley to the upper river above the Mud Mountain Dam. The status of the White River spring stock is considered critical based on chronically low spawner escapements (Meyers et al. 1998). From 1978 through 1981, escapement levels into the Hupp Springs hatchery ranged from 10 to 500 fish a year, with an average of 137 fish yearly. Releases of spring chinook into the White River ranged from 5,296 to 269,394 fish between 1987 and 1991 (Meyers et al. 1998). Stock origin of the White River summer/fall chinook is unknown but is thought to be native. Stock status is unknown. Yearly releases of fall chinook into the White River ranged from 1,827,238 to 4,381,242 fish between 1982 and 1991. Two of the 22 independent populations identified by the Puget Sound Technical Recovery Team for the Puget Sound chinook evolutionarily significant unit (White River and Puyallup River), utilize habitats within WRIA 10 for all or some of their life stages. These

independent populations, which serve as the foundation or primary building blocks of the evolutionarily significant unit, should be given the highest priority both for their protection and for activities that aid in their recovery.

Critical Habitat in WRIA 10

WRIA 10 comprises Unit 12 (Puyallup River subbasin) of the proposed designation of critical habitat for Puget Sound chinook. This subbasin contains five watersheds occupied by this evolutionarily significant unit, and these watersheds encompass approximately 996 square miles (256.4 square km). Fish distribution and habitat use include approximately 243 miles (391.1 km) of occupied riverine/estuarine habitat in the watersheds. The following rivers in WRIA 10 are included in the proposed critical habitat designation: Puyallup River, White River, Boise Creek, South Prairie Creek, Carbon River, Clearwater River, Greenwater River, Upper White River, and West Fork White River. Also included in WRIA 10 is a portion of the nearshore areas defined in Unit 19 of the critical habitat designation.

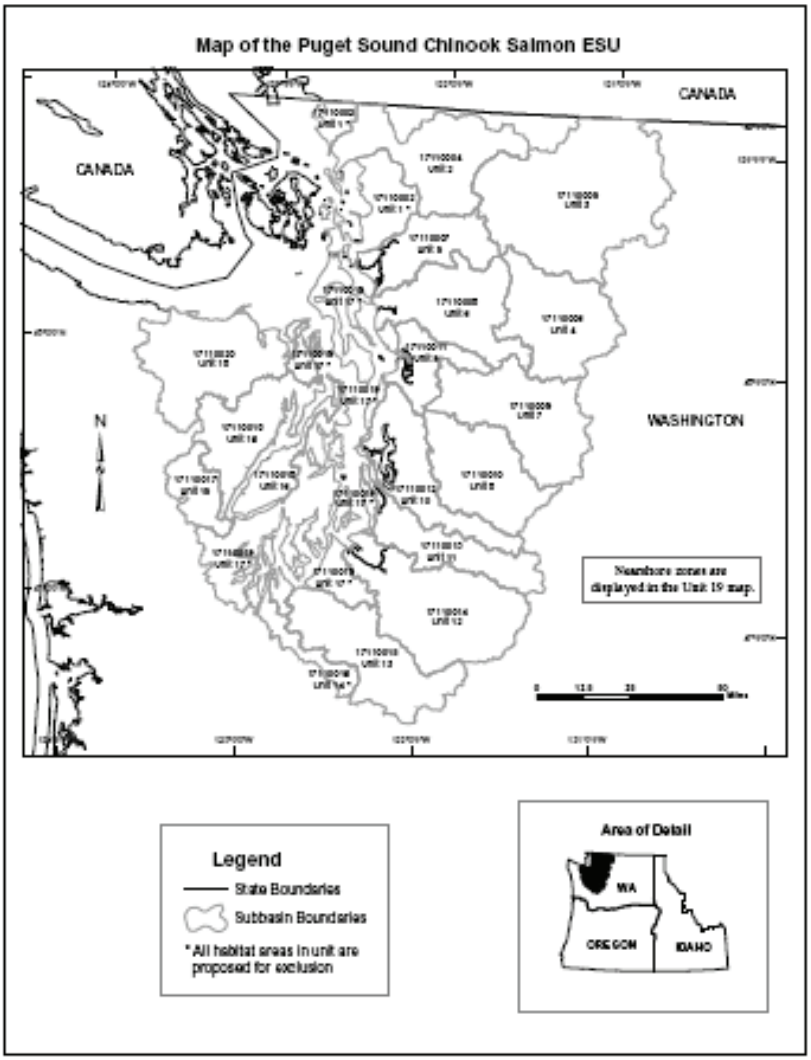
Occurrence in WRIA 15

Chinook salmon are found in most rivers in the Puget Sound region, including WRIA 15 water bodies. WDF et al. (1993) recognizes 27 distinct stocks of chinook salmon: eight spring-run, four summer-run, and 15 summer/fall- and fall-run stocks. Chinook salmon occur in several streams within WRIA 15. Spawning, rearing, and migration occur in small streams tributary to Dyes Inlet, Sinclair Inlet, and Hood Canal. Late-run chinook are present in Gorst Creek and other tributaries, where spawning and rearing occurs (Streamnet 2002).

Critical Habitat in WRIA 15

WRIA 15 comprises Unit 17 (Kitsap Subbasin) of the critical habitat for Puget Sound chinook. This subbasin contains four occupied watersheds encompassing approximately 721 square miles (1,867 square km). Fish distribution and habitat use includes approximately 56 miles (90.1 km) of occupied riverine/ estuarine habitat in the watersheds. All habitats in this unit have been proposed for exclusion from the critical habitat designation for Puget Sound chinook.

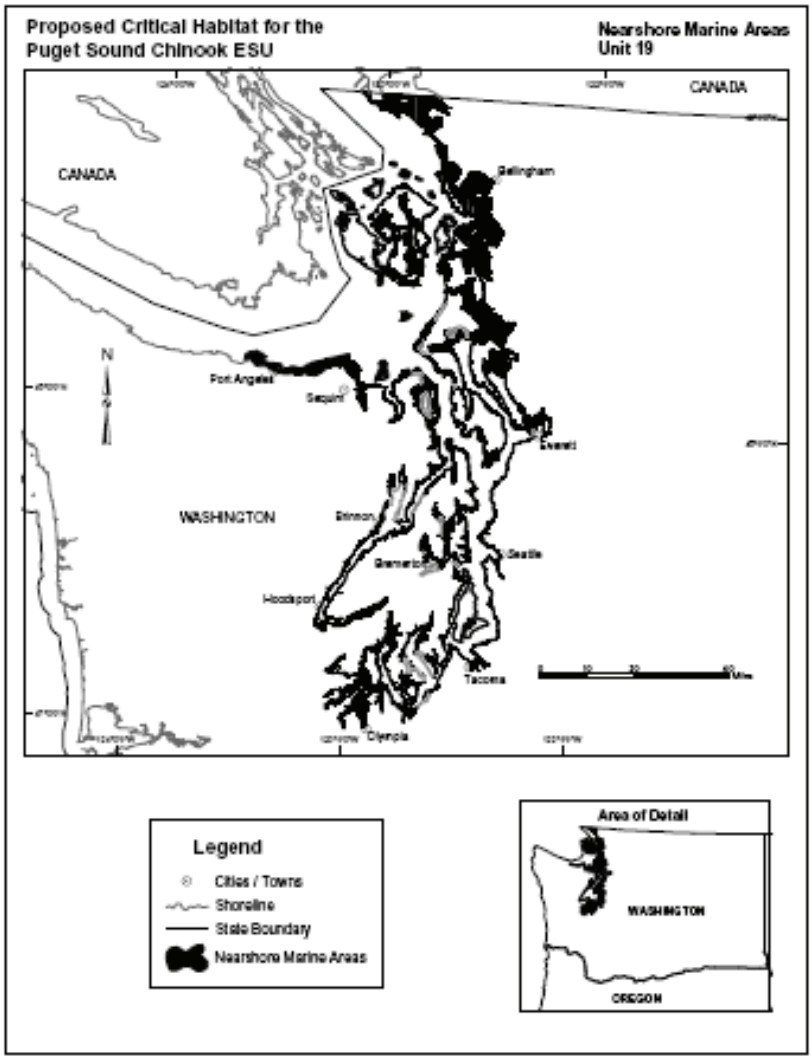
The following excerpt from the Federal Register describes the chinook salmon populations that constitute this evolutionarily significant unit (69 FR 239, December 14, 2004):



The Puget Sound chinook ESU [evolutionarily significant unit] includes genetically similar spring-, summer-, and fall-run chinook populations that overlap substantially in their migration and spawn timing (Myers et al., 1998). A Technical Recovery Team (TRT) has been formed to assist recovery planning efforts in the Puget Sound domain. To date the Puget Sound TRT has identified 22 independent chinook populations: the North Fork Nooksack River, South Fork Nooksack River, Lower Skagit River, Upper Skagit River, Lower Sauk River, Suiattle River, Upper Sauk River, Cascade River, North Fork Stillaguamish River, South Fork Stillaguamish River, Skykomish River, Snoqualmie River, North Lake Washington, Cedar River, Green/Duwamish River, Puyallup River, White River, Nisqually River, Skokomish River, Mid-Hood Canal, Dungeness River, and Elwha River.

Some naturally spawning aggregations of chinook were not recognized as part of these populations (e.g., the Deschutes River in South Puget Sound). The TRT has concluded that chinook salmon using smaller streams in south and central Puget Sound probably did not occur there in large numbers historically and were not independent populations. It is not clear whether these smaller streams are occupied due to recent hatchery releases or whether historically they supported small satellite ‘‘sink’’ populations that were dependent on larger independent ‘‘source’’ populations (Ruckelshaus et al. 2001, 2002 and 2004; B. Graeber, NMFS, personal communication).

Most chinook salmon in this evolutionarily significant unit exhibit an ocean-type life history. The proportion between juvenile types varies substantially from year to year and appears to be environmentally mediated rather than genetically determined. Puget Sound stocks generally mature between ages 3 and 4 years and exhibit similar, coastally oriented ocean migration patterns. Fifteen Washington counties are included in this evolutionarily significant unit – Clallam, Grays Harbor, Island, Jefferson, King, Kitsap, Kittitas, Lewis, Mason, Pierce, San Juan, Skagit, Snohomish, Thurston, and Whatcom. Although it is somewhat outdated, the 1992 salmon and steelhead stock inventory (SASSI) classified four of the 28 chinook stocks within the Puget Sound evolutionarily significant unit as critical. Seven of the stocks are classified as depressed, ten are healthy, and seven are of unknown classification because data are insufficient (WDFW 1994). The population decline of Puget Sound chinook salmon can be generally attributed to overfishing, poorly designed hatchery programs, water quality degradation, and loss of spawning habitat due to the effects of urbanization on streams and rivers (WDF et al. 1993).



Limiting Factors Affecting the Evolutionarily Significant Unit

The limiting factors affecting Puget Sound chinook salmon are the same as those described for bull trout (under USFWS jurisdiction). Bull trout are the most sensitive of the salmonids addressed in this biological assessment (USFWS 1998b), and it is assumed that limiting factors for bull trout are less limiting for more tolerant salmonid species such as chinook salmon.

Critical Habitat

On April 30, 2002, the U.S. District Court for the District of Columbia approved a NOAA Marine Fisheries Service consent decree withdrawing a February 2000 critical habitat designation for Puget Sound chinook salmon and 18 other chinook salmon evolutionarily

significant units. On December 14, 2004, NOAA Fisheries published a proposed rule to designate critical habitat for 13 salmon and steelhead evolutionarily significant units in the Pacific Northwest, including Puget Sound chinook.

In general, the proposed critical habitat includes stream reaches, estuaries, and nearshore marine areas where Puget Sound chinook have been observed or where biologists with local expertise presume them to occur. The proposed critical habitat also includes areas that possess factors essential to support one or more of the life stages of salmon. Critical habitat for this evolutionarily significant unit has been divided into 19 units. A summary of each of the units defined in the Federal Register (Federal Register 2005c) is provided below.

Unit 1. Strait of Georgia Subbasin

This subbasin contains three occupied watersheds encompassing approximately 428 square miles (1,109 square km). Fish distribution and habitat use include approximately 71 miles (114.3 km) of occupied riverine/estuarine habitat in the watersheds.

Unit 2. Nooksack Subbasin

This subbasin contains five occupied watersheds encompassing approximately 795 square miles (2,059 square km). Fish distribution and habitat use include approximately 256 miles (412 km) of occupied riverine/estuarine habitat in the watersheds.

Unit 3. Upper Skagit Subbasin

This subbasin contains eight watersheds, five of which are occupied and encompass approximately 999 square miles (2,587 square km). Fish distribution and habitat use include approximately 105 miles (169 km) of occupied riverine/estuarine habitat in the watersheds.

Unit 4. Sauk Subbasin

This subbasin contains four occupied watersheds encompassing approximately 741 square miles (1,919.2 square km). Fish distribution and habitat use include approximately 118 miles (189.9 km) of occupied riverine/estuarine habitat in the watersheds.

Unit 5. Lower Skagit Subbasin

This subbasin contains two occupied watersheds encompassing approximately 447 square miles (1,157.7 square km). Fish distribution and habitat use include approximately 149 miles (239.8 km) of occupied riverine/estuarine habitat in the watersheds.

Unit 6. Stillaguamish Subbasin

This subbasin contains three occupied watersheds encompassing approximately 704 square miles (1,823.3 square km). Fish distribution and habitat use include approximately 132 miles (212.4 km) of occupied riverine/estuarine habitat in the watersheds.

Unit 7. Skykomish Subbasin

This subbasin contains five occupied watersheds encompassing approximately 853 square miles (2,209.3 square km). Fish distribution and habitat use include approximately 153 miles (246.2 km) of occupied riverine/estuarine habitat in the watersheds.

Unit 8. Snoqualmie Subbasin

This subbasin contains four watersheds, two of which are occupied and encompass approximately 504 square miles (1,305.3 square km). Fish distribution and habitat include approximately 90 miles (144.8 km) of occupied riverine/estuarine habitat in the watersheds.

Unit 9. Snohomish Subbasin

This subbasin contains two occupied watersheds encompassing approximately 278 square miles (720 square km). Fish distribution and habitat use include approximately 101 miles (162.5 km) of occupied riverine/estuarine habitat in the watersheds.

Unit 10. Lake Washington Subbasin
This subbasin contains four occupied watersheds encompassing approximately 619 square miles (1,603.2 square km). Fish distribution and habitat use include approximately 190 miles (307.4 km) of occupied riverine/estuarine habitat in these watersheds. Lake Washington contains approximately 40 square miles (103.6 square km) of lake habitat. Three of the small tributaries in the southern portion of the lake were also identified as providing important rearing habitat.
Unit 11. Duwamish Subbasin
This subbasin contains three occupied watersheds encompassing approximately 487 square miles (1,261.3 square km). Fish distribution and habitat use include approximately 171 miles (275.2 km) of occupied riverine/estuarine habitat in the watersheds.
Unit 12. Puyallup Subbasin
This subbasin contains five watersheds occupied by this evolutionarily significant unit, and these watersheds encompass approximately 996 square miles (256.4 square km). Fish distribution and habitat use include approximately 243 miles (391.1 km) of occupied riverine/estuarine habitat in the watersheds.
Unit 13. Nisqually Subbasin
This subbasin contains three watersheds, two of which are occupied by this evolutionarily significant unit and encompass approximately 472 square miles (1,222.5 square km). Fish distribution and habitat use include approximately 82 miles (132.0 km) of occupied riverine/estuarine habitat in the watersheds.
Unit 14. Deschutes Subbasin
This subbasin contains two occupied watersheds encompassing approximately 168 square miles (435.1 square km). Fish distribution and habitat use include approximately 53 miles (85.3 km) of occupied riverine/estuarine habitat in the watersheds.
Unit 15. Skokomish Subbasin
This subbasin contains a single watershed encompassing approximately 248 square miles (642.3 square km). Fish distribution and habitat use include approximately 72 miles (115.9 km) of occupied riverine/estuarine habitat in the watershed.
Unit 16. Hood Canal Subbasin
This subbasin contains six occupied watersheds encompassing approximately 605 square miles (1,567sq km). Fish distribution and habitat use include approximately 59 miles (95.0 km) of occupied riverine/estuarine habitat in the watersheds.
Unit 17. Kitsap Subbasin
This subbasin contains four occupied watersheds encompassing approximately 721 square miles (1,867 square km). Fish distribution and habitat use include approximately 56 miles (90.1 km) of occupied riverine/estuarine habitat in the watersheds.
Unit 18. Dungeness/Elwha Subbasin
This subbasin contains five watersheds, three of which are occupied, encompassing approximately 695 square miles (1,800 square km). Fish distribution and habitat use include approximately 47 miles (75.6 km) of occupied riverine/estuarine habitat in the watersheds.
Unit 19. Nearshore Marine Areas
Critical habitat in these areas includes the zone from extreme high water out to a depth of 30 meters and adjacent to watersheds occupied by the evolutionarily significant unit (described above). The extent of critical habitat for the Puget Sound chinook evolutionarily significant unit is most easily understood by viewing the maps available on the NOAA Fisheries website: http://www.nwr.noaa.gov/1salmon/salmesa/crithab/ckpugfrnmaps.pdf .

Chum Salmon (*Oncorhynchus keta*)

In general, summer-run chum salmon are most abundant in the northern part of the species range, where they spawn in the main stems of rivers. Farther south, water temperatures and stream flows during late summer and early fall become unfavorable for salmonids. These conditions do not improve until the arrival of fall rains in late October or early November. Summer-run chum salmon populations from Washington State must return to freshwater and spawn during periods of peak (high) water temperature, suggesting an adaptation to specialized environmental conditions that allow this life-history strategy to persist in an otherwise inhospitable environment. Therefore, these populations contribute substantially to the ecological and genetic diversity of the species as a whole.

Status of Hood Canal Summer-Run Chum Salmon

The Hood Canal summer-run chum salmon evolutionarily significant unit includes the following WRIAs: east Kitsap (WRIA 15), Skokomish-Dosewallips (WRIA 16), Quilcene-Snow (WRIA 17), and Elwha-Dungeness (WRIA 18). The chum salmon was proposed as threatened for the Hood Canal drainages in March 1998; the official listing was recorded on March 25, 1999 and covers all Hood Canal drainages. This
evolutionarily significant unit includes summer-run chum salmon populations in Hood Canal in Puget Sound, and in Discovery and Sequim bays on the Strait of Juan de Fuca. The unit may also include summer-run fish in the Dungeness River. The existence of the Dungeness River run is unknown. In addition, NOAA Fisheries proposed that eight artificial propagation programs also be considered part of the evolutionarily significant unit (69 FR 33101; June 14, 2004):

Quilcene National Fish Hatchery, Hamma Hamma Fish Hatchery, Lilliwaup Creek Fish Hatchery, Union River/Tahuya, Big Beef Creek Fish Hatchery, Salmon Creek Fish Hatchery, Chimacum Creek Fish Hatchery, and the Jimmycomelately Creek Fish Hatchery summer-run chum hatchery programs. Sixteen historical demographically independent populations of Hood Canal summer-run chum have been identified for this evolutionarily significant unit: eight extant populations (the Union River, Lilliwaup Creek, Hamma Hamma River, Duckabush River, Dosewallips River, Big/Little Quilcene River, Snow and Salmon creeks, Jimmycomelately Creek populations), and eight extirpated or possibly extirpated populations (the Dungeness River, Big Beef Creek, Anderson Creek, Dewatto Creek, Tahuya River, Skokomish River, Finch Creek, and Chimacum Creek populations) (WDFW and PNPTT 2000).

In Hood Canal, summer chum are a unique stock of fish, isolated from other Puget Sound stocks by distinct spatial and temporal separation. Electrophoretic studies conducted by the Washington Department of Fish and Wildlife confirm distinct genetic differences between the Hood Canal and Puget Sound chum stocks. Hood Canal summer chum spawn primarily in the Dosewallips, Duckabush, Hamma Hamma, and Big Quilcene Rivers (WDFW 1994).

Limiting Factors Affecting Hood Canal Summer-Run Chum Salmon

The limiting factors affecting the Hood Canal summer-run chum salmon are the same as those described for bull trout. Because bull trout are the most sensitive of the salmonids addressed here

(Meyers et al. 1998), it is assumed that limiting factors for bull trout are limiting for more tolerant salmonid species such as chum salmon.

Critical Habitat

On April 30, 2002, the U.S. District Court for the District of Columbia approved a NOAA Marine Fisheries Service consent decree withdrawing a February 2000 critical habitat designation for the Hood Canal summer-run chum salmon and 18 other salmonid evolutionarily significant units. On December 14, 2004, NOAA Fisheries published a proposed rule to designate critical habitat for 13 salmon and steelhead evolutionarily significant units in the Pacific Northwest, including Hood Canal summer-run chum.

In general, the proposed critical habitat includes stream reaches, estuarine, and nearshore marine areas where Hood Canal summer-run chum have actually been observed or where biologists with local area expertise presume them to occur. The proposed critical habitat also includes areas that possess factors essential to support one or more of the life stages of salmon.

Critical habitat for this evolutionarily significant unit has been divided into five units. A summary of each of the units defined in the Federal Register document (Federal Register 2005c) is provided below.

Unit 1. Skokomish Subbasin

This subbasin contains a single occupied watershed encompassing approximately 245 square miles (635 square km). Fish distribution and habitat use includes approximately 13 miles (20.9 km) of occupied riverine/estuarine habitat in the subbasin/watershed.

Unit 2. Hood Canal Subbasin

This subbasin contains seven occupied watersheds encompassing approximately 715 square miles (1,852 square km). Fish distribution and habitat use includes approximately 50 miles (80.5 km) of occupied riverine/estuarine habitat in the watersheds.

Unit 3. Kitsap Subbasin

This subbasin contains a single occupied watershed encompassing approximately 82 square miles (212.4 square km). Fish distribution and habitat use includes approximately 1 mile (1.6 km) of occupied riverine/estuarine habitat in the watershed.

Unit 4. Dungeness-Elwha Subbasin

This subbasin contains three occupied watersheds encompassing approximately 350 square miles (906 square km). Fish distribution and habitat use includes approximately 19 miles (30.6 km) of occupied riverine/estuarine habitat in the watersheds.

Unit 5. Nearshore Marine Areas

Critical habitat in these areas includes that zone from extreme high water out to a depth of 30 meters and adjacent to watersheds occupied by the evolutionarily significant unit (described above). The extent of Hood Canal summer-run chum ESU critical habitat is most easily accessed and

understood by viewing the maps available on the following NOAA Fisheries website: http://www.nwr.noaa.gov/1salmon/salmesa/crithab/cmhcsfrnmaps.pdf .

Appendix F: Endangered Species Act Consultation Correspondence

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Washington State Habitat Office
510 Desmond Drive SE, Suite 103
Lacey, WA 98503

NMFS Tracking No.:
2005/02192

April 23, 2009

John King, Chief
Coastal Programs Division
NOAA Office of Ocean and Coastal Resource Management
1305 East-West Hwy (SSMC4, N/ORM3)
Silver Spring, Maryland 20910

RE: Endangered Species Act Section 7 Informal Consultation and Magnuson-Stevens Fishery Conservation and Management Act Essential Fish Habitat Consultation for NOAA's proposed approval of the Washington State Shoreline Master Program guidelines promulgated by the Washington State Department of Ecology

Dear Mr. King:

This correspondence is in response to your request for consultation under the Endangered Species Act (ESA). Additionally, this letter serves to meet the requirements for consultation under the Magnuson-Stevens Fishery Conservation and Management Act (MSA).

The National Marine Fisheries Service (NMFS) has reviewed your Programmatic Biological Assessment and Draft Environmental Impact Statement for consultation for Puget Sound (PS) Chinook (*Oncorhynchus tshawytsha*), PS steelhead (*O. mykiss*), Hood Canal (HC) summer-run chum (*O. keta*), Ozette Lake sockeye (*O. nerka*), Snake River sockeye, Snake River fall run Chinook, Snake River spring/summer run Chinook, upper Columbia River (CR) spring run Chinook, lower CR Chinook, CR chum and lower CR coho (*O. kisutch*) salmon; the eastern Distinct Population Segment (DPS) of Steller sea lions (*Eumetopias jubatus*), the Southern Resident killer whale DPS (*Orcinus orca*) and the Pacific Coast Humpback Whale (*Megaptera novaeangliae*).

As you know, Washington's Shoreline Management Act sets policies and standards for management of coastal areas to be implemented by local jurisdictions in Washington through adoption of local shoreline master programs. The state statute requires local shoreline master programs to be approved at the state level by Washington's designated coastal management agency, the Department of Ecology. In 2003, the Department of Ecology adopted new shoreline master program (SMP) guidelines, and began implementing review, update and adoption of local SMPs as required by state law.

Apart from the state adoption of the SMP guidelines and approval of local SMPs, Washington must receive the approval of your office, Ocean and Coastal Resource Management (OCRM) a part of NOAA, to amend its coastal management program to include the new guidelines in order to maintain its federally approved status, Federal funding, and Federal consistency authority under the Coastal Zone Management Act. OCRM approval of the state guidelines and local SMPs does not preclude the implementation of the guidelines and SMPs at the state and local level. OCRM approval and incorporation of the state guidelines and local SMPs only allows for these policies to be used for Federal Consistency, as well as for the state to receive funding to continue implementation of its approved program. Washington submitted its new guidelines to OCRM for approval as an amendment to the Washington coastal management program in October, 2004. OCRM had determined earlier that its proposed approval of the new guidelines may affect species protected under the ESA and therefore must conduct consultation with NMFS under section 7(a)(2) of the ESA, and it implementing regulations, 50 CFR part 402.

Indeed, as part of the approval process, OCRM must comply with both the ESA, and the National Environmental Policy Act (NEPA). The ESA requires consultation with NOAA's National Marine Fisheries Service (NMFS) and the United States Fish and Wildlife Service (USFWS) on any effects OCRM's approval and subsequent funding of the Washington Shoreline Management Act may have on species protected under the ESA. To comply with NEPA, OCRM had to complete an Environmental Impact Statement (EIS). The draft EIS was issued for public comment in February 2008. In anticipation of the ESA Section 7 consultation with the Services, OCRM hired Herrera Environmental Consultants to develop the Programmatic Biological Assessment (BA). Several meetings transpired between the principal parties, OCRM, Herrera, Ecology and the Services. Western Washington Tribes, in coordination with the Northwest Indian Fish Commission were also part of several meetings. The initial strategy for this consultation included two parts. First, was the OCRM approval of the state SMP guidelines; and the second part was the OCRM approval of local SMP plans. The local jurisdictions subject to the Washington coastal management program include the state's fifteen coastal counties – Clallam, Grays Harbor, Island, Jefferson, King, Kitsap, Mason, Pacific, Pierce, San Juan, Skagit, Snohomish, Thurston, Wahkiakum, and Whatcom, and the cities within those counties.

NMFS received the BA from OCRM in June of 2005. OCRM's consultation and approval process has revealed that the extent of shoreline management activities in Washington is geographically expansive. Also, the range of options to develop new local plans is broad. Based on NMFS' review of the Ecology SMP guidelines, the BA and the NEPA EIS, we find that OCRM's approval of the State SMP guidelines, in and of itself, will not have direct or indirect effects to listed species under the ESA, or to essential fish habitat under the MSA. The SMP guidelines are broad enough that the potential for effects ultimately comes down to local jurisdictional implementation of the guidelines in the development or amendment of their own plans.

Washington's new SMP guidelines govern the development and adoption of local shoreline master programs. The guidelines outline the requirements for development of individual shoreline master programs in each local jurisdiction. The guidelines lead local jurisdictions through developing, adopting, and/or amending their local master program to ensure compliance of their updated shoreline master programs with the state Shoreline Management Act and the goals and policies of the guidelines. NMFS recognizes that the state has significantly strengthened the environmental standards and policies included in this update of the state guidelines, and that one of the primary stated goals of the SMP guidelines is that "Local master programs shall include policies and regulations designed to achieve no net loss of... ecological functions" (WAC 173-26-186(8)(b)). The guidelines require each jurisdiction to use a process that identifies, inventories, and ensures meaningful understanding of current and potential ecological functions provided by affected shorelines. However, NMFS also recognizes that the guidelines allow local jurisdictions substantial discretion to adopt master programs reflecting local circumstances and other local regulatory and non-regulatory programs so long as the local programs are consistent with standards and criteria in the state SMP guidelines. Depending on each jurisdiction's local needs, shoreline designations, allowed uses and modifications, effects to ESA protected species may or may not result with the adoption and implementation of these new local plans.

Additionally, local recovery plans have identified SMP's and Critical Areas (WAC 365-190-080) Ordinances as important tools to be used to recover listed species. While much of Washington's shoreline has been altered, there are significant areas that are functioning well for fish. Locally generated and federally adopted Recovery Plans acknowledge increased population growth and development must not degrade these areas. In this regard, NMFS has substantial salmon habitat expertise and we look forward to opportunities to aid local jurisdictions in the development or amendment of their plans. NMFS and OCRM should continue to work together to develop options and procedures for NMFS' engagement in the local planning process. NMFS' early involvement can help local SMP consistency with stated Recovery Plan goals.

The efforts by the OCRM to consult on this approval action and concerns toward minimizing environmental impacts are greatly appreciated. Clearly, you have fully embraced your obligations under Section 7(a)(1) and Section 7(a)(2) of the ESA, and we look forward to continued relations as we proceed with the local planning process and look for opportunities where our technical input can add some value. If you have any questions, please contact Thom Hooper of my staff via email thomas.hooper@noaa.gov, or phone at (360) 753-9453.

Sincerely,

Steven W. Landino
Washington State Director
for Habitat Conservation Division

cc: Bill Millhouser, OCRM
Kris Wall, OCRM
Chris McNulty, NOAA GC
Ken Berg, USFWS

10/9/09

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SERVICE
OFFICE OF OCEAN AND COASTAL RESOURCE MANAGEMENT
Silver Spring, Maryland 20910

Steven W. Landino
Washington State Director
for Habitat Conservation Division
National Marine Fisheries Service
510 Desmond Drive SE
Suite 103
Lacey, WA 98503

Dear Mr. Landino:

Thank you very much for your letter of April 23, 2009 regarding your findings on the proposed Office of Coastal Resource Management (OCRM) approval of Washington's amendment to its coastal zone management program, which involved an update to the Shoreline Management Act guidelines for developing shoreline master programs (SMPs). We appreciate your attention to understanding the potential for effects of the proposed action on species listed under the Endangered Species Act (ESA).

OCRM has adopted the National Marine Fisheries Service's (NMFS) findings stated in your April 23, 2009 letter, as its own. Specifically, OCRM adopts the determination of your office that "[b]ased on NMFS review of the Ecology SMP guidelines, the BA and the NEPA EIS, we find that OCRM's approval of the State SMP guidelines, in and of itself, will not have direct or indirect effects to listed species under the ESA, or to essential fish habitat under MSA." As a result of these findings, NMFS concluded that formal ESA consultation on OCRM's proposed approval of Washington's Shoreline Master Program Guidelines is not required because OCRM's action will not affect listed species. OCRM, therefore, withdraws its request for formal consultation pursuant to section 7(a)(2) of the ESA. Information contained in the BA will continue to inform OCRM's actions and its analyses pursuant to National Environmental Policy Act.

As we have discussed, Washington's new SMP guidelines outline the requirements for the development and adoption of new local shoreline master plans by local jurisdictions. Washington's review and approval of local shoreline plans ensures compliance with the state Shoreline Management Act and the goals and policies of the SMP guidelines. OCRM notes that the SMP Guidelines identify the Washington Critical Areas Ordinances (WAC 365-190-080) as important tools to be used by local jurisdictions to recover ESA listed species.

OCRM has informed the U.S. Fish and Wildlife Service (USFWS) of OCRM's decision to adopt NMFS' findings as its own and likewise rescinded its request for formal consultation with USFWS. A copy of that letter is attached.

Thank you very much for the support of your office and assistance of your staff over the course of this project. OCRM will continue to identify options and opportunities for both NMFS and USFWS assistance to local shoreline jurisdictions to conserve listed species and achieve Salmon Recovery Plan goals.

Sincerely,

Donna Wieting

Donna Wieting
Acting Director

cc: Ken Berg, U.S. Fish and Wildlife Service
Gordon White, Washington Shorelands Program, Department of Ecology

10/9/09

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SERVICE
OFFICE OF OCEAN AND COASTAL RESOURCE MANAGEMENT
Silver Spring, Maryland 20910

Ken Berg
Manager
Western Washington Office of the
U.S. Fish and Wildlife Service
510 Desmond Dr. SE
Lacey, WA 98503

Dear Mr. Berg:

On June 30, 2005, NOAA's Office of Coastal Resource Management (OCRM) initiated consultation with your office and the National Marine Fisheries Service (NMFS) pursuant to section 7(a)(2) of the Endangered Species Act (ESA). We consulted in regard to our proposed approval of Washington's amendment to its coastal zone management program, which involved an update to the Shoreline Management Act guidelines for developing shoreline master programs (SMPs). OCRM provided your office with a Biological Assessment (BA) of its proposed action which had been prepared as a result of many discussions with NMFS and your office.

On April 23, 2009, NMFS responded to OCRM's initiation of consultation with a letter stating that "[b]ased on NMFS review of the Ecology SMP guidelines, the BA and the NEPA EIS, we find that OCRM's approval of the State SMP guidelines, in and of itself, will not have direct or indirect effects to listed species under the ESA." NMFS further concluded that "[t]he SMP guidelines are broad enough that the potential for effects ultimately comes down to local jurisdictional implementation of the guidelines in the development or amendment of their own plans." As a result of these findings, NMFS concluded that formal ESA consultation on OCRM's proposed approval of Washington's Shoreline Master Program Guidelines is not required because OCRM's action will not affect listed species. Information contained in the BA will continue to inform OCRM's actions and its analyses pursuant to the National Environmental Policy Act.

OCRM has adopted NMFS findings as stated in the April 23, 2009 letter as its own. Based on conversations with your staff, we understand your office approves of this approach. Therefore, OCRM is now withdrawing its request to your office for consultation pursuant to section 7(a)(2) of the ESA on its proposed approval of the Washington SMP guidelines. A copy of the NMFS letter and findings is attached.

Washington's new SMP guidelines outline the requirements for the development and adoption of new local shoreline master plans by local jurisdictions. Washington's review and approval of

local shoreline plans ensures compliance with the state Shoreline Management Act and the goals and policies of the SMP guidelines. OCRM notes that the SMP Guidelines identify the Washington Critical Areas Ordinances (WAC 365-190-080) as important tools to be used by local jurisdictions to recover ESA listed species.

OCRM has also informed NMFS of OCRM's decision to adopt the April 23, 2009 NMFS' findings as its own and likewise rescinded its request for formal consultation pursuant to section 7(a)(2) of the ESA. A copy of that letter is attached.

OCRM appreciates the efforts your office dedicated to this consultation and will continue to identify options and opportunities for both NMFS and USFWS assistance to local shoreline jurisdictions to conserve listed species and achieve Salmon Recovery Plan goals.

Sincerely,

Donna Wieting
Acting Director

cc: Steven Landino, National Marine Fisheries Service
Gordon White, Washington Shorelands Program, Department of Ecology

Appendix G: Comments Received on the DEIS:

United States Department of the Interior
OFFICE OF THE SECRETARY
Office of Environmental Policy and Compliance
620 SW Main Street, Suite 201
Portland, Oregon 97205-3026

TAKE PRIDE IN AMERICA

9043.1
IN REPLY REFER TO
ER08/305

Electronically Filed

April 28, 2008

Helen Farr
Environmental Protection Specialist
Office of Ocean and Coastal Resource Management
National Oceanic and Atmospheric Administration
1305 East-West Highway, SSMC4, N/ORM3
Silver Springs, Maryland 20910

Dear Ms. Farr:

The Department of the Interior has reviewed the Programmatic Draft Environmental Impact Statement Amendment No. 4 Incorporation of the Revised Washington Shoreline Management Act Guidelines into the Federally Approved Washington Coastal Management Program in Washington's 15 Coastal Counties. The Department does not have any comments to offer.

We appreciate the opportunity to comment.

Sincerely,

Preston A. Sleeger
Regional Environmental Officer

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
PO Box 47775 • Olympia, Washington 98504-7775 • (360) 407-6300

March 14, 2008

Ms. Helen Farr
Office of Ocean and Coastal Resource Management
National Oceanic and Atmospheric Administration
1305 East-West Highway, SSMC 4, N/ORM3
Silver Spring, MD 20910

Dear Ms. Farr:

Thank you for the opportunity to comment on the NEPA/DEIS for the Programmatic Draft Environmental Impact Statement Amendment No. 4 Incorporation of the Revised Washington Shoreline Management Act Guidelines into the Federally Approved Washington Coastal Management Program project. The Department of Ecology (Ecology) reviewed the NEPA/DEIS and has the following comment(s):

TOXICS CLEANUP PROGRAM:

Mr. Dom Reale (360) 407-6266
The guidelines should include a section for dealing with toxic / hazardous chemicals known to exist at proposed construction sites, or found during construction or excavation activities. When such toxics are known or encountered, Ecology Headquarters or applicable Regional Office should be notified. In the Southwest Regional Office, for example, we will add the following language to proposals where toxics are known or likely: "If contamination is currently known or observed during construction, sampling of the potentially contaminated media must be conducted. If contamination of soil or groundwater is readily visible, or is revealed by sampling, Ecology must be notified. Contact the Environmental Report Tracking System Coordinator at the Southwest Regional Office at (360) 407-6300. For assistance and information about subsequent cleanup and to identify the type of testing that will be required, contact Mr. Reale at the phone number give above."

Mr. Chuck Cline (360) 407-6267
Remove and properly dispose of any treated timbers at a permitted facility. Dock & Pier replacements and stabilization efforts usually require the removal of creosoted timbers or other timbers treated to prevent degradation. In addition, on Page 63 of the draft EIS it is stated that Ecology and Fish and Wildlife were combined in 1994. As far as I know, this never occurred.

Ecology's comments are based upon information provided by the lead agency. As such, they do not constitute an exhaustive list of the various authorizations that must be obtained or legal requirements that must be fulfilled in order to carry out the proposed action.

If you have any questions or would like to respond to these comments please contact the appropriate reviewing staff listed above.

Department of Ecology
Southwest Regional Office

(SM: 08-1338)

cc: Chuck Cline, TCP
Dom Reale, TCP

STATE OF WASHINGTON

DEPARTMENT OF ARCHAEOLOGY & HISTORIC PRESERVATION

1063 S. Capitol Way, Suite 106 • Olympia, Washington 98501
Mailing address: PO Box 48343 • Olympia, Washington 98504-8343
(360) 586-3065 • Fax Number (360) 586-3067 • Website: www.dahp.wa.gov

February 27, 2008

Ms. Helen Farr
Ocean & Coastal Resource Management
NOAA
1305 East-West Highway, SSMC 4, N/ORM3
Silver Spring, Maryland 20910

Re: PDEIS/ Washington Shoreline Guidelines
Log No.: 022708-02-NOAA

Dear Ms. Farr:

Thank you for contacting our department. We have reviewed the Programmatic Draft Environmental Impact Statement for Amendment No. 4 of the Washington Shoreline Management Act Guidelines Into the Federally Approved Washington Coastal Management Program.

We agree that archaeological and historic resources are a significant element of Washington's Shorelines and believe that the Shoreline Management Act and their implementing Guidelines are a key piece of legislation to assure their protection and enjoyment for present and future generations.

While we are commenting on this DEIS under the provisions of the National Environmental Policy Act (NEPA), we also expect formal consultation under the National Historic Preservation ACT (NHPA).

We are supportive of your efforts to address protection of cultural resources, however we also believe that additional efforts are needed beyond those listed in the DEIS.

We believe that professional archaeological surveys should be accomplished for those shoreline areas that are proposed for any development. For those areas that have already been professionally surveyed we have that data in a digital format that can be provided to government agencies by means of a data sharing agreement. In a similar vein we are developing a predictive model that will focus areas of particular sensitivity. These are tools we are glad to discuss with you and other interested agencies.

We would encourage you to develop more proactive efforts to identify archaeological and historic resources and encourage their incorporation into the most recent Amendment No. 4.

We would also appreciate receiving any correspondence or comments from concerned tribes or other parties that you receive as you consult under the requirements of 36CFR800.4(a)(4).

DEPARTMENT OF ARCHAEOLOGY & HISTORIC PRESERVATION
Protect the Past, Shape the Future

These comments are based on the information available at the time of this review and on behalf of the State Historic Preservation Officer in compliance with the Section 106 of the National Historic Preservation Act, as amended, and its implementing regulations 36CFR800.4. Should additional information become available, our assessment may be revised, including information regarding historic properties that have not yet been identified. Thank you for the opportunity to comment and we look forward to further consultation pursuant to 36CFR800.

Sincerely,

Robert G. Whitlam, Ph.D.
State Archaeologist
(360)586-3080
email: rob.whitlam@dahp.wa.gov

cc: P. Skowlund

Appendix H: OCRM Response to Washington State Department of Archaeology and Historic Preservation

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SERVICE
OFFICE OF OCEAN AND COASTAL RESOURCE MANAGEMENT
Silver Spring, Maryland 20910

OCT 15 2009

Robert G. Whitlam, Ph.D.
State Archaeologist
Department of Archaeology and Historic Preservation
1063 S. Capitol Way, Suite 106
Olympia, WA 98504-8343

Re: Section 106 Consultation on OCRM Approval of Changes to the Washington Coastal Management Program

Dear Dr. Whitlam:

Thank you for your letter of March 4, 2008 regarding consultation under the National Historic Preservation Act (NHPA) on the Office of Ocean and Coastal Resource Management's (OCRM) proposed approval of incorporation of the Washington Shoreline Master Program (SMP) Guidelines into the federally-approved Washington Coastal Management Program (WCMP). OCRM has reviewed your comments, and offers the following response.

Under Section 106 of the NHPA, OCRM is required to take into account the effects of its approval of this amendment to the WCMP on historic resources. Washington has already adopted the SMP Guidelines, and they are in effect. Therefore, the purpose of OCRM's approval of Washington's program change request would be to allow the State to continue its certification as a federally-approved CMP; receive CZMA funds to implement the revised guidelines; and conduct federal consistency reviews based on the revised program policies. Based on review of the revised SMP Guidelines and the limited effects of our approval, OCRM has determined that this approval, and our subsequent approval of local SMPs that are consistent with the revised SMP Guidelines and have been approved by the State, are a type of activity that will not have the potential to cause effects on historic properties, and that OCRM has no further obligations under Section 106. (36 CFR 800.3(a)(1)).

OCRM's approval will only have two results: (1) providing funding to the State for implementation of an existing state law; and (2) triggering the State's ability to use the SMP Guidelines and the approved local programs for the purposes of applying the Federal consistency provisions of the CZMA. First, OCRM provides CZMA funds to Washington to develop new and revised local SMPs. This is largely a planning exercise. The revised SMP Guidelines govern the development and adoption of comprehensively updated local SMPs, and require each jurisdiction to adopt master programs that are consistent with the standards and criteria. Under the new Guidelines, where archaeological or historic resources have been identified in shoreline jurisdictions, local governments will consult with the state historic preservation office and local affected Indian tribes regarding existing archaeological and historical information in creating the inventory. The State has introduced a new principle to "prevent the destruction of or damage to

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any site having historic cultural, scientific, or education values, as identified by the appropriate authorities, including affected Indian tribes, and the office of archaeology and historic preservation." The new standards for archaeological and historic resources require local SMPs to include policies and regulations "to protect historic, archaeological, and cultural features and qualities of shorelines;" stop work and notify appropriate state, tribal and local officials if archaeological resources are uncovered during an excavation; and require permits issued in areas documented to contain archaeological resources to require a site inspection or evaluation by a professional archaeologist in coordination with affected Indian tribes. OCRM's approval of these revised Guidelines will provide funding to the state and local governments (through the state) to develop local SMPs that include policies that are consistent with protective principles and standards that require consideration and notification regarding archaeological sites, and will not affect any historic properties.

Second, under the CZMA, Federal activities can be reviewed for consistency with a state's enforceable coastal policies once OCRM has approved those policies as part of the state's Federally-approved program. That being said, Federal activities and projects that will now have to abide by the revised SMP Guidelines (through the applicable SMPs) will still have to go through their own Section 106 compliance. It is at that stage, when there is actually a federal project, that the effects would occur, and would be considered under their own Section 106 reviews. Therefore, this element of OCRM's approval of incorporation of the SMP Guidelines would not have the potential to cause effects on historic properties.

OCRM appreciates the Department of Archaeology and Historic Preservation's (DAHP) additional comments regarding the need to conduct professional archaeological surveys for those shoreline areas that are proposed for any development. We believe that the requirements in the SMP Guidelines for site inspections or evaluations by professional archaeologists will address those concerns. OCRM will make DAHP the Washington Department of Ecology aware of DAHP's generous offer to share the digital data for those areas that have already been surveyed with other interested government agencies. It is likely to be invaluable to local governments as they develop the inventory of archaeological and historic sites required in their SMPs.

If you questions regarding our response, please contact Helen Farr of my staff at (978) 675-2170.

Sincerely,

John R. King, Chief
Coastal Program Division

cc: John Eddins, ACHP
Javier Marques, ACHP
Molly Holt, NOAA GCOS