

**Washington State Coastal Zone Management Section 309  
Assessment and Strategy, 1997**



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Shorelands and Water Resources Program  
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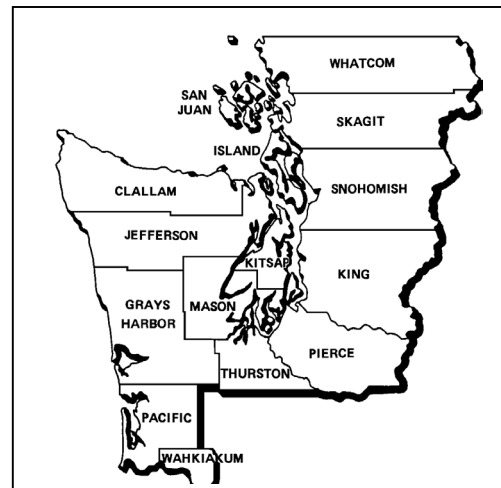


# Introduction

The Coastal Zone Management section 309 improvement grants program was initiated by Congress in its 1990 reauthorization of the Coastal Zone Management Act (CZMA), and expanded in its 1995 reauthorization of the CZMA. Congress has set aside special funding to encourage the states to make improvements to their federally approved coastal zone management programs in one or more of nine specific improvement areas:

1. Attaining increased opportunities for **public access**, taking into account current and future public access needs, to coastal areas of recreational, historical, aesthetic, ecological, or cultural value.
2. Preventing or significantly reducing threats to life and destruction of property by eliminating development and redevelopment in **coastal high hazard areas**, managing development in other hazard areas, and anticipating and managing the effects of potential sea level rise.
3. Planning for the use of **ocean resources**.
4. Protection, restoration, or enhancement of the existing **coastal wetlands** base, or creation of new coastal wetlands.
5. Development and adoption of procedures to assess, consider, and control **cumulative and secondary impacts of coastal growth** and development, including the collective effect on various individual uses or activities on coastal resources, such as coastal wetlands and fishery resources.
6. Reducing **marine debris** entering the Nation's coastal and ocean environment by managing uses and activities that contribute to the entry of such debris.
7. Preparing and implementing **special area management plans** for important coastal areas.
8. Adoption of procedures and enforceable policies to help facilitate the **siting of energy and government facilities** which may be of greater than local significance.
9. Enhance existing procedures and planning processes for siting **marine aquaculture** facilities while maintaining current levels of coastal resource protection. (Added, 1995.)

Washington's coastal zone management program applies to the fifteen coastal counties as shown in the adjacent map.



Federal rules and policies for implementation of the 309 improvements program require identification of one or two or three improvement areas in which a state will be eligible to receive grants.

Washington's 309 program has worked in the two areas of [1] cumulative and secondary impacts of growth, and [2] coastal hazards during the first phase of 309 funding (1992-96) as described in the following chapter. This assessment reviews progress in those two areas plus the status of the other seven areas. Based on this new assessment, proposals are made for priority areas for improvements to Washington's coastal zone management program during the second 309 funding phase (1997-2001).

Program improvements are defined by the Office of Ocean and Coastal Resource Management to be:

1. A change to coastal zone boundaries;
2. New or revised authorities, including statutes, regulations, enforceable policies, administrative decisions, executive orders, and memoranda of agreement or understanding;
3. New or revised local coastal programs and implementing ordinances;
4. New or revised coastal land acquisition, management, and restoration programs;
5. New or revised Special Area Management Plans or plans for Areas of Particular Concern (APCs) including enforceable policies and other necessary implementation mechanisms or criteria and procedures for designating and managing APCs; and
6. New or revised guidelines, procedures, and policy documents which are formally adopted by a state or territory and provide specific interpretations of enforceable CZM program policies to applicants, local government, and other agencies that will result in meaningful improvements in coastal resource management.

Program implementation activities are also eligible for section 309 funding which meet the following general criteria:

1. Must relate to one of more 309 program improvements;
2. Must be a component of a program improvement that measures, within two years, how it will improve effectiveness of the program; and
3. Must be cost effective.

Section 309 priorities in no way affect over-all goals of Washington's coastal zone management program.

This document is organized to three major sections. First, Washington's 309 efforts during 1993-96 are summarized; then draft assessments of the nine improvement areas and tentative priority rankings are presented; and finally, this report presents Washington's detailed proposals for further work in three priority improvement areas: Cumulative and Secondary Impacts; Coastal Hazards; and Special Area Management Planning.



# Summary of Past 309 Efforts

Throughout the first 309 improvement program phase (1992-96), Washington State worked in two 309 improvement areas. One, under the cumulative and secondary impacts of growth improvement area, addressed the need to better integrate state and local government implementation of the Shoreline Management Act (SMA) of 1971 with the newly adopted Growth Management Act (GMA) of 1990 (and 1991 amendments). Washington's second focus addressed Puget Sound coastal erosion management and the impacts of shoreline armoring under the coastal hazards improvement area.

## Cumulative and Secondary Impacts: Growth Management Project

The Growth Management Project has steadily evolved to meet changing legislative mandates and local government needs. Initially the Growth Management Project was designed to respond to provisions of the Growth Management Act of 1990 and the GMA Amendments of 1991 where there were overlapping interests with the Shoreline Management Act. In recent years, project emphasis shifted to a response to mandates under regulatory reform legislation. Project goals, however, have remained consistent: to foster consistency at the local government level between GMA-mandated comprehensive plans, development regulations, and critical areas ordinances, and SMA-mandated local shoreline master programs (SMPs)—all of which address the cumulative and secondary impacts resulting from land use practices in sensitive coastal areas.

Key elements of the Growth Management Project from 1992 through 1995 have been:

- development of internal policy, standards, and guidelines for staff review of GMA-mandated comprehensive plans, development regulations, and critical areas ordinances;
- inter- and intra-agency coordination on GMA - SMA consistency, especially between the Department of Ecology and the Department of Community, Trade, and Economic Development;
- development of model shoreline and coastal zone policies addressing cumulative and secondary impacts of growth;
- delivery of technical assistance, primarily to local governments and secondarily to other state agencies and the public; and
- review and comment by Ecology staff on GMA-mandated local comprehensive plans, development regulations, and critical areas ordinances.

Throughout the 1992-95 period, in complement to the 309 Growth Management Project, Ecology provided CZMA section 306 planning grants to local governments to assist with the financial burden of amending local shoreline master programs where needed for GMA - SMA consistency.

In 1995 the Washington State legislature adopted seven different bills amending the SMA as a part of a broad regulatory reform effort aimed at achieving better integration of GMA, SMA, and SEPA (State Environmental Policy Act) as well as providing procedural remedies for various aspects of the SMA. While not changing the broad goals of the SMA, this legislation did require amendment of all the rules for implementation of the SMA. Accordingly, the emphasis of the 309 Growth Management Project shifted beginning with the 1995-96 fiscal year.

Throughout the 1995-97 period, the 309 Growth Management Project has placed emphasis on amendment of the SMA implementing regulations through the following tasks:

- amendment and consolidation of the existing procedural rules for implementation of the SMA into a single rule covering general administration and procedures at both the state and local level for adoption and amendment of local shoreline master programs;
- amendment and consolidation of the existing rules for permit application processing and enforcement procedures into a single new rule;
- adoption of a wholly new rule, a wetlands delineation manual which is consistent with the US Corps of Engineers 1987 wetlands delineation manual;
- rewriting of the shoreline master program guidelines rule to integrate legislative amendments to the SMA from recent years, plus Shoreline Hearings Board and case law decisions, and recent policy interpretations. The Shoreline Master Program Guidelines rule will initially be a pilot rule which greatly facilitates 'fine-tuning' during the early years of implementation.

The SMP Approval and Amendment Procedures rule (WAC 173-26) and the Shoreline Management Permit and Enforcement rule (WAC 173-27) were adopted on September 26, 1996 and will go into effect on October 31, 1996. The wetlands delineation manual rule is anticipated to be adopted in December 1996 and to go into effect on January 31, 1997. The Shoreline Master Program Guidelines rule is anticipated to be adopted in June 1997.

## Coastal Hazards: Coastal Erosion Management Strategy Project

The Thurston and Mason County Commissioners, and the Pierce County Executive, in 1991, requested that the Department of Ecology investigate the effects of wide spread shoreline armoring and prepare an environmental impact statement on the cumulative effects of bulkheading and other forms of armoring. These elected officials were reacting to the large numbers of bulkhead permit applications in preceding years, and were voicing concern over their uncertainty about the wisdom of permitting large scale unmitigated shoreline armoring.

In an action unrelated to the local government requests, the Washington State Legislature in 1992 passed *Engrossed Senate Bill 6128* which amends the Shoreline Management Act to provide for the following:

- Local governments must adopt erosion management standards in their Shoreline Master Programs. While most local governments had erosion sections in their SMP, these existing regulations may not be as comprehensive as ESB 6128 requires.

- These standards must address both structural and non-structural methods of erosion management. Structural methods are typically bulkheads or rock walls. Non-structural methods include beach nourishment or building setbacks and other land use management approaches.
- The standards must give a preference for permitting of erosion protection measures for residences occupied prior to January 1, 1992 where the erosion protection measure “is designed to minimize harm to the shoreline natural environment.” This implies no preference for protection measures for residences first occupied after January 1, 1992.
- ESB 6128 expands erosion protection from just a residence to “single family residences and appurtenant structures.”
- Permit application processing by local government must be carried out in a timely manner. Shoreline property owners testifying for the bill cited local government delays in permit approval as onerous. Local governments report that most permit delays are caused by incomplete or inaccurate information on the permit application.

The legislature was unable to provide local governments or Ecology with the funds necessary to carry out the intents of ESB 6128 because of reduced tax revenues. Fortunately Shorelands was successful in obtaining a section 309 grant under the Coastal Zone Management Act to carry out a comprehensive, 4-year Coastal Erosion Management Strategy (CEMS). Study tasks include research, impact analysis, and policy analysis.

*Task 1. Inventory and Characterization of Shoreline Armoring, Thurston County, Washington, 1977 - 1993.* Approximately one third of the county’s marine shoreline is armored. The amount of armored shoreline about doubled between 1977 and 1993. In recent years about two-thirds of the permits issued for armoring were for repair or replacement projects.

*Task 2. Engineering and Geotechnical Techniques for Shoreline Protection in Puget Sound.* The generally accepted engineering and geotechnical techniques for selected erosion management alternatives (bulkheading, wave attenuation, beach nourishment, etc.) appropriate to the tidal range, wave energy, and geologic conditions characteristic of Puget Sound are assessed. This report provides the basis (in part) for development of guidance recommendations to local government and land owners for erosion protection.

*Task 3. Shoreline Armoring Effects on Physical Coastal Processes in Puget Sound.* The various physical impacts of shoreline armoring are discussed in the low energy regime context of Puget Sound. The primary impact was found to be prevention of sediments from reaching the beach. Selected local case examples are provided.

*Task 4. Coastal Erosion Management Regulation: Case Examples and Critical Evaluation.* Regulatory and non-regulatory approaches to coastal erosion management are evaluated, and policy alternatives for Washington are assessed. This report will provide the basis (in part) for development of State guidance to local government for adoption of erosion management procedures.

*Task 5. Shoreline Armoring Effects on Coastal Ecology and Biological Resources in Puget Sound.* Following on from Task 3, the direct effects of shoreline armoring, and the secondary effects of changes to coastal processes and conditions upon biological resources are assessed. Selected local case examples are provided.

*Task 6. Management Options for Unstable Coastal Bluffs in Puget Sound.* This comprehensive assessment of engineering, geotechnical, bioengineering, and vegetation management techniques for slope stabilization provides the basis (in part) for development of guidance to local government and land owners.

*Task 7. Regional Approaches to Coastal Erosion Management.* Many “soft” approaches to erosion management (e.g. beach nourishment) or mitigation for adverse effects must be carried out on a regional basis to be effective. Both the technical and political feasibility of regional erosion management is assessed.

On the basis of the CEMS studies, the rules for preparation of local Shoreline Master Programs (SMP) are being amended. The first draft of the amended rules were released in August 1996. Final adoption is now scheduled for June 1997. Following on from adoption of the new rules the *Shoreline Management Guidebook* for development and implementation of local SMPs will be amended, providing detailed guidance for permitting shoreline erosion control where warranted, providing for mitigation, and land use measures to obviate the need for erosion control.

# Enhancement Area Assessments

The enhancement area assessments are organized according to the following standard format.

## Enhancement Area Title

### ***Section 309 Programmatic Objectives***

*Each section begins with a quotation of the Section 309 programmatic objectives in italic typeface. These are the goals which any state must work to, at least in part, if that improvement area becomes a priority. These objectives were developed by Congress with a national perspective, and have varying applicability to specific states.*

### **Resource Characterization**

A characterization of the resource is provided according to a required format. Where the resource characterization is unchanged from the first assessment in 1991-92 only summary information is provided in this assessment. Copies of the 1991-92 assessment and strategy are available on request.

### **Management Characterization**

A characterization of the management program(s) for the resource are provided according to a required format. Emphasis is on changes since the prior assessment.

### **Conclusion**

The conclusions reached in this draft assessment are tentative, especially the assignment of priorities for future work in the improvement areas. Assignment of priority levels is based on need as well as likelihood of success.

# Public Access

## ***Section 309 Programmatic Objectives***

- 1. Improve public access through regulatory, statutory, and legal systems.*
- 2. Acquire, improve, and maintain public access sites to meet current and future demand through the use of innovative funding and acquisition techniques.*
- 3. Develop or enhance a Coastal Public Access Management Plan which takes into account the provision of public access to all users of coastal areas of recreational, historical, aesthetic, ecological, and cultural value.*
- 4. Minimize potential adverse impacts of public access on coastal resources and private property rights through appropriate protection measures.*

## **Resource Characterization**

1. The extent of public access to marine shorelines as of 1985 is summarized in the table on the following page. More recent information has not yet been compiled. Similar, comprehensive information for lake shores and streams and rivers in the coastal zone is not known to be available.

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 so as 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 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 readily characterized from a 1996 state-wide 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 80% go at least several times a year. Lakes, rivers and streams, and Puget Sound are about equally popular as “most frequently visited” while the ocean is the least frequent first choice (13%).

Access Type	Number of Sites in 1985
State/County/Local parks	Of the total of 748 listed marine public access sites, 32 are operated by federal agencies, and 716 by state, county, regional, or local agencies.
Boat Ramps	135 listed public access sites have a total of 226 boat launch ramps.
Scenic Vistas	192 listed public access sites have a scenic view.
Rights-of-Way	27 listed public access sites are identified as a right-of-way road end, however many hundreds are known to exist.
Fishing Piers	68 listed public access sites have a fishing pier.
Nature Trails	81 listed sites have a hiking trail, but there is no compiled information on "nature trails."
Disabled Access	94 listed public access sites have disabled access facilities
Boardwalks or Walkways	No compiled information.
Wildlife Refuges	There are 7 listed national wildlife refuge units which provide for public access.
Camping Sites	82 listed public access sites have a total of 4,576 camp sites.

When asked, "Is there adequate public access to shorelines in Washington?" 63% responded "enough" and 37% "not enough." When asked what they found 'bothersome' to their shoreline visits, 75% 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 the facilities some existing launches. Launch facilities every 10-to-12 miles along the river were considered adequate. Presently there are a total of 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.

Additionally, the research discovered that paddle-craft boaters desire resolution of use conflicts between human-powered craft and motorboats, additional launch sites and camping facilities, and information resources such as guidebooks to paddling on the lower Columbia River.

Overall, the principal impediments to provision of adequate public access are considered to be:

- inadequate funding for acquisition of new sites;
- inadequate funding for maintenance of existing sites; and
- private property owner resistance to siting adjacent public facilities

## Management Characterization

1. Within each of the management categories below, overall changes (both positive and negative) since the last assessment are identified. Characterizations are difficult to make because so many agencies are involved in provision of public access.

Management Category	Changes Since Last Assessment
Regulatory Programs	No change.
Acquisition Programs	Moderate negative: Funding levels flat or diminished, resulting in less site acquisition. Not a 309 change.
Comprehensive Access Planning	No change. Comprehensive access planning is carried out at the local government level in conjunction with general outdoor recreation planning. There is no comprehensive access plan within the Washington coastal zone management program.
Operation & Maintenance Programs	Moderate negative: Funding levels flat or diminished, resulting in less site maintenance. Not a 309 change.
Innovative Funding Techniques	No change.
Public Education and Outreach	Moderate negative: Funding levels flat or diminished, resulting in less public outreach. Not a 309 change.
Road end rights-of-way	Moderate negative: Frequency of abandonments to adjacent private property owners by local government appears to have increased, resulting in a loss of public access. The procedures have reportedly often been improper, but the information is largely anecdotal. Some local governments are granting a 'private use license' to private property owners adjacent to undeveloped street ends. No state agency has delegated oversight authority over state law regulating right-of-way abandonment. Not a 309 change.

## Conclusions

The relative amount quality of public access in Washington state is not keeping pace with population growth or the desires of some user groups.

1. The major problems in addressing the programmatic objectives for public access are:

- Financial: funding programs for acquisition, maintenance, and staffing are flat or diminishing.
- Opportunity: there are few large, undeveloped shoreline properties available for public acquisition.



2. The prior and proposed priority for Public Access is:

First Assessment	This Assessment
High_____	High_____
Medium__ <u>X</u> __	Medium__ <u>X</u> __
Low_____	Low_____

3. A medium priority is proposed. Washington State proposes no new agendas for Public Access at this time. State level assistance to local government needs will be met with CZMA section 306A and 306 funding, plus other state funding sources, principally from the Interagency Committee for Outdoor Recreation (IAC) and the Aquatic Lands Enhancement Account (ALEA) funds administered by the Department of Natural Resources.

# Coastal Hazards

## ***Section 309 Programmatic Objectives***

1. *Direct future public and private development and redevelopment away from hazardous areas, including the high hazard areas delineated as FEMA V-zones and areas vulnerable to inundation from sea and Great Lakes level rise.*
2. *Preserve and restore the protective functions of natural shorelines features such as beaches, dunes, and wetlands.*
3. *Prevent or minimize threats to existing populations and property from both episodic and chronic coastal hazards.*

## **Coastal Hazards Characterization**

### **1. General Risk Assessment:**

Washington State has approximately 2800 miles of marine shoreline, of which 2200 is located within Puget Sound and adjacent inland waters. The character of coastal hazards varies significantly between the ocean coast and the Puget Lowland, as does the nature of development and the associated risks. Washington's coastal hazards were described in the 1992 assessment and are therefore presented in less detail here. The general level of risk in Washington state from coastal hazards is characterized in the table on the opposite page.

***Storm and Flood Hazards.*** Flood-prone areas on the ocean coast include portions of the large barrier spits of the southwest coast, low-lying communities located within the estuaries, and isolated small communities located at stream mouths along the Olympic Coast. Areas most at risk within Puget Sound include sand spits and other barrier beaches and low-lying areas near river mouths. Coastal flooding occurs when winter storms coincide with high tides and is often accompanied by severe wind and wave damage. Sea level rise will increase both the magnitude and the frequency of flooding and may lead to permanent inundation of some areas over the long-term.

Washington's shoreline is subject to tsunamis generated by both local and distant seismic events or by large coastal or submarine landslides. Prehistoric earthquakes resulted in widespread subsidence and inundation of many coastal areas.

***Erosion Hazards: Puget Sound Shorelines.*** Within Puget Sound, erosion occurs on coastal banks and bluffs, on sandspits and barrier beaches, at river deltas, and on poorly protected industrial landfills. Erosion frequently results in land loss, but rarely damages and destroys homes and related improvements. Shoreline erosion threatens public infrastructure, park facilities, and hazardous waste sites. There is no comprehensive assessment of the magnitude or severity of the problem.

Hazard Class	Risk Ranking	Notes
Hurricanes or Typhoons	Medium	Washington's location on the northeast Pacific precludes tropical storms, but results in exposure to intense and prolonged winter storm conditions capable of causing severe damage.
Flooding	Medium	See note for 'Hurricanes or Typhoons'
Storm Surge	Medium	See note for 'Hurricanes or Typhoons'
Episodic Erosion	High	See notes under 'Chronic Erosion'
Chronic Erosion	High	Chronic (long-term) erosion is typically episodic, driven by intense storms, heavy rainfalls, and landslides. Extreme, localized erosion might be better characterized as 'acute' and often occurs at inlet mouths or near major shoreline modifications.
Sea/Lake Level Rise	Medium	Long-term hazard
Subsidence	Low	Washington has no near-term risk from subsidence due to groundwater or petroleum withdrawals; low rates of tectonic subsidence increase the rate of sea level rise in central and south Puget Sound.
Earthquakes	High	Low frequency, but high hazard
Tsunamis	High	Low frequency, but high hazard
Coastal Landsliding	High	See notes under 'Chronic Erosion'

Most erosion control on Puget Sound is achieved with seawalls and bulkheads, raising serious concerns about the physical and biological consequences of extensive shoreline modification. Extensive portions of Puget Sound shorelines have been armored, especially in urban and higher density suburban areas of the south and central sound.

Growing interest in preserving and restoring natural shorelines has led to considerable interest in beach nourishment and in bank stabilization methods that employ vegetation and bioengineering, but few projects have been carried out and fewer have been documented or monitored.

Landsliding of coastal bluffs is common on Puget Sound and is not necessarily tied to ongoing shoreline erosion. Landslides include small bank failures, large debris flows, and very large landslide complexes that may periodically reactivate. Slides can undermine homes, carry structures to the beach, or destroy homes located at the base of the bluff. Landslide damage often occurs despite extensive engineering efforts to stabilize slopes or to protect homes.

***Erosion Hazards: Pacific Ocean Coast.*** Historically, much of the ocean coast has accreted seaward, but in some areas, particularly near bay mouths and jetties, significant erosion has or does occur.

Extremely rapid erosion continues at Cape Shoalwater on the north side of the mouth of Willapa Bay. Many residential properties and improvements have been lost. Coastal changes at Cape Shoalwater have traditionally been attributed to 'normal' tidal current fluctuations at the mouth of Willapa Bay. No protective measures have been taken.

At Westport, erosion of both the ocean beach and 'half-moon bay' inside Grays Harbor caused a major breach adjacent to the South Grays Harbor Jetty in 1993. The jetty was temporarily separated from the land it was anchored to. In response the US Army Corps of Engineers placed a 600, 000 cubic yard fill.

During the past two-to-three years coastal erosion has begun on the southerly mile of the Ocean Shores Peninsula adjacent to the North Grays Harbor Jetty. Five condominium buildings were judged to be at immediate risk in 1996. Under an emergency permit, an armored beach fill was permitted on the public beach fronting the condominiums.

Recognizing that these erosion incidents are related to larger questions of longshore coastal processes, inlet dynamics, and long-term sediment supply from the Columbia River, Ecology and the US Geological Survey have jointly initiated a comprehensive multi-year study of the southwest Washington coast.

***Dunes Management.*** Dunes management on Washington's southwest coast remains an unresolved issue on the Long Beach Peninsula where dune grading for view restoration is highly controversial. Measures proposed for the amended Shoreline Master Program Guidelines rule would allow dune grading for view restoration only under limited circumstances and would set forth performance standards.

***Earthquake Hazards.*** Recent research indicates that large subduction earthquakes can occur off the Washington Coast and that strong earthquakes can also occur within the Puget Lowland. Such earthquakes could result in catastrophic consequences for coastal areas where risks are high from landsliding, tsunamis, local and regional subsidence, and groundshaking.

## **2. Changes in General Risk Levels:**

Extensive work on coastal erosion in Puget Sound through the 309-funded Coastal Erosion Management Strategy project (1992-95) has increased understanding of shoreline erosion in the Sound as well as approaches to managing it. In particular, the work has provided information on the amount and rate of armoring within Puget Sound, the standard engineering methods employed to address erosion, and the range of environmental impacts associated with armoring. Better information is now available about the cumulative effect of wide spread residential shoreline armoring, the effectiveness of existing state and local policies, and the viability of various policy and engineering alternatives.

Beach nourishment is increasingly proposed as a tool within Puget Sound for restoring degraded shorelines, for improving both recreational opportunities and nearshore habitat, and at least potentially, for mitigating the impacts of unavoidable shoreline armoring. Numerous projects are currently under consideration but there is a significant lack of sound technical guidance available and limited relevant policy in existing shoreline regulations.

### **3. Risks From Inappropriate Development:**

Extensive residential development of shoreline bluffs and barrier beaches throughout Puget Sound places increasingly large numbers of homes at risk to coastal hazards such as erosion and flooding. This in turn leads to greater public investment in infrastructure in the same hazardous areas, more need for local governments to plan for natural disasters, and higher costs at all levels of government when disasters do occur. This occurs on Puget Sound when floods and storms damage low-lying beach communities, when landslides destroy homes or require substantial public expenditures for mitigation, and when erosion threatens public facilities.

Erosion affects many recreational beaches and shoreline parks, impacting public resources and reducing the quality of public access. Traditional armoring does little to restore the beach or enhance the public experience. Beach nourishment may address these issues well, but guidance to engineers, local planners, and regulators remains scarce for the small gravel beach projects typical of Puget Sound.

The wide-spread use of seawalls and bulkheads to address shoreline erosion on Puget Sound leads to significant impacts on beaches and nearshore ecology. Armoring can eliminate sources of sediment, lowering and narrowing downdrift beaches and further aggravating erosion elsewhere. Armoring can also lead to changes in beach substrate, beach hydrology, and riparian vegetation, thereby harming nearshore and adjacent upland habitat. Such shoreline structures often allow development to occur closer to the shore than otherwise would be acceptable, increasing adverse impacts on water quality, native shoreline vegetation, and aesthetics.

On Washington's southwest coast, the recent shift on some shoreline segments from an accretional to an erosional state has placed some private development at risk. For the most part current laws and regulations prohibit or discourage erosion control structures on the Pacific Ocean beaches. If this recent shift from accretion to erosion continues and spreads geographically a fundamental policy review will be necessary.

## **Management Characterization**

### **1. Changes to Washington's Hazards Protection Programs:**

Changes to the State's hazards protection programs since the last assessment are summarized in the table on the following page.

### **2. Characterization of Significant Changes:**

Ecology's Coastal Erosion Management Strategy (funded by CZM 309) provides the basis for numerous improvements currently being made to the Shoreline Management Act (SMA) rules and guidelines for local Shoreline Master Programs and the technical guidance Ecology provides to local governments. These begin to address shoreline setbacks and subdivision regulations, more consistent standards for shoreline erosion control, and improved guidelines for nonstructural erosion control, including beach nourishment and vegetative erosion control.

Mechanism	Changes since Last Assessment
Building restriction	No changes.
Repair or rebuilding restrictions	No changes.
Restrict “hard” shoreline protection structures	Moderate positive change: based upon work completed under the 309 Puget Sound coastal erosion management project, some local governments are restricting shoreline armoring in favor of bioengineering.
Restrict renovation of shoreline protection structures	No changes.
Beach or dune protection	No changes.
Permit compliance program	No changes.
Inlet management plans	No changes.
Special Area Management Plans	No changes.
Local hazards mitigation planning	Moderate positive: local communities continue to complete or amend their Comprehensive Flood Control Management Plans. Not a 309 change.
Innovative procedures for dealing with takings	No changes.
Methodologies for determining setbacks	No changes.
Disclosure requirements	No changes.
Publicly funded infrastructure restrictions	No changes.

The passage of the state Growth Management Act (GMA) in 1991 led to the subsequent development of Critical Areas Ordinances by individual jurisdictions, including sections addressing Geologically Hazardous Areas. The resulting framework generally improves regulations pertaining to landslide, flood, and earthquake-prone areas, although there remains significant variation among local ordinances.

## Conclusions

1. Section 309 programmatic objectives include directing development away from hazardous areas and preserving or restoring the protective functions of natural shorelines.

Directing new development away from hazardous areas is difficult because: [1] the high value of shoreline property increases resistance to land use restrictions; [2] the public awareness of the nature and severity of coastal hazards is low; [3] compiled information on coastal hazards

is incomplete, and [4] it is difficult for the public to access information on coastal hazards. The only comprehensive compilation and characterization of coastal hazards was published in the mid-1970s, and only for the Puget Sound counties. This *Coastal Zone Atlas of Washington* is now out of print and library copies are difficult to find.

Preservation of natural shorelines and their protective functions is limited by the wide spread use of hard structures to control erosion or enhance recreational access. Although alternatives such as vegetative bank stabilization and beach nourishment are increasingly encouraged, there is little technical information on where and how these techniques are best implemented. As a result, the regulatory means to require such measures are lacking.

2. The prior and proposed priority for Coastal Hazards is:

First Assessment	This Assessment
High <u>X</u>	High <u>X</u>
Medium _____	Medium _____
Low _____	Low _____

3. Coastal hazards, along with issues associated with the environmental consequences of hazard mitigation, remain the most pertinent issue affecting the long-term development of Washington's shoreline. This assessment area is inextricably linked to the issue of secondary and cumulative impacts of growth, because it relates to both the direct modification of the shoreline and to the proximity to the shore at which development occurs.

We ranked coastal hazards as a high priority in 1992 and do so again now. Considerable progress was made during the past five years, but effective implementation of these efforts is an unfinished task and will require considerable additional work. Top priorities include: [1] better information regarding shoreline restoration and alternatives to hard structures, and [2] improved access for the general public to accurate information about coastal hazards.

# Ocean Resources

## ***Section 309 Programmatic Objectives***

1. *Develop and enhance regulatory, planning, and intra-governmental coordination mechanisms to provide meaningful governmental coordination mechanisms to provide meaningful state participation in ocean resource management and decision-making processes.*
2. *Where necessary and appropriate, develop a comprehensive ocean resource management plan that provides for the balanced use and development of ocean resources, coordination of existing authorities, and minimization of use conflicts.*

## **Introduction**

A crucial distinction between Washington State and most other coastal states is that Washington has a vast “inland sea,” Puget Sound, in addition to its ocean coast. The majority of the State’s population resides in the Puget Sound area, thus attention and resources are focused on the Puget Sound Region.

Still, the Pacific Ocean region is an important area in the state’s coastal zone. The Olympic National Park; the Flattery Rocks, Quileute Needles, and Copalis national wildlife refuges; and the recently-designated Olympic Coast National Marine Sanctuary all speak to the coast’s national significance. Four prominent Indian tribes live on the coast: the Makah, Hoh, Quileute, and Quinault. The nationally-designated areas, coupled with tribal reservation land, occupy almost two-thirds of Washington’s Pacific Coastline. These areas are relatively undisturbed and undeveloped.

The southerly third of the Pacific coastal region includes Grays Harbor, Willapa Bay, and the Columbia River estuary. These areas are the focus of attention at the federal, state, and local levels through efforts such as the Grays Harbor Estuary Management Plan (GHEMP), the local Willapa Water Quality Council, and the Columbia River estuary program sponsored by the US Environmental Protection Agency. The GHEMP is the only formal special area management plan (SAMP) adopted as a part of Washington’s coastal zone management program.

In light of the focus on the Puget Sound and the relatively undeveloped and protected status of much of the Pacific Coast, Washington State has not targeted resources at development of a ocean resources management plan. Various state agencies operate pursuant to specific legislative and administrative mandates which address ocean issues. The Department of Ecology administers the Shoreline Management Act, which gives the local coastal governments’ Shoreline Master Programs jurisdiction out to three miles. The 1995 Washington State legislature adopted a variety of bills that amended the SMA (see section on Cumulative and Secondary Impacts).

## **Resource Characterization**

1. Ocean resources and uses of state concern are characterized in the table below:



Resource or Use	Threat or Conflict	Degree of Threat (H/M/L)	Anticipated Threat or Conflict
Shipping and Transportation	Oil & hazardous waste spills. Increased vessel traffic off the coast increases the potential for spills.	Medium	Oil spills can be devastating to coastal resources. Oil spills pollute the water, foul birds and marine mammals, wash up on shorelines.
Fisheries	Pollution, over-fishing, and unknown causes have resulted in a dramatic reduction of certain Pacific species.	Medium	Depletion of fisheries stocks can have devastating effects on other marine species and on coastal economies.
Petroleum and Natural Gas	Oil and gas development can have potentially devastating effects on the coastal environment.	Low	The US Department of Interior's Proposed Final Outer Continental Shelf Oil and Gas Leasing Program for 1997-2002 does not include Washington's coast. No lease sales are scheduled for any time in the future.
Water Quality	Bacterial contamination of coastal embayments and beaches by failing on-site sewage systems or point discharges from sewage treatment plants (STPs).	Low overall; medium locally.	While the Pacific Coastal waters are relatively pristine, some nearshore areas have been subject to shellfish harvest closures for the recreational Razor Clam harvest.

2. The most significant change since the last assessment is the 1994 designation of the Olympic Coast National Marine Sanctuary. The Sanctuary encompasses over 3000 square off Washington's northerly coast. Oil and gas development are prohibited within the sanctuary boundaries.

The State law that prohibits off shore oil and gas development, the 1989 Ocean Resources Management Act (ORMA), was amended in 1995 to extend the moratorium to the year 2000.

**Management Characterization**

1. State ocean management programs and initiatives developed since the last assessment are summarized in the table below:

Program	Status	309 \$
Statewide comprehensive ocean management statute	No change.	no
Statewide comprehensive ocean management plan	No change.	no
Single purpose statutes related to ocean resources	No change.	no
Statewide ocean resources planning/working groups	Yes: <b>see text.</b>	no
Regional ocean resources planning efforts	No change	no
National Marine Sanctuary	Yes: see text.	no

2. Under the aegis of the Olympic Coast National Marine Sanctuary a regional ocean resources management working group has been convened. This process is still in the formative stages.

**Conclusion**

1. There are no major gaps in meeting the programmatic objectives for this enhancement area.

2. The prior and proposed priorities for this improvement area are:

First Assessment	This Assessment
High____	High____
Medium____	Medium____
Low__ <u>X</u> __	Low__ <u>X</u> __

3. For reasons discussed above, Washington State resources are aimed primarily at the Puget Sound region. Washington State’s Pacific Coast is unlike that of Oregon and California in that most of the State’s “coastal” population resides near the Puget Sound. However, the Pacific Coast region is not neglected as evidenced by various national designated areas.

# Wetlands

## ***Section 309 Programmatic Objectives***

1. *Protect and preserve existing levels of wetlands, as measured by acreage and functions, from direct, indirect and cumulative adverse impacts, by developing or improving regulatory programs.*
2. *Increase levels of wetland sustainable acreage and functions within degraded wetlands.*
3. *Utilize non-regulatory and innovative techniques to provide for the protection and acquisition of coastal wetlands*
4. *Develop and improve wetlands creation programs as the lowest priority.*

## **Resource Characterization**

### 1. Extent of coastal wetlands

Much of what we know about the condition of coastal wetlands remains unchanged from the descriptions and assessments in the 1992 Assessment and Strategy. Interested readers are encouraged to consult that prior assessment for details.

Good data on the extent of Washington's wetlands remains limited. While some small, local inventories have been completed in the last five years, there has been no comprehensive work generating or compiling wetland inventory data. In 1990, we reported a total wetland area of 938,000 acres for the entire state (with no specific totals for coastal wetlands). This figure was generated from the National Wetlands Inventory, which has not been updated. Therefore, the figure still stands as our best estimate for total acres of wetlands present.

The previous assessment described historical losses in the state and estimated that Washington has lost 33 to 50 percent of its wetlands. The assessment also estimated more recent trends in wetlands loss using a variety of methods and assumptions. The results were highly variable.

While we still don't know a great deal about trends in wetlands loss, we can make some loss estimates from the US Army Corps of Engineers (Seattle District) permit tracking information collected by the Department of Ecology's Permit Coordination Team. This information is summarized in a table on the following page.

This data is limited in a number of ways.

- Temporary impacts are included so we are not getting a true picture of wetland loss.
- Mitigation acres may include wetlands restored, preserved, or enhanced.
- For the most part, mitigation requirements are not fully monitored for success, so we can not say whether we've actually "received" mitigation.
- The data records loss and gain of acreage only, and doesn't evaluate functional change.

Type of Permit	Permits Issued (count)	Permitted Wetland Impacts <sup>1</sup> (acres)	Mitigation Received (acres)
Nationwide 26 (with no mitigation)	133	56	0
All other Nationwide Permits	74	45	53
Section 10/404	22	52	168
Total	229	153	221

<sup>1</sup> Includes both permanent and temporary impacts

<sup>2</sup> Includes restoration, preservation, enhancement, etc.

The data does, however, indicate an ongoing pressure on wetlands, with many of the losses being small in acreage and exempt from mitigation requirements. Data collected by the Permit Coordination Team also shows that the majority of the losses occur in western Washington, reflecting continuing growth in both urban and rural areas. In addition, there are undoubtedly many unreported, unpermitted wetland losses.

2. Direct and indirect threats to coastal wetlands, both natural and man-made are summarized the table below:

Threat	Significance
Development and/or fill	High: development remains the greatest threat to wetlands.
Erosion	Low: shoreline erosion is of little importance as a threat.
Pollution	Medium: nonpoint pollution degrades wetlands in all regions of the state.
Channelization	Low: stream channelization is rarely practiced in the state.
Nuisance or exotic species	Medium: though <i>Spartina</i> infestations in Willapa Bay are locally of high significance.
Freshwater input to marine or estuarine systems	Low: freshwater input is not an issue in Washington state.

Development continues to be the major threat to coastal wetlands in Washington State. We continue to see fragmentation of wetland systems from urban sprawl, degradation of wetlands and their buffers from encroaching development, and changes in hydroperiods from development in the watershed. The primary impediments to addressing this threat continue to be ex-

panding population pressures, complicated technical and regulatory issues, and a public with mixed opinion on the value or necessity of preserving wetlands at the expense of personal economic gain.

Pollution is also a threat to Washington's coastal wetlands. Discharges of materials, primarily from nonpoint sources, continue to degrade wetlands and impair their functional capabilities. Pesticides, herbicides, heavy metals, nutrients, and sediments and other pollutants find their way into wetlands throughout the coastal region. There are many impediments to solving non-point pollution problems, many of which are being addressed as Washington develops its Non-point Pollution Strategy.

Nuisance and exotic species are a problem in both freshwater wetlands (primarily Purple Loosestrife and Reed Canary Grass), and estuaries (*Spartina*). The primary impediment to addressing these problems is the biology of the plants themselves. They are aggressive and very hard to eradicate.

There are three species of *Spartina* in Washington: *S. alterniflora*, *S. angelica*, and *S. patens*. *Spartina* is a problem in Pacific Northwest estuaries as it invades mudflats, starting high in the intertidal and accreting sediments. Through sediment accretion, seed production, and vegetative spread, the plant can invade mudflat areas rapidly. The plant was accidentally introduced to Willapa Bay as packing material for oysters imported from Chesapeake Bay in the 1890s. It was also planted intentionally in Willapa Bay and various locations in Puget Sound for erosion control, cattle forage, or duck hunting blinds. As an invasive species, *Spartina* displaces benthic organisms and shorebirds, and eliminates the mudflat habitat necessary to oyster culture. In some places it can contribute to flooding by impeding water flow out of coastal rivers.

The Washington Department of Agriculture is coordinating *Spartina* control efforts in the state, and is aided by the Washington departments of Natural Resources and Ecology, the US Fish and Wildlife Service, and local weed control boards. Funding is limited, inventories are incomplete, and unaffected areas need to be monitored for early detection and response. Control efforts have been focused in Willapa Bay where the infestation began, and in recent years have been initiated in Puget Sound embayments.

The key to *Spartina* control is a coordinated effort throughout the coastal zone, with the aim being to at least control seed set each year. Without this coordination, one seed source can reseed previously controlled areas, and seeds can be carried to new areas.

In addition, the methods required for eradication (herbicides in many cases) have potential deleterious effects as well. While local Weed Control Boards may require landowners to eradicate these invasive species on their properties, the methodology and enforcement is often missing.

### **Management Characterization**

In 1994, the Washington State departments of Ecology and Community, Trade, and Economic Development completed the State Wetlands Integration Strategy (SWIS) in an attempt to develop and implement a more effective, efficient, and coordinated system to better protect the wetland resources of Washington State. The strategy includes recommendations on a state wetlands policy, wetlands planning, permitting, non-regulatory actions, and education. The

strategy represents the blueprint for future wetlands actions in the state, and many of the recommendations have been funded and are being addressed.

Management Category	Changes since last assessment
Regulatory Programs	Moderate positive, through the SWIS process. Not a 309 change.
Wetlands Protection Standards	No changes.
Assessment Methodologies	Significant positive, through the Wetlands Function Assessment Project. Not a 309 change.
Impact Analysis	No changes.
Restoration/Enhancement Programs	Significant positive, through the Puget Sound Wetlands Restoration Program in the Stillaguamish Basin. Not a 309 change.
SAMPs	Moderate positive, through Wetland Integration Plans (see SAMP assessment). Not a 309 change.
Education/Outreach	No changes.
Wetlands Creation Programs	No changes.
Acquisition Programs	Moderate positive, through the Washington Wildlife and Recreation Program and other state and local programs. Not a 309 change.
Inventories	No changes.

The has been a moderate change in regulations in the last 5 years with passage of the Growth Management Act (GMA) and the establishment of required local critical areas ordinances and comprehensive plans. The SWIS process identified a number of regulatory improvements, several of which are being addressed. In 1995, the Washington State legislature passed legislation that directed Ecology to develop a wetlands delineation manual consistent with the current Corps of Engineers (1987) manual. It also required the state to change terminology to provide uniform usage of the term “wetlands” under the GMA and Shorelines Management Act (SMA). Most of these activities have happened recently or are under way. In general, local critical areas ordinances have provided some level of improvement in wetlands protection.

Washington State is currently coordinating the Wetlands Function Assessment Project with funding from EPA and assistance from several agencies and the private sector. The project, another SWIS recommendation, aims to develop new assessment methods for specific wetland types that build on current methods while correcting their weaknesses. If the new methods are

used consistently in the state, wetland regulatory decisions that involve function assessments will be more consistent and predictable.

There have been significant changes in wetlands restoration in the last five years as well. The Puget Sound Wetlands Restoration Program has been successfully tested in the Stillaguamish River basin and will now be applied in the Nooksack River basin. This watershed-based restoration program aims to identify priority restoration sites that will solve environmental problems that are important to basin residents. In addition to this effort, some significant restoration projects have been completed or initiated, most notably the large Spencer Island restoration in the Snohomish Basin.

Some moderate changes have occurred in Special Area Management Planning as described in that section of this chapter.

Finally, we've seen some moderate changes in the area of wetlands acquisition. The Washington Wildlife and Recreation Program was established to provide funding to government entities for the purchase of habitat conservation and recreation lands. Land Trusts have continued to acquire sensitive areas, and several new land trusts have formed in recent years. Finally, EPA funded the Department of Ecology to complete the Wetlands Stewardship Project. The project will result in a guidebook and training for the technical assistance community on wetlands stewardship options, which includes acquisition as well as other non-regulatory protection methods. This project also began with a SWIS recommendation.

## Conclusion

1. The State of Washington is taking steps to address all of the programmatic objectives (except the one dealing with wetlands creation). The SWIS process was completed to set the course for improved wetlands management in the state and it remains a valid blueprint. Projects like the Function Assessment Project and the Wetlands Stewardship Project are significant initiatives that will require ongoing attention in the coming years.

2. The prior and proposed priorities for Wetlands are:

First Assessment	This Assessment
High____	High____
Medium__X__	Medium__X__
Low____	Low____

3. Justification: Considering the overall coastal program needs and the success of the current wetlands program, the optimal approach to wetlands management was judged to be a continuation of the wetlands stewardship program and the wetlands restoration program, and to not take on any new initiatives.

# Cumulative and Secondary Impacts

## ***Section 309 Programmatic Objectives***

1. *Develop, revise or enhance procedures or policies to provide cumulative and secondary impact controls.*

## **Resource Characterization**

1. Areas in the coastal zone where rapid growth or changes in land use require improved management of CSIs remain largely unchanged from the 1992 Assessment and Strategy: the Puget Sound counties, especially Mason, Thurston, Pierce, Kitsap, and King. Legislative remedies (e.g. the Growth Management Act (1990, 1991) and regulatory reform amendments to the Shoreline Management Act (1995)) have not been in place long enough to effect substantive changes. Procedural rule changes to implement amendments to the SMA were adopted in 1996; substantive rule changes affecting integration of local Shoreline Master Programs (SMPs) with the Growth Management Act will be adopted in mid-1997. Local governments are scheduled to amend their SMPs beginning in late 1997. Initially the regulation for local SMPs will be a pilot rule; final rule adoption will occur in 1999.

The primary type of growth affecting the Puget Sound counties is population growth leading to residential development and sprawl, with secondary impacts of habitat loss, water quality degradation, increased frequency and magnitude of flooding, and demand for infrastructure improvements or expansions. This latter category includes transportation, education, water supply, sewage disposal, and public access facilities.

2. The areas in the coastal zone which possess sensitive coastal resources, and require a greater degree of protection from the cumulative or secondary impacts of growth are largely unchanged from the 1992 Assessment and Strategy.

However, there has arisen a much heightened awareness of habitat loss and degradation affecting Puget Sound shorelines, including their immediately adjacent uplands and intertidal and shallow subtidal waters. The Puget Sound shorelines ecotone has been characterized as the least studied, least understood landscape feature in the region. The factors contributing to cumulative and secondary impacts in this zone include shoreline armoring, landscape clearing and native vegetation removal, the proliferation of private docks and piers, and on-site sewage effluents which leach into embayments.

The following table summarizes the issues. Additional information is contained in the 1992 Assessment and Strategy report.



Area	CSI Threats
Wetlands	Wetlands are subject to filling or degradation in urbanizing areas; the problems are discussed in detail in the Wetlands section of this assessment.
Fish and Wildlife Habitat	Generalized fish and wildlife habitat remains subject to chronic degradation or replacement by urban land uses. The application of urban growth boundaries under the Growth Management Act is expected to slow the rate of degradation and replacement. In other respects fish and wildlife habitat remains at risk.
Intertidal Fish and Shellfish Habitat	Commercial and recreational shellfish beds in many areas remain at risk from contamination by urban runoff, failing on-site sewage systems, boater wastes, and to a lesser degree other problems. Salmon rearing habitat and migration corridors are affected by water quality and shoreline modifications such as armoring.
Puget Sound Shorelines	Puget Sound shorelines, the ecotone between Puget Sound's banks and bluffs, and the Sound's marine waters, are the least studied, least understood landscape feature in the region. They are affected by the adverse impacts of shoreline armoring (see Coastal Hazards assessment), the proliferation of private docks and other shoreline modifications, habitat loss due to clearing and landscaping in addition to shoreline modifications.
Aesthetics, Open Space, and Public Access	In urban and suburban areas the loss of open space remains a problem, as is deteriorating marine shoreline aesthetics due to larger shoreline modifications such as armoring and stair towers. The provision of public access, either actual or visual, has not kept pace with population growth (see Public Access assessment).

### Management Characterization

Significant changes have occurred in the state's ability to address cumulative and secondary impacts of growth during the past two years. The 1995 Washington State legislature adopted seven regulatory reform bills amending the Shoreline Management Act (SMA) as noted in chapter 2, Summary of Past 309 Efforts. This was but the first step in effecting both improved land use and coastal zone management and elimination of no longer needed regulatory practices.

The seven bills adopted by the 1995 legislature are:

- ESHB 1724: Probably the most significant changes to the SMA since its passage in 1972, this law requires local governments to integrate shoreline and growth management planning, streamlines permit and appeals processes, and improves opportunities for public involvement. ESHB 1724 also declares the Growth Management Act (GMA) as the "inte-

grating framework” for coordinating all land use laws. The law also reforms the State Environmental Policy Act (SEPA) requiring local governments to incorporate earlier and better environmental review in their GMA-required comprehensive plans. ESHB 1724 also repealed the long-unused Environmental Coordination Procedures Act and created a permit assistance center at the Department of Ecology to effect needed coordination.

- *SB 5776*: Requires Ecology to adopt rules constituting a manual for delineation of wetlands which is consistent with the 1987 Federal Wetlands Delineation Manual.
- *ESHB 1010*: Requires Ecology to modify rules on shoreline related enforcement and amendment of local shoreline master programs.
- *SHB 1195*: Exempts from substantial development permit requirements some activities, such as core sample drilling, that are necessarily conducted on a site prior to application for a permit.
- *SSB 5155*: Provides a permit exempting for projects designed to improve fish and wildlife habitat or fish passage.
- *ESSB 5616*: Provides permit exemption for watershed restoration projects.
- *ESSB 5633*: Provides permit exemption for certain activities used to remove or control aquatic weeds.

The Department of Ecology has adopted a phased, multi-stage approach to this through its section 309 cumulative impacts of growth project by initiating a comprehensive amendment of all rules implementing the SMA. By June 1997 four new rules will have been adopted:

- *WAC 173-26, Parts 1 and 2 Shoreline Master Program Approval and Amendment Procedures*. This new rule establishes the state shoreline master program as being all the local shoreline master programs, and establishes the procedures for state and local governments in the adoption, amendment, or approval of master programs. Adopted on September 26, 1996 to go into effect on October 31, 1996.
- *WAC 173-27 Shoreline Management Permit and Enforcement Procedures*. This new rule establishes procedures for state and local governments for review and approval of permit applications, and taking enforcement actions. Adopted on September 26, 1996 to go into effect on October 31, 1996.
- *WAC 173-22 Adoption of Designation of Wetlands Associated with Shorelines of the State*. The amendment of this existing rule adds provisions for a state wetlands delineation manual. Scheduled for adoption in December 1996 to go into effect on January 31, 1997.
- *WAC 173-26, Parts 3 and 4 Shoreline Master Program Guidelines*. This new pilot rule establishes amended guidelines for local shoreline master programs. Anticipated to be adopted in June 1997 to go into effect on July 31, 1997.

Procedural aspects of the legislation are relatively easy to anticipate and implement. Those rules mandates (WAC 173 chapters 26 Parts 1 and 2, 27, and 22) can be adopted and implemented in the normal manner. This work was a section 309 project; see chapter 2.

However, the substantive integration of two more-or-less compatible laws has never before been attempted in Washington State, so a pilot rule approach has been adopted for the Shore-

line Master Program Guidelines (WAC 173-26 Parts 3 and 4). The pilot rule approach is newly authorized by a regulatory reform amendment to the Administrative Procedures Act. This approach gives Ecology and local governments the opportunity to test the effectiveness and practicability of the new rule for a limited period prior to mandatory statewide implementation. Participation by local government in the terms of the pilot rule is voluntary. The term of the pilot will be two years, after which a permanent rule will be adopted by Ecology. Local governments will have two years to amend their local master programs following adoption of the final rule. The pilot rule is being developed as a current section 309 project (see chapter 2) and is anticipated to be adopted by June 1997.

The final, and most important, steps in implementation of the regulatory reform legislation will be amendment of local shoreline master programs, and implementation on the ground and in the water in the coming years

Cumulative and secondary impacts arising from growth are in large part due to the patterns of land-use that develop along Washington's coastal shorelines. A significant change since the last assessment culminated with passage of ESHB 1724. ESHB 1724 for the first time formally recognized the interrelated and mutually compatible goals of three existing Washington State statutes, amending and integrating GMA, SMA and SEPA.

The SMA and GMA are quite compatible but until passage of ESHB 1724 have been implemented independent of one another. The SMA focuses on shoreline resources of regional and statewide importance and includes state oversight. The GMA focuses on community-wide planning, and has less state oversight. Neither law preempts the other. The five year old GMA and twenty-five year old SMA must now relate consistently to one another.

ESHB 1724 now formally recognizes the "policies" contained in a local shoreline master program (SMP) as a part of the locally adopted GMA-based comprehensive land use plan. It also recognizes the standards and regulations contained in local SMPs as part of the local GMA based development regulations. This merger also triggers a first time "consistency" requirement between local land use designations (established in the local comprehensive plan) and the "environment designations" established in the local SMP. Cumulative and secondary impacts will be better controlled if the "up-front" land use planning promoted by ESHB 1724 is adopted as part of the proposed new guidelines. Once new SMP guidelines are adopted by Ecology, local governments statewide will have two years to update their local master programs to comply with the new guidelines.

## **Conclusion**

1. Significant gaps in addressing the programmatic objectives for this enhancement area (i.e., inadequate authority, data gaps, inadequate analytical methods, lack of public acceptance, etc.) exist in two areas.

First is the need to complete the work begun in response to the regulatory reform amendments by the legislature to effect Shoreline Management Act - Growth Management Act integration. This type of legislative integration has never been done before in Washington State. Local governments' have concerns over work load and uncertainty. The elements of a pilot rule needing special attention are: workshops for local government; technical assistance papers; update of the *Shoreline Management Guidebook*; model text for SMA-GMA integration; grants to pilot local governments; internal education on the new regulatory framework; internal shoreline

master program amendment review guidelines; and internal shoreline substantial development permit review guidelines.

Second is the newly emerging issue of the cumulative and secondary impacts of shoreline development on embayments of Puget Sound. Local government shoreline planners often cite the proliferation of small private moorages, or some other specific shoreline modification, as the crux of the problem, but the issue is broader than and single land use practice. The concern is better expressed as one of chronic habitat loss in the ecotone between the Puget Sound uplands, and the marine waters of Puget Sound. In this respect two non-governmental organizations (NGOs), People for Puget Sound and Adopt A Beach, have launched a public awareness campaign aimed eventually at a volunteer research and monitoring program.

2. The prior and proposed priorities for Cumulative and Secondary Impacts are:

First Assessment	This Assessment
High <u>  X  </u>	High <u>  X  </u>
Medium _____	Medium _____
Low _____	Low _____

3. Cumulative and Secondary Effects of Growth remains a high priority for two reasons. First, the work begun during the initial section 309 phase (1992-96) remains unfinished. Rule amendments to implement regulatory reform changes to the Shoreline Management Act have or will be adopted by June 1997. What remains is the most important phases of that work: amendment of local Shoreline Master Programs and their implementation by local governments. To effect that, an outreach and training program with technical support materials will be necessary to achieve the full potential of the regulatory reform legislation. A continuation of the GMA - SMA integration project is proposed for the second section 309 funding cycle.

Second is the emerging issue of shoreline habitat loss, especially on Puget Sound shorelines which are experiencing high rates of growth and development. In the near future the Department of Ecology should coordinate a comprehensive study of nearshore habitat change in cooperation with other state agencies, local governments, and interested non-governmental organizations (NGOs). This evaluation should include the cumulative effects of activities which are currently exempt under the SMA such as residential erosion control structures and single-family residents and their appurtenances. The evaluation should also be designed to provide the information necessary to shoreline management on a 'drift cell' or 'littoral cell' basis where appropriate.

# Marine Debris

## ***Section 309 Programmatic Objectives***

1. *Develop or revise programs that reduce the amount of marine and lake debris in the coastal zone.*

## **Marine and Lake Debris Characterization**

1. The extent of marine and lake debris and its impact on the coastal zone is characterized in the table below.

<b>Source</b>	<b>Impact</b>	<b>Type of Impact</b>
Debris from ships at sea.	Insignificant-to-moderate amount washes up on ocean beaches.	Aesthetic.
Urban litter.	Moderate-to-insignificant amounts washes down urban streams and is deposited on Puget Sound beaches near the stream mouth.	Aesthetic; rarely there are public health or environmental concerns.
Floating dock buoyancy disintegration	The disintegration of foamed plastic buoyancy materials results in floating and stranded fragments; primarily a problem in Puget Sound embayments.	Aesthetic; smaller fragments may be ingested by marine life.
Public access litter.	Moderate amounts are disposed of at public access sites lacking trash collection facilities.	Mostly aesthetic; rarely there are public health concerns.

2. The degree of change in severity of any class of marine debris cannot be assessed due to a lack of monitoring or other information necessary to make such a judgment. Public education on and monitoring of marine debris by private volunteer groups was once extensive. Recent state budget cuts have resulted in greatly diminished grants to accomplish that education and monitoring.

## **Management Characterization**

1. State ocean and lake management programs and initiatives developed or changed since the last assessment are summarized in the table on the next page.

<b>Program</b>	<b>Status</b>	<b>309 \$</b>
State or local programs requiring recycling	No change.	none
State or local programs to reduce littering and wasteful packaging	No change.	none
State or local regulations consistent with Marine Plastic Pollution Research and Control Act	No change.	none
Marine debris concerns incorporated into harbor, port, marina and coastal solid waste management plans	No change.	none
Education programs	No change.	none

In 1992, the Department of Natural Resources discontinued its Marine Plastic Debris Program, citing budget restrictions as the reason. No other statewide program has been implemented and there is no plan to do so. Inasmuch as the Marine Plastic Debris Program was never fully funded, its demise is expected to have little effect.

### **Conclusion**

1. Major gaps in addressing the programmatic objectives for this enhancement area are primarily budgetary, and secondarily a perception that marine debris is not a major problem in Washington State.

2. Previous and proposed priorities:

First Assessment	This Assessment
High____	High____
Medium____	Medium____
Low <u>X</u>	Low <u>X</u>

3. Marine debris is ranked as a low priority largely because there are other, more pressing needs.

# Special Area Management Planning

## **Section 309 Programmatic Objectives**

*Develop and implement special area management planning in coastal areas applying the following criteria:*

*areas including significant coastal resources that are being severely affected by cumulative or secondary impacts;*

*areas where a multiplicity of local, state, and federal authorities prevents effective coordination and cooperation in addressing coastal development on an ecosystem basis;*

*areas with a history of long-standing disputes between various levels of government over coastal resources that has resulted in protracted negotiations over the acceptability of proposed uses;*

*there is a strong commitment at all levels of government to enter into a collaborative planning process to produce enforceable plans;*

*a strong state or regional entity exists which is willing and able to sponsor the planning program.*

## **Resource Characterization**

1. In light of the criteria listed above, areas of the coast subject to use conflicts that can be addressed through special area management planning are:

Area	Major Conflicts
Grays Harbor Estuary	Existing Grays Harbor Estuary Management Plan (GHEMP) is due for a scheduled 5-year review and update. Complementary local Shoreline Master Programs also require amendment for consistency with Shoreline Management Act regulatory reform changes.
Southwest Coast Beaches	Once accretional, locales of beach erosion have developed in recent years. Current federal, state, and local policy is not designed to address ocean beach erosion, especially in a coordinated manner. Valuable development and infrastructure is becoming endangered. Structural responses would endanger public resources. A local demand for dune grading for view restoration still exists in some still-accretional neighborhoods

The Grays Harbor Estuary Management Plan (GHEMP) is due for a 5-year review. Previously little affected by development, the region is beginning to experience spill-over growth from the

south Puget Sound region, secondarily affecting infrastructure needs and attendant environmental impacts. Other current, unresolved issues include:

- a need for mitigation banking has been expressed by local port districts and the City of Ocean Shores;
- water quality in Grays Harbor, especially in regards to commercial shellfish harvest is a continuing concern: although 17,370 acres were upgraded from Conditionally Approved to Approved in 1994, 23,510 acres remain Conditionally Approved and 18,370 acres are classified Prohibited;
- habitat management is an issue in a variety of settings including the Lower Chehalis River surge plain;
- typical of the Pacific Northwest, management of wild stocks of salmon is a concern in the Grays Harbor drainages; and
- invasion by various *Spartina* species, a problem in Willapa Bay and portions of Puget Sound, which has now reached Grays Harbor.

On November 21, 1996 the Grays Harbor Regional Planning Commission adopted a resolution to “reconvene the Grays Harbor Estuary Plan Task Force in January 1997 for the purpose of a five-year review of the plan and further urges federal, state, and local jurisdictions to commit resources sufficient to maintain the Plan as a working document.” Ecology awarded Grays Harbor Regional Planning Commission a CZM grant to initiate Plan review. The GHEMP is the only SAMP which has formally be adopted as a part of Washington’s coastal zone management program.

Also, watershed-based management programs have been initiated in the upper and mid-reaches of the Chehalis Basin but have not been integrated into the GHEMP.

### **Management Characterization**

Areas of the coast that have or are being addressed by a special area plan since the last assessment are summarized in the table on the following page.

Wetland integration plans (WIP) lay the groundwork for streamlining the current local, state, and federal wetland permitting process for development within the study area. A WIP is comprised of 1) an inventory and assessment of wetland resources (using the IVA method; see below) so that performance of wetland functions can be quantified; 2) extensive documentation of the wildlife, wetland, and physical characteristics; 3) an identification of areas where development can occur with no significant impact; 4) a listing of restoration and enhancement sites, with specific restoration and enhancement needs; 5) a set of compensation policies which establish the compensation ratio formulae, where compensation can occur “offsite”; and 6) recommended management guidance to local governments for amendment of Shoreline Master Programs, Comprehensive Plans, and Environmentally Sensitive Area Ordinances. Local jurisdictions may then apply to the US Army Corps of Engineers for a “regional permit” to facilitate expedited permit processing for development proposals. WIPs are jointly funded by the US Environmental Protection Agency and the Washington Department of Ecology.



Area	Status	309 Funding
Olympic Coast National Marine Sanctuary	The Olympic Coast NMS was established in 1994, its management plan approved, and a Sanctuary Advisory Council appointed in 1996. See also Ocean Resources assessment.	None
Northwest Straits National Marine Sanctuary	The Northwest Straits NMS has been under study since 1990. Management issues include resource protection; jurisdiction; state or federal control; marine protected areas boundaries; and recreational activities. Approval of the Sanctuary is highly controversial in the local area, and is not assured.	None
Mill Creek Wetland Integration Plan	Covers the Mill Creek drainage basin, King County. Final plan in preparation.	None
Skagit Wetland Integration Plan	Covers the Skagit River delta. Technical assessment completed; management plan under development.	None
Snohomish Estuary Wetland Integration Plan	Covers the Snohomish River delta, Snohomish County. WIP completed mid-1996 and undergoing final review by all affected parties.	None

Since the last assessment Shorelands staff have developed the Indicator Value Assessment (IVA) rapid assessment method for wetlands (Hruby, Cesanek & Miller, 1995) and tested and applied it in the Mill Creek, Padilla Bay, and Snohomish Delta wetlands management plan projects.

## Conclusion

1. Special area management planning in Washington's coastal zone is diverse in its subject geographical extent and the nature of the issues addressed. The only SAMP formally adopted as a part of Washington's coastal zone management program is the Grays Harbor Estuary Management Plan.

2. Previous and proposed priorities:

First Assessment

High \_\_\_

Medium X

Low \_\_\_

This Assessment

High X

Medium \_\_\_

Low \_\_\_

3. Special area management planning is ranked High because [1] the need for a scheduled update of the Grays Harbor Estuary Management Plan, plus [2] demonstrated local government support for that effort. The Grays Harbor Regional Planning Council on November 21, 1996 passed a resolution recommending review and update as necessary of the Grays Harbor Estuary Management Plan.

# Energy & Government Facility Siting

## ***Section 309 Programmatic Objectives***

- 1. Enhance existing procedures and long range planning processes for considering the needs of energy-related and government facilities and activities of greater than local significance.*
- 2. Improve program policies and standards which affect the subject uses and activities so as to facilitate siting while maintaining current levels of coastal resource protection.*

## **Management Characterization**

Since 1992, two changes have occurred regarding the state's ability to address the siting of energy and government facilities. Neither were "309 changes."

First, when the Washington State Energy Office was dismantled in July 1996, the functions of the Energy Facilities Site Evaluation Council (EFSEC) were moved intact to the Department of Community, Trade, and Economic Development. This change will likely have no effect on the functioning of EFSEC, Washington's energy facility licensing coordination agency. The limitations reported in the 1992 assessment remain: power plants of less than 250 Mw output remain outside the authority of EFSEC along with renewable energy facilities.

The 1993 Washington State legislature mandated an Energy Facility Siting Process Review Committee which issued its final report in February 1994. That report recommended no substantive changes to the EFSEC scope of authority, but did identify a number of issues for further study.

Second, coordination of facilities permitting at the state and local government levels between Washington's Shoreline Management Act (SMA), Growth Management Act (GMA), and State Environmental Policy Act (SEPA) was enhanced through various regulatory reform measures adopted by the 1995 Legislature. The effect of the regulatory reform changes are expected to improve consistency between regulatory programs, coordination between levels of government, and coordination between state agencies. The implementing regulations are expected to be adopted by early 1997.

## **Conclusion**

There are no known major gaps in meeting the programmatic objectives for this enhancement area. The 1993 Legislature review EFSEC for needed change and none were proposed by the Legislature. The regulatory reform amendments are expected to improve the permitting and siting of government facilities, but it will be a few years before the effectiveness of the most recent legislation and regulation can be assessed.

Previous and proposed priorities:

First Assessment

High\_\_\_\_

Medium\_\_\_\_

Low\_\_X\_\_

This Assessment

High\_\_\_\_

Medium\_\_\_\_

Low\_\_X\_\_

3. As concluded, there are no known major gaps in meeting the programmatic objectives for this enhancement area.

# Aquaculture

## ***Section 309 Programmatic Objective***

1. *Enhance existing procedures and long range planning processes for considering the siting of public and private marine aquaculture facilities in the coastal zone.*
2. *Improve program policies and standards which affect aquaculture activities and uses so as to facilitate siting while maintaining current levels of coastal resource protection.*

## **Management Characterization**

***Aquaculture in Washington State.*** Washington’s aquaculture industry is dominated by salmon net pen facilities in Puget Sound; oyster growing in Puget Sound, Grays Harbor, and Willapa Bay; and mussel growing in Puget Sound. Ship-based deep-water harvest of geoduck clams in Puget Sound is treated here even though it is the harvest of a wild crop; many of the management issues are similar to those for aquaculture.

The most recent comprehensive review of the Washington State aquaculture industry was published in 1987, and is now out of date. No contemporary, comprehensive information is available.

***Aquaculture Management.*** Washington’s legislative policy regarding the fostering and regulation of aquaculture is principally embodied in five acts: the Aquaculture Marketing Act of 1994 (Chapter 15.85 RCW); the Multiple Use Concept in Management and Administration of State-Owned Lands Act of 1971 (Chapter 79.68 RCW); the Aquatic Lands Act of 1984 (Chapter 79.90 RCW); the Shoreline Management Act of 1971 (Chapter 90.58 RCW); and the Water Pollution Control Act (Chapter 90.48 RCW)..

The Aquaculture Marketing Act declares that it be “...the policy of this state to encourage the development and expansion of aquaculture...” and that “...the legislature encourages promotion of aquacultural activities, programs, and development with the same status as other agricultural activities, programs, and development...”

The Multiple Use Concept Act declares that “[t]he department of natural resources shall foster the commercial and recreational use of the aquatic environment for production of food, fiber, income and public enjoyment from state-owned aquatic lands under its jurisdiction and from associated waters, and to this end the department may develop and improve production and harvesting of macro-algae and sealife attached to or growing on aquatic land or contained in aquaculture containers...”

The Aquatic Lands Act is a broad piece of legislation setting policy for the use and management of the state’s aquatic lands for, among other uses, aquaculture. The ALA is implemented by the Department of Natural Resources, Aquatic Resources Division.

The Shoreline Management Act sets forth state policy for the management of all shorelands, public and private. The Shoreline Management Act is implemented by local government (under state Department of Ecology oversight) through local shoreline master programs. Current Department of Ecology guidance for local master programs is that “[a]reas with high aquacultural

use potential should be identified and encouraged for aquacultural use and protected from degradation by other types of land and water uses.” The guidance further indicates that consideration should be given to both the positive and adverse impacts of aquacultural development “...on the physical environment, on other existing and approved land and water uses, including navigation, tribal ‘usual and accustomed fishing grounds,’ public access, and on the aesthetic qualities of the project area.” Also, “[p]erference should be given to those forms of aquaculture that involve lesser environmental and visual impacts.”

The Water Pollution Control Act regulates aquaculture such as salmon net pen operations through the National Pollutant Discharge Elimination System (NPDES) Waster Discharge Permit system and the Sediment Management Standards.

**Environmental Concerns.** The principal environmental concerns are [1] water quality, [2] habitat alteration by introduced species, and [3] land use patterns and conflicts.

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. Regional summaries of classifications of commercial shellfish beds by the Washington Department of Health are shown in the following table.

Commercial Shellfish Bed Classifications, 1994 (acres)					
Region	Approved	Cond. App'd	Restricted	Prohibited	Total
Hood Canal	20261	0	1300	1580	23141
North Sound	38785	6060	14730	17700	77275
South Sound	17450	5680	100	1190	24420
Southwest	102475	24540	0	23657	150672
Totals	178971	36280	16130	44127	275508

New waste discharge standards (WAC 173-221A-110) were adopted by the Department of Ecology in October 1995. New sediment management standards (Chapter 173-204 WAC) were adopted by the Department of Ecology in January 1996. Both of these standards should result in improvements for shellfish growing habitat.

More intractable is the problem of nonpoint contamination from on-site sewage systems, urban runoff, and boater wastes. In recent years much effort has been devoted to watershed management at the local government level, aided by grants and technical assistance from state agencies. The gains have been few, incremental, and hard won. Still, in some regions of the state a long term trend toward degradation of commercial shellfish beds has been slowed or halted.

Habitat alteration affects primarily oyster culture in Willapa Bay which is increasingly threatened by an infestation of exotic species of *Spartina*. *Spartina* infestation has recently spread to

Grays Harbor and some embayments of Puget Sound. Please refer to the Wetlands assessment for a comprehensive discussion of *Spartina*.

Land use conflicts are diverse, complex, and widespread. Land use patterns and density also contribute to the problems of water quality and habitat degradation.

Land use conflicts are easily dismissed as merely aesthetic, but that has not been a useful framework for dealing with the issue. Residential shoreline property owners are typically opposed to the siting of 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. Aquaculturists are adversely affected by residential stormwater runoff, on-site sewage effluents, and boater wastes. In many ways this is a land use conflict similar to any situation where residential land uses abut resource extraction or agricultural land uses.

Local governments, in evaluating shoreline substantial development permit applications under the Shoreline Management Act tend to lend deference to the wishes of the residential property owners. Local governments must enforce the SMA, but they have no clear mandate under any of the legislation aimed at fostering aquaculture. This remains an unresolved issue for private aquaculturists, and also for the Department of Natural Resources which licenses geoduck clam harvest.

## **Conclusion**

1. There are three unresolved aquaculture issues in Washington State: [1] the problem of declining water quality adversely affecting commercial shellfish beds, [2] *Spartina* invasions, and [3] land use conflicts between abutting residential and aquaculture land uses.
2. The priority assigned to this area, in the view of the coastal program, is "Medium."
3. The aquaculture improvement area is ranked medium as a balancing of an issue of high concern, but presently having a low probability of success from new measures. Water quality is not a problem due to inadequate or obsolete laws or implementing regulations; rather the problem is one of funding and overcoming a long term pattern of degradation. The *Spartina* infestation is difficult for the reasons discussed in the Wetlands assessment. The land use issue is one which may require legislative action to establish clear priorities.





# Strategies

Washington State proposes work in two areas for the 1997-98 fiscal year:

- Cumulative and Secondary Impacts
- Coastal Hazards

## Cumulative and Secondary Impacts Strategy:

### a. Problem Statement

A primary type of growth affecting Puget Sound and Ocean coastlines involves residential development and sprawl. As noted in the resource assessment and characterization, such growth creates cumulative and secondary impacts including chronic wetlands and fish and wildlife habitat loss, water quality degradation, increased frequency and magnitude of flooding, deteriorated shoreline aesthetics, increased demand for costly infrastructure improvements and loss of coastal public access opportunities. Also associated with this growth and contributing to the cumulative and secondary impacts are shoreline armoring, landscape clearing and native vegetation removal, the proliferation of private docks and piers, and failing on-site sewage disposal systems.

The cumulative and secondary impacts (CSIs) of growth are in large part due to the patterns of land-use that occur along Washington's coastlines. Recent regulatory reform changes, most notably passage of ESHB 1724, provides us with the long awaited opportunity to solidify the linkage between growth management and shorelines management. It is anticipated that this will result in a greatly improved ability to control the CSIs of growth.

To achieve better CSI controls however, Ecology's outdated rules (Washington Administrative Code) implementing the SMA must be revised to provide more detailed and clearer direction to local governments on how to merge their existing SMA required Shoreline Master Programs (SMPs) with new GMA required local comprehensive land use plans, critical area ordinances and development regulations.

### b. Proposed program changes

Efforts to implement our CSI strategy will continue over the next three year period, focusing first on delivery of updated SMP Guidelines adopted in the form of pilot rules, together with fiscal impact analysis and SEPA documentation required by the rule adoption process, closely followed by update of technical assistance materials including the Shoreline Management Guidebook, diagnostics checklists, SMP models, and local government and Ecology staff training. Our efforts will culminate with monitoring and field testing of the pilot rule SMP Guidelines in preparation for development and adoption of replacement permanent rules.

Specifically, revision and update of the following existing rules (program changes) are proposed:

WAC 173-16 Guidelines for Development of Shoreline Master Programs (SMPs). These guidelines establish minimum requirements for local government SMP contents and organization and detailed state policies addressing the full range of shoreline uses and activities. The primary emphasis in this area is the need to integrate (SMA) shorelines management policy into GMA land use policy. This chapter will be repealed and entirely replaced by a new Chapter 173-26 (Parts III and IV) WAC, title SMP Guidelines. These will be applied first as pilot rules to be replaced later with adoption of new permanent rule.

WAC 173-18 (Streams and Rivers), 20 (Lakes), and 22 (Wetlands). These rules relating to SMA jurisdiction, require revision to incorporate changes to definitions, update listings incorporating new average stream flow data and to improve overall rule organization and accessibility.

Implementation activities triggered by changes in the rules, will include update of (approximately 115) local SMPs throughout the coastal zone. Local governments are required by the SMA (RCW 90.58.080) to bring their local SMPs into compliance with the new rules within two years of Ecology's adoption of permanent SMP Guidelines. This will represent a significant workload for both state and local government coastal zone planners.

### **c. Justification of proposed changes**

Significant changes have occurred in the state's ability to address the cumulative and secondary impacts of growth during the last couple of years. The 1995 State Legislature adopted seven regulatory reform bills amending the Shoreline Management Act (SMA), as noted in the assessment. These changes required for the first time that local governments integrate shoreline and growth management plans and regulations. The statutory changes made by the Legislature were but the first step in controlling the cumulative and secondary impacts of growth. These changes have necessitated a complete re-working of Ecology's outdated procedural, jurisdictional and policy rules implementing the SMA. The existing Guidelines for Development of SMPs (WAC 173-16) for example, were adopted in 1972 and have not been significantly changed since that time.

The procedural rules took priority since they were needed for the day-to-day operation of local and state coastal zone management. New procedural rules for shoreline master program approvals, shoreline permits and enforcement were prepared and adopted (using section 309 funds) by Ecology last year, with an effective date of October 31st, 1996. The procedural changes needed for SMA/GMA integration were relatively easy to identify and resolve. Implementing the substantive policy changes needed to tackle SMA/GMA integration and the cumulative impacts of growth however, will be more complex and potentially controversial. These changes will require significant involvement of local government, business and environmental interests, as well as local citizenry in developing new SMP guidelines.

Once in effect, the new guidelines will trigger the preparation of new integrated local SMPs. This will establish a strong linkage between the goal of controlling the cumulative and secondary impacts of growth with the objectives of Washington State's coastal zone management program. For this reason, update of the guidelines is the most appropriate means available for Ecology to address CSI needs.

#### **d. Work Plan**

The current CZM grant (July 96-June 97) underestimated the amount of outreach and technical and policy support that would be required to update the existing SMP Guidelines. We were overly optimistic in believing that such dramatic change in the now twenty year old guidelines, addressing CSIs through coastal zone and growth management integration, could be achieved by the end of 1996.

Based on reactions to the first drafts of the guidelines, it is now clear that more time is needed to achieve the desired results. The workplan outlined below builds upon the work (i.e. drafts one and two) completed during the current fiscal year, proceeding with preparation, circulation and revision of a third and fourth draft of the guidelines, adopting them as pilot (voluntary) rule, and ultimately replacing them with permanent rules by the end of 1998. Related to each of these additional steps is a corresponding significant outreach and training requirement.

##### **First Year (July 97-June 98) Tasks:**

Monthly (approximate) Shoreline Policy Advisory Group (SPAG) meetings required for the rule adoption process; SEPA and fiscal analysis completion; prepare 3rd draft SMP Guidelines, circulate for comment, revise; prepare 4th draft SMP Guidelines and adopt as pilot rule effective December 1997; begin monitoring effectiveness of pilot rule; Ecology staff provides diagnostic services to local governments helping them address their SMA/GMA integration needs (i.e. SMP updates); outreach and communications strategy update; administration of CZM Section 306 grants aimed at update of local programs consistent with pilot rule; draft and complete SMP "models", *Shoreline Management Guidebook* update together with related technical assistance materials; conduct staff training sessions, local government "Practitioners" workshop, and Spring 1998 Planning Conference. Update of the jurisdictional rules will also be initiated this year, updating the streams and lakes listings in a new chapter 173-25 WAC (combining existing chapters 173-18, 20, and 22).

##### **Second Year (July 98-June 99) Tasks:**

Wrap-up SPAG involvement completing pilot rule monitoring; revise the pilot rule accordingly and prepare its replacement permanent (SMP Guidelines) rule; continue diagnostic services to local governments: circulate for comment, finalize permanent rule provisions, file and formally review new rule; adopt permanent rule (end of 1998). This years activities will also include completion of the adoption process for the jurisdictional rules started in 97/98.

##### **Third Year (July 99-June 00) Tasks:**

Conduct intensive (Ecology staff *and* local government) training and outreach efforts in order to optimize the then mandatory implementation of new SMP Guidelines; coordinate with CZM Section 306 grants administration aimed at state-wide update of local SMPs; and update RPCs for OCRM.

Second and third year activities will involve revision of the pilot rules in preparation for adoption of replacement permanent rules triggering a requirement for update of local SMPs and filing of RPCs with OCRM.

## **e. Costs**

The strategy will be carried out by a combination of existing Ecology headquarters and regional staff and consultant services.

First year budget: \$200,000 for staff (2.6 FTE) and \$100,000 for consultant team services.

Second year budget: approximately \$300,000 for staff and consultant team services.

Third year budget: approximately \$300,000 for staff and consultant team services.

## **f. Likelihood of success**

This strategy builds upon earlier efforts started shortly after passage of the Growth Management Act to acknowledge the connection between land use planning and coastal zone and shorelines management. With passage of the recent regulatory reform measures by the 1995 State Legislature, we were given the statutory mandate to proceed. Previous section 309 funds have helped us conduct needed research, initiate outreach efforts and identify key stakeholders.

A Rule Development Plan was prepared and approved by Ecology management for the whole batch of existing Shorelines Management Act rules (WACs) targeted for revision to implement ESHB 1724 directives. These rules include the SMP Guidelines which are the focus of this strategy. The last time the program prioritized its activities, shorelands and growth management activities received highest priority status. Management consistently supports efforts to address the cumulative and secondary impacts of growth because of its logical connection with required SMA/GMA integration.

Specific actions the state will undertake to maintain or build future support for achieving and implementing program changes will include provision of training to local governments, coordinated delivery of CZM Section 306 grants to local governments for SMP integration updates, development of “model” (digitized) SMPs and technical assistance materials including an updated Shoreline Management Guidebook. All of these activities are designed to optimize our relationship with local governments, whom we rely upon to implement shorelines and coastal zone objectives.

# **Coastal Hazards Strategy**

## **a. Problem Statement**

Erosion on Puget Sound effects almost 2000 miles of rapidly developing shoreline, much of which also supports important biological resources. Homes, waterfront parks, commercial development, and public infrastructure are increasingly at risk from coastal erosion and landsliding. At the same time, recognition has grown that traditional methods of mitigating these hazards, such as shoreline bulkheading or other coastal engineering works, can adversely impact downdrift shorelines and nearshore ecology (Canning and Shipman, 1994). This fundamental conflict between protecting upland property and preserving beaches and coastal habitats requires a management approach that encourages avoidance of hazardous situations and enlightened consideration of less intrusive alternatives (McCabe and Wellman, 1994).

Recent changes to Washington state law encourage communities to actively plan for geologically hazardous areas such as eroding shorelines and unstable coastal slopes. Changes to the state's CZM program, based on the results of our Coastal Erosion Management Strategy, require adoption of local land use measures that lead to avoidance of hazardous situations. These changes generally discourage shoreline armoring where reasonable alternatives exist, but the lack of substantive technical guidance and of good regulatory language act as disincentives to those interested in less impacting alternatives such as beach nourishment.

## **b. Proposed program changes**

We intend to address these shortcomings in our existing coastal program by: 1) thoroughly examining the use of beach nourishment on estuarine shorelines such as Puget Sound's, 2) reviewing management approaches applied in other regions, 3) identifying specific shortcomings in Washington's policies and guidance, and 4) development of an amend to Chapter 173-26 WAC, Shoreline Master Program Guidelines. When adopted, this rule amendment will require local governments to amend their Shoreline Master Program to include provisions for beach nourishment as an erosion control measure.

We will also prepare a guidance document, *Beach nourishment on Puget Sound: Guidance to local governments*, designed to assist jurisdictions implement improved shore protection and beach nourishment policies. This document will also be the basis for improvements to Ecology's Shoreline Management Guidebook during its next revision cycle. These changes will serve as a model for individual local Shoreline Master Programs.

This project will lead to scientifically-based technical guidance for beach nourishment projects in Puget Sound and policy guidelines for encouraging, permitting, and evaluating these projects. Improvements in the area of shoreline protection alternatives and beach nourishment will make implementation of our earlier Coastal Erosion Management Strategy more effective, since it is difficult to increase restrictions on traditional erosion control methods without providing reasonable alternatives (and sufficient technical and regulatory support to carry them out) and adequate incentives.

The proposed rule amendment will require local governments to adopt consistent, and unambiguous policies regarding both shoreline erosion protection in general and about beach nourishment in particular. The result will be greater consideration and application of beach nourishment and decreased reliance on traditional approaches that we now recognize as undesirable. The Guidebook amendment will augment the rule amendment by providing recommendations for 'best management practices' regarding beach nourishment. This work will raise awareness of a technique poorly understood in Puget Sound, encourage innovative shoreline solutions, and empower the consulting community to successfully pursue these types of projects. We are optimistic that this improved treatment of beach nourishment will also result in better understanding of appropriate mitigation measures for unavoidable shoreline armoring and in increased interest in restoring degraded shorelines.

## **c. Justification of proposed changes**

We believe this strategy is likely to bring successful changes to existing policies and that it is also critical to improvements in the area of shoreline erosion and beach protection. This strat-

ecology appears the most appropriate and effective area for improvements at this time and follows logically from the work carried out during Washington's previous Coastal Hazards strategy. Other areas are also important, such as improved identification of coastal hazards, greater guidance to coastal property owners regarding appropriate land use practices on hazardous shorelines, and better planning for coastal hazards on Washington's ocean coast, but these are less cost-effective, less likely to achieve success, or better suited to other approaches. Some may be well suited to future work.

#### **d. Work Plan**

The core of the strategy will be preparation of a comprehensive report on beach nourishment in Puget Sound. This report will include a thorough review of the scientific and engineering literature, a survey of other state's experience, an analysis of existing regulations and policies, and a rigorous assessment of the potential application of beach nourishment in the Sound. The report will include case-studies of existing Puget Sound nourishment projects. This report will be completed during the first half of the one year project.

The guidance document, including improved language for Ecology's *Shoreline Management Guidebook*, will be carried out during the second half of project

#### **e. Costs**

The strategy will be carried out by existing staff with a commitment of approximately 0.5 FTE over one year (\$50,000).

#### **f. Likelihood of success**

This strategy is an outgrowth of our previous CZM 309 Coastal Hazards strategy as well as continuing calls for technical and regulatory support in the area of beach nourishment and enhancement. Project proponents, regulatory agencies, and local governments all have requested better information and clearer policies regarding these projects. Existing beach nourishment projects have generated strong positive support from the public and from local officials (Shipman, 1996). Beach nourishment is well-received by project sponsors because it can achieve desired benefits while also satisfy regulators or neighbors concerned about offsite consequences, reduced public benefit, or environmental damage.

Ecology brings substantial familiarity with Puget Sound beach nourishment to the project. Staff have been involved in the funding, advising, and permitting of numerous beach nourishment projects during the past several years. Ecology previously undertook a literature review of beach nourishment and soft erosion control methods (Terich and others, 1994).

Successful existing projects will be documented and will become publicized demonstrations of beach nourishment approaches. Development of monitoring procedures (an expected outcome of this strategy) will help project sponsors, agency staff, and the public remain involved in projects and will also lead to improvements in future projects.

This project is part of continuing efforts by our program to provide solid technical support on issues relating to coastal hazards and shoreline development. This work will form the basis for

future technical assistance and public outreach. One important objective of this strategy is to promote and develop the capacity of the local consulting community to promote and design beach enhancement and restoration projects.

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# Fiscal and Technical Needs

## Fiscal Needs

Washington's Shorelands and Coastal Zone Management Program has experienced a 10% decrease in state funds over the last two years. It is anticipated that state funding will be decreased by another 5% in the fiscal year beginning July 1, 1997.

### **Washington State Budget:**

Washington currently operates under an initiative, passed by the people of Washington State, that limits general fund expenditures. This limit is impacting all state operations that are funded with general funds. Increases in tax revenues do not translate into an increase in spending authority. Accordingly, all state general funded agencies have been asked by the Governor to submit 5% state general fund budget reductions.

### **Department of Ecology Budget:**

The current Ecology operational budget is approximately 10% less than it was two years ago. There have been a few increases, however those center around flood hazard control and reduction.

Ecology has submitted a budget increase, however the increase is primarily for water quantity activities. Requests beyond this are not currently feasible.

### **Shorelands and Coastal Zone Management Program Budget:**

The Shorelands and Coastal Zone Management Program budget was reduced by \$675,000 in July 1995. This has severely affected our ability to meet coastal zone management grant match requirements, and reduced our efforts in the wetland arena.

## Technical Needs

No special technical knowledge, skills, or equipment are needed to carry out the proposed projects.