

# FINDINGS FOR THE WASHINGTON COASTAL NONPOINT PROGRAM

## FORWARD

This document contains the findings for the coastal nonpoint pollution control program submitted by the State of Washington pursuant to Section 6217(a) of the Coastal Zone Act Reauthorization Amendments of 1990 (CZARA). The findings are based on a review of the Washington's Nonpoint Strategy, Revised, June 28, 1996. The National Oceanic and Atmospheric Administration (NOAA) and the U.S. Environmental Protection Agency (EPA) reviewed this information and evaluated the extent to which it conforms with the requirements of CZARA.

NOAA and EPA commend the State of Washington on the substantial time and effort put into developing this program and appreciate the commitment the State has shown to complete an ambitious task with limited resources. NOAA and EPA will continue to work with coastal states and territories to ensure that these findings represent an accurate assessment of current state and territorial abilities and efforts to address coastal nonpoint source pollution. NOAA and EPA recognize that further administrative changes that will affect these findings may be made to the coastal nonpoint program and, once such changes are finalized, will review these findings in light of the changes and make any necessary adjustments.

## APPROVAL DECISION

NOAA and EPA approve the coastal nonpoint pollution control program submitted by the State of Washington pursuant to Section 6217(a) of the Coastal Zone Act Reauthorization Amendments of 1990, subject to certain conditions.

This document provides the specific findings used by EPA and NOAA as the basis for the decision to approve the State's program. It also provides the rationale for the findings and includes the conditions that will need to be met for Washington to receive final approval of its program. The timeframes associated with conditions become effective upon the date of the approval letter for these findings.

## INTRODUCTION

This document is organized by the major nonpoint source categories and subcategories identified in the Section 6217(g) guidance and the administrative elements identified in the program guidance. Where appropriate, NOAA and EPA have grouped categories and subcategories of management measures into a single finding. The structure of each finding follows a standard format. Generally, the finding is that the State program includes or does not include management measures in conformity with the (g) guidance and includes or does not include enforceable policies and mechanisms to ensure implementation. In some cases, the

finding reflects that the State has identified a back-up enforceable policy but has not demonstrated the ability of the authority to ensure implementation. For further understanding of terms used in this document, the reader is referred to the following:

Guidance Specifying Management Measures for Sources of Nonpoint Pollution in Coastal Waters (EPA, January 1993);

Coastal Nonpoint Pollution Control Program: Program Development and Approval Guidance (NOAA and EPA, January 1993);

Flexibility for State Coastal Nonpoint Programs (NOAA and EPA, March 1995).

The references in this document refer to Washington's Nonpoint Strategy, Revised, June 28, 1996 ("program submittal"). NOAA and EPA have written this document as succinctly as possible. We have relied upon, but do not repeat here, the extensive information that the State included in the program submittal. Further information and analysis is contained in the administrative record for this approval decision and may be reviewed by interested parties at the following locations:

EPA/Office of Wetlands, Oceans and Watersheds  
Assessment & Watershed Protection Division  
Nonpoint Source Control Branch  
401 M St., SW (4503-F)  
Washington, DC 20460  
Contact: Dov Weitman (202/260-7088)

NOAA/Office of Ocean and Coastal Resource Management  
Coastal Programs Division  
SSMC-4, N/ORM3  
1305 East-West Highway  
Silver Spring, MD 20910  
Contact: Masi Okasaki (301/713-3121, ext. 185)

U.S. EPA Region X  
1200 Sixth Avenue, ECO-088  
Seattle, WA 98101  
Contact: Gary Voerman (206/553-8513)

## I. BOUNDARY

**FINDING:** Washington's proposed 6217 management area excludes existing land and water uses that reasonably can be expected to have a significant impact on the coastal waters of the State.

**CONDITION:** Within one year, the Washington Department of Ecology, U.S Environmental Protection Agency (EPA), National Oceanic and Atmospheric Administration (NOAA), and other relevant State, local, and federal agencies will participate in a cooperative process to review relevant information and to determine an appropriate 6217 management area boundary consistent with established national guidance for the 6217 program.

**RATIONALE:** The State submittal indicates that Washington will implement management measures statewide by focusing on watersheds. This statewide watershed program is based on existing programs that the State indicates are the "functional equivalents" of the Section 6217 management measures. However, in further discussion with Department of Ecology staff, the State made clear that they do not intend the 6217 management area to include the entire State.

They also want to ensure that the final management area is compatible with the Oregon 6217 management area along the Columbia River. Therefore, NOAA, EPA and the Washington Department of Ecology will also enter into discussions with the Oregon Department of Land Conservation and Development and the Oregon Department of Environmental Quality to ensure that efforts in the two states provide comparable protection to the states' coastal waters.

## II. AGRICULTURE

**FINDING:** Washington's program does not include management measures in conformity with the 6217(g) guidance. The State has identified a back-up enforceable authority but has not yet demonstrated the ability of the authority to ensure implementation of the agriculture management measures throughout the 6217 management area.

**CONDITION:** Within two years, Washington will include in its program agriculture management measures in conformity with the 6217(g) guidance. Within one year, Washington will develop a strategy (in accordance with Section XIII, page 14) to implement the agricultural management measures throughout the 6217 management area.

**RATIONALE:** The Washington program submission presents summarized versions of the 6217(g) management measures in tables and relates them to its enforceable policies and implementation strategy. However, the State does not explicitly state that it intends to implement the management measures within the 6217 management area. In addition, Washington's program does not include management practices or a process to identify practices to implement the listed management measures.

The State has identified the Water Pollution Control Act (Ch. 90.48 RCW); Water Quality Standards for Surface Waters (Ch. 173-201A WAC); and, Ground Water Quality Standards (Ch. 173-200 WAC) as backup enforceable policies and mechanisms, but has not described how these authorities will be used to ensure implementation of the management measures where voluntary efforts are unsuccessful. For example, the Agriculture Compliance Memorandum of Agreement (MOA) among the Department of Ecology, the State Conservation Commission, and individual Conservation Districts provides a mechanism that could be used to implement the agricultural management measures. The Agriculture MOA and the Guidance for Implementation of the Agricultural MOA are based largely on a voluntary approach in which a landowner is first given the opportunity to voluntarily develop and implement a conservation plan. If a landowner does not cooperate, and a citizen complains of violations, enforcement action is possible. However, there is not a clear path which links steps to actively encourage voluntary compliance with (g) management measures; to follow up where monitoring determines compliance is not occurring; and to undertake additional specific steps, including enforcement where necessary, to achieve implementation of the management measures.

The Pesticide Applicators Act (Ch. 17.21 RCW) regulates the applicators of restricted use pesticides. However, it does not address non-restricted use pesticides. The Dairy Waste Management Act (Ch. 90.64 RCW), through the NPDES Dairy Waste General Discharge Permit, requires dairies designated as concentrated animal facilities (CAFOs), generally those with greater than 700 head, to develop and implement an animal waste management plan. Smaller dairies can be designated a CAFO upon determining that they are a significant contributor of pollution. However, dairies with less than 700 head and other confined animal facilities as defined in the (g) guidance are not addressed.

Washington also has several voluntary programs that could be used to promote implementation of the management measures for certain parts of Washington's coastal area. The Puget Sound Water Quality Management Plan requires activities identified in Watershed Action Plans to be

consistent, as appropriate, with the 6217(g) management measures. Conservation Districts, Washington State University Cooperative Extension, and NRCS provide technical assistance and training to support implementation of BMPs. Financial assistance to address agricultural sources of water pollution is provided under the Centennial Clean Water Fund and the State Revolving Fund. However, the extent of voluntary implementation of these management measures under these programs is unclear.

### III. FORESTRY

**FINDING:** Washington's program includes management measures in conformity with the 6217(g) guidance and enforceable policies and mechanisms to ensure implementation throughout the 6217 management area. However, additional management measures are necessary to attain and maintain water quality standards and protect beneficial uses.

**RATIONALE:** The existing State authority to regulate forestry (the Washington Forest Practices Act--FPA, chapter 76.09 RCW) is a comprehensive, enforceable program that includes management measures in conformity with the 6217(g) guidance. Any operator conducting a forest operation must comply with the FPA and implementing rules.

Although Washington has the basic legal and programmatic tools to implement a forestry program in conformity with Section 6217, these tools have not been fully effective in ensuring that water quality standards are attained and maintained and beneficial uses protected. Washington waters currently experience significant impacts from forestry: for example, increased temperature, fine sediment deposition, insufficient recruitment of large woody debris, stream bank instability and water quality standard violations for pesticides. Washington has a number of species, in particular salmon, that are endangered, threatened, or otherwise seriously at risk due in significant part to forestry activities that impair coastal water quality and beneficial uses, including salmon spawning, breeding, and rearing habitat.

Section 6217 recognizes that implementation of the (g) measures alone may not always be adequate to protect coastal waters from nonpoint sources of pollution. In these cases, Section 6217 requires the identification and implementation of additional management measures. Thus, Washington will need to adopt additional management measures for forestry in areas adjacent to coastal waters not attaining or maintaining applicable water quality standards or protecting beneficial uses, or that are threatened by reasonably foreseeable increases in pollutant loadings from new or expanding forestry operations. (See section XI, page 12). Some of the waterbodies may not currently meet water quality standards due to historical rather than current practices. This fact will be considered in the development and evaluation of additional management measures. In addition, NOAA and EPA recognize that there are currently on-going discussions within the State concerning upgrading forest practices that may impact the development and identification of additional management measures.

### IV. URBAN

#### A. NEW DEVELOPMENT, WATERSHED PROTECTION, SITE DEVELOPMENT, CONSTRUCTION SITE EROSION AND SEDIMENT CONTROL, CONSTRUCTION SITE CHEMICAL CONTROL, AND EXISTING DEVELOPMENT

**FINDING:** Within the Puget Sound planning area, Washington's program includes management measures in conformity with the 6217(g) guidance, except for new development. Outside of the Puget Sound planning area, Washington's program does not include management measures in

conformity with the 6217(g) guidance for new development, watershed protection, site development, construction site erosion and sediment control, construction site chemical control and existing development. The State has identified a backup enforceable authority for these management measures but has not yet demonstrated the ability of the authority to ensure implementation of the management measures throughout the 6217 management area.

**CONDITION:** Within three years, Washington will include in its program a management measure in conformity with the 6217(g) management measures for new development within the Puget Sound planning area. Outside of the Puget Sound planning area, Washington will, within three years, include management measures in conformity with the 6217 (g) guidance for new development, watershed protection, site development, construction site erosion and sediment control, construction site chemical control and existing development. Within one year Washington will develop a strategy (in accordance with Section XIII, page 14) to implement the management measures throughout the 6217 management area.

**RATIONALE:** Within the Puget Sound planning area, Washington's 1994 Puget Sound Water Quality Management (PSWQ) Plan includes practices to achieve all of the management measures except new development. In particular, Washington's "Nonpoint Source Rule" (WAC Chapter 400-12) and the Department of Ecology's Stormwater Management Manual for the Puget Sound Basin provide practices to implement many of the urban management measures for the Puget Sound planning area. Both the Nonpoint Source Rule and the Stormwater Manual were developed pursuant to the PSWQ plan. However, neither the Nonpoint Source Rule nor the Stormwater Manual assures a reduction in Total Suspended Solids from post-development levels as provided for in the new development management measure.

Although the following authorities that Washington proposes for outside the Puget Sound planning area do provide for the development of local laws and programs that address aspects of these management measures, they do not provide a uniformly consistent fabric that incorporates all aspects of these management measures throughout the entire 6217 management area.

Outside of the Puget Sound planning area, Washington proposes to implement the 6217(g) urban management measures through: the establishment of Shellfish Protection Districts, the Growth Management Act (Ch. 36.70A RCW), the Shoreline Management Act (Ch. 90.58 RCW), the State Environmental Policy Act (Ch. 43.21c RCW) and the Model Toxics Control Act (Ch. 70.105D RCW). However, there is no link between these programs and the management measures to require the implementation of these measures.

Shellfish Protection Districts could provide a vehicle to implement the management measures in designated areas. However, the information provided in the program submission was not sufficient to determine if the management measures will be used in the Districts' decision making process. In addition, Shellfish Protection Districts are voluntary and only apply to limited geographical areas within the 6217 management area.

Under the Growth Management Act (GMA), selected local governments must adopt a comprehensive land use plan and develop regulations that incorporate the goals of the plan. The GMA provides general guidance that encourages local governments to adopt goals and policies for promoting infiltration of storm water, wetland conservation and protection, preservation of natural drainage courses including fish and wildlife habitat and the integration of storm water management into all ordinances affecting water quality. The GMA, however, does not provide specific standards and criteria or development regulations for site controls. Where local governments do not adequately develop comprehensive plans or development regulations, the State lacks authority to develop and implement such plans and regulations and relies only on financial disincentives through the authority to withhold tax revenues from local governments.

The Shoreline Management Act applies to those lands extending landward within 200 feet of the shorelines of the state, which includes all marine water, all lakes twenty acres and larger, all streams and rivers with a mean annual flow of more than twenty cubic feet per second and associate wetlands. As part of the effort to integrate shoreline management with growth management, as directed by the 1995 legislature in ESHB 1724, the Department of Ecology is amending procedures for implementing the Shoreline Management Act. Until the rule making is completed, the ability of the Shoreline and Growth Management Acts to implement the management measures is unknown.

The State Environmental Policy Act (SEPA) requires state and local governments to consider environmental impacts in their decision making process, including impacts from permitting site development and construction practices. SEPA provides the authority to government agencies to deny, condition or require mitigation under development or construction permits. Conceptually, the 17 management measures could be used as one basis for SEPA decisions. However, it is impossible with the information provided to determine or ensure that state and local agencies are required to implement these management measures through the SEPA review process.

The Model Toxics Control Act only addresses proper storage and disposal of toxic materials. It does not provide for procedures to address general housekeeping of construction materials and nutrients on construction sites.

The State has identified the State Water Pollution Control Act (Ch. 90.48 RCW) as a backup enforceable policy but has not described how the Act will be used to ensure implementation of the management measures.

## B. NEW and OPERATING ONSITE DISPOSAL SYSTEMS

**FINDING:** Washington's program includes management measures in conformity with the 6217(g) guidance and enforceable policies and mechanisms to ensure implementation throughout the 6217 management area, except for a program that ensures inspection of onsite disposal systems (OSDS) at a frequency adequate to ascertain system failure and provides for denitrification where nitrogen-limited surface waters may be adversely affected by excess nitrogen loadings from new OSDS.

**CONDITION:** Within two years, Washington will include in its program management measures in conformity with the 6217(g) guidance and enforceable policies and mechanisms to ensure implementation throughout the 6217 management area for a program that ensures inspection of OSDS at a frequency adequate to ascertain system failure and provides for denitrification where nitrogen-limited surface waters may be adversely affected by excess nitrogen loadings from new OSDS.

**RATIONALE:** Washington has a regulatory program for OSDS, administered by the Department of Health, that is generally consistent with the OSDS management measures. The State, however, lacks requirements for the periodic inspection of operating OSDS outside of areas formally designated as areas of special concern. Nor does the State have provisions for the installation and upgrade of denitrifying OSDS adjacent to nitrogen-limited surface waters.

## D. POLLUTION PREVENTION

**FINDING:** Washington's program includes management measures in conformity with the 6217(g) guidance for pollution prevention.

RATIONALE: The State's program submittal describes various programs and laws that address the management measure, especially for the Puget Sound planning area. EPA and NOAA encourage the State to continue efforts toward pollution prevention including in commercial areas.

#### E. ROADS, HIGHWAYS, AND BRIDGES

FINDING: For roads, highways and bridges in the Puget Sound planning area under State jurisdiction, Washington's program includes management measures in conformity with the 6217(g) guidance, and enforceable policies and mechanisms. For roads, highways and bridges not under State jurisdiction and for State roads, highways and bridges outside of the Puget Sound planning area, Washington's program does not include management measures in conformity with the 6217(g) guidance. For local roads, highways and bridges within the Puget Sound planning area and for all roads, highways and bridges outside of the Puget Sound planning area, the State has identified a backup enforceable authority but has not yet demonstrated the ability of the authority to ensure implementation throughout the 6217 management area.

CONDITION: Within three years, the State will include in its program management measures for roads, highways and bridges outside of the Puget Sound planning area and for those not under State jurisdiction within the planning area. Within one year, the State will develop a strategy (in accordance with Section XIII, page 14) to implement these management measures throughout the 6217 management area.

RATIONALE: For roads, highways and bridges under State jurisdiction in the Puget Sound planning area, Chapter 173-270 of the Washington Administrative Code (WAC) requires the Department of Transportation to develop and adopt a highway manual to manage storm water for existing and new facilities and rights of way in the Puget Sound basin. This manual meets or exceeds the 6217 (g) management measures.

Outside of the Puget Sound Basin, however, Washington relies on the same policies, programs and laws for the Urban management measures IIA - IIB. The shortcomings of these policies, programs and laws are discussed above in Section IV. A.

#### V. MARINAS AND RECREATIONAL BOATING

FINDING: For the siting and design of marinas, Washington's program includes management measures in conformity with the 6217(g) guidance except for water quality assessment, shoreline stabilization, storm water runoff, and fueling station design. The Washington program includes enforceable policies and mechanisms to ensure implementation of the siting and design management measures except for water quality assessment, shoreline stabilization, stormwater management fueling station design and the sewage facility management measure. For operation and maintenance of marinas, Washington's program does not include management measures in conformity with the 6217(g) guidance. The State has identified a backup enforceable authority but has not yet demonstrated the ability of the authority to ensure implementation throughout the 6217 management area.

CONDITION: Within two years, Washington will include in its program: 1) for siting and design of marinas, management measures in conformity with the 6217(g) guidance for water quality assessment, shoreline stabilization, storm water runoff, and fueling station design and enforceable policies and mechanisms to ensure implementation of the water quality assessment, shoreline stabilization, stormwater runoff, fueling station design, and sewage facility management measures throughout the 6217 management area; and 2) for operation and maintenance of marinas, management measures in conformity with the 6217(g) guidance. Within one year, the State will

develop a strategy (in accordance with Section XIII, page 14) to implement the operation and maintenance management measures throughout the 6217 management area.

**RATIONALE:** The marina flushing and habitat assessment measures, are implemented through the Hydraulic Code, which requires projects that "will use, divert, obstruct, or change the natural flow or bed of any of the salt or fresh waters of the state" to obtain state approval to "ensure the proper protection of fish life." Washington's Clean Vessel Program provides a strong funding program to increase the number of marina pump-out facilities, and includes appropriate management measures, but can not ensure implementation unless voluntarily agreed to by the operator.

While the State lists a number of other programs that may have relevance to marinas, it does not provide information indicating that these programs in their totality do or do not achieve conformity with the management measures. Similarly, the State has identified a number of statutes including the Hydraulic Code, Shoreline Management Act, Nonpoint Rule, Oil Spill Prevention and Response Act, and Hazardous Waste Management Act, each of which contain provisions which could be applied to marina design, operation, or maintenance. However, it is unclear how these will be used to ensure implementation of the management measures.

WAC 400-12, which provides for watershed planning to protect the waters of Puget Sound, includes marinas and boats as a Plan topic. The rule promotes education as the key implementation tool, but is discretionary in noting that measures may be developed for many of the types of activities included in the 6217 guidance. In addition, the State supports a boater education program through the State Parks and Recreation Commission. A Boater's Guide is available that discusses rules, regulations and safety requirements. Also, information covers discarding solid and liquid waste materials, boat maintenance, sewage and sanitation, shellfish protection, and a map of pump-out locations. These educational efforts, however, cannot ensure implementation of the measures.

## VI. HYDROMODIFICATION

**FINDINGS:** Washington's program does not include management measures in conformity with the 6217(g) guidance for channelization, dams, or stream banks and shorelines or enforceable policies and mechanisms to ensure implementation throughout the 6217 management area.

**CONDITIONS:** Within three years, Washington will include in its program management measures in conformity with the 6217(g) guidance for channelization, dams, and streambanks and shorelines and enforceable policies and mechanism to ensure implementation throughout the 6217 management area.

**RATIONALE:** Washington's program does not include management measures in conformity with the 6217(g) guidance for channelization, dams, or shorelines and stream banks. The state's submittal identifies several laws that could be used to meet the management measures. These include: (i) the Hydraulic Act, which requires approvals for work that will change the natural flow or bed in waters of the state; (ii) the State Environmental Policy Act, which requires state agencies to ensure that environmental values are given appropriate consideration in state decision-making along with economic and technical considerations; (iii) Chapter 43.21A RCW, which outlines the duties and responsibilities of the Department of Ecology; and, (iv) the Hazardous Waste Cleanup Model Toxics Control Act, which requires investigation and remedial actions for releases or threatened releases of hazardous substances.

None of these laws, however, specifically address the management measures. In addition, NOAA and EPA have specific concerns that, under the Hydraulic Act, protection of fish life is the only basis upon which proposed work can be disapproved (@ RCW 75.20.100). The State is thus

unable to protect other water quality values that may be affected by hydromodification, such as flows, chemical parameters, or instream and riparian vegetation. Two of the other cited laws (the State Environmental Policy Act and Chapter 43.21A RCW) are general environmental laws that do not indicate how the State might choose to address hydromodification activities.

## VII. WETLANDS, RIPARIAN AREAS AND VEGETATED TREATMENT SYSTEMS

**FINDING:** Washington's program does not include management measures in conformity with the 6217(g) guidance. Washington has identified enforceable authorities, as well as recommended actions in the State's Wetlands Integration Strategy, which could implement the management measures, but has not yet demonstrated the ability of the authorities or its programs to ensure implementation of the management measures throughout the 6217 management area.

**CONDITION:** Within three years, Washington will include in its program management measures in conformity with the 6217(g) guidance to protect wetlands and riparian areas, promote restoration of wetlands and riparian areas and promote the use of vegetative treatment systems. Within one year, Washington will develop a strategy (in accordance with Section XIII, page 14) to implement the wetlands, riparian areas and vegetated treatment systems management measures throughout the 6217 management area.

**RATIONALE:** Washington's program does not include management measures in conformity with the 6217(g) guidance for protection of wetlands and riparian areas, for promoting restoration of wetlands and riparian areas, or for promoting the use of vegetated treatment systems. The state's program submittal identifies several mechanisms that could be used for implementing the management measures. These include: (i) the Hydraulic Act and (ii) the State Environmental Policy Act (discussed in the preceding section) (iii) the Shoreline Management Act, which requires master plans be developed by local governments to provide an objective guide for regulating the use of shorelines; (iv) the Growth Management Act, which requires regulations for new development to assure conservation of agricultural and forest resources; and, (v) the Water Pollution Control Act, which provides for water quality standards for wetlands.

NOAA and EPA recognize that these mechanisms, along with the recommendations contained in the Wetlands Integration Strategy (SWIS) have potential to ensure some degree of implementation of the management measures; however, the state's submittal provides no details on how these mechanisms will be utilized to achieve implementation of the management measures. The state needs to demonstrate the ability of its authorities, programs, and initiatives to ensure implementation of management measures for wetlands, riparian areas, and vegetated treatment systems throughout the 6217 management area.

## VIII. ADMINISTRATIVE COORDINATION

**FINDING:** Washington's program includes mechanisms for coordination among State agencies and between State, local officials and tribes in implementing the coastal nonpoint program.

**RATIONALE:** Washington is relying primarily on existing enforceable policies and mechanisms to implement the management measures. Therefore, most of the administrative coordination mechanisms necessary to meet the program implementation requirements are currently in place. Administrative coordination in Washington benefits from the fact that the Department of Ecology, the lead State agency for implementing the 6217 program, contains both the State's water quality program and the State's coastal management program. In addition, Chapter V of the program submittal describes several mechanism, including the watershed approach, the communication plan and the Governor's Watershed Coordinating Council, that could be used as additional coordination mechanisms between State, local officials and tribes to address nonpoint pollution of

coastal waters. The public provided comments on Washington's Nonpoint Strategy during November 1995.

## IX. PUBLIC PARTICIPATION

**FINDING:** Washington's program provides opportunities for public participation in the development and implementation of the coastal nonpoint program.

**RATIONALE:** Chapter III of the State's program submittal describes activities that provide opportunities for public participation in the coastal nonpoint program. The State established public involvement on three levels. A large advisory group comprised of representatives of agriculture, forestry interests, industry, various levels of government, tribes, and environmental groups was established. Also, technical workgroups and feedback groups were formed to address specific nonpoint source issues and to solicit input regarding the direction of the program, specifically.

## X. CRITICAL COASTAL AREAS AND TECHNICAL ASSISTANCE

**FINDING:** Washington's program does not identify and include a process for the continuing identification of critical coastal areas adjacent to impaired and threatened coastal waters. The program does not describe efforts to provide technical assistance to local governments and the public for implementing additional management measures.

**CONDITION:** Within four years, Washington will include in its program a process for the identification of critical coastal areas adjacent to impaired and threatened coastal waters. Within two years, the State will develop a program to provide technical assistance to local governments and the public in the implementation of additional management measures.

**RATIONALE:** The State has not begun development of these two programmatic elements as of the time of program submittal.

## XI. ADDITIONAL MANAGEMENT MEASURES

**FINDING:** Washington's program does not provide for the identification of additional management measures and the continuing revision of management measures applicable where the 6217(g) measures are fully implemented but water quality threats or impairments persist.

**CONDITION:** Within two years, Washington will include in its program a process for developing and revising management measures to be applied in critical coastal areas and in areas where necessary to attain and maintain water quality standards. Within three years, the State will adopt additional management measures where water quality impairments or degradation of beneficial uses attributable to forestry exist despite implementation of the (g) measures.

**RATIONALE:** Washington had not begun the development of the additional management measures component of its coastal nonpoint program at the time of program submittal. However, the State needs to develop and implement additional management measures for forestry. As discussed in section III, Washington's program includes management measures for forestry in conformity with the (g) guidance. In some cases, however, these measures are ineffective in attaining and maintaining water quality standards and protecting beneficial uses. Therefore, NOAA and EPA have included a condition regarding the need for additional forestry management measures.

The need to improve Washington's forestry program to protect water quality and beneficial uses has been documented by Federal and state agencies. According to the Washington Department of Ecology's Clean Water Act (CWA) 303(d) lists and CWA Section 305(b) water quality assessments, many waters in the coastal zone are not meeting water quality standards largely or wholly due to forest practices. The Timber, Fish and Wildlife Cooperative Monitoring and Research Committee has completed several studies, described below, on the effectiveness of Washington's Forest Practice Rules. These studies have concluded that the Rules are often ineffective in meeting water quality standards or protecting beneficial uses. For example, inadequate riparian width prescriptions have resulted in detrimental changes in the temperature regime of streams, and streamside management zones are not wide enough to prevent water quality standard violations due to aerial applications of pesticides.

In October 1996, the Washington Department of Natural Resources (DNR) completed an Environmental Impact Assessment (EIS) on a 1.63 million acre Habitat Conservation Plan (HCP) which included about 133,500 acres of riparian habitat on state-owned timber lands in western Washington. The EIS found that riparian management zone widths under Washington Forest Practice Rules are insufficient to fully protect riparian ecosystems, particularly on Type 3 and 4 waters. The EIS also found that the "lack of a comprehensive road management plan" under current practices could "result in high road densities and consequent sediment runoff." Several studies (Cederholm and Reid, 1987, and Schlichte et al., 1991) in two Washington State Department of Natural Resource drainages indicate that roads are a significant source of sediment that reaches streams.

Another published analysis of the effectiveness of the Washington Forest Practices Rules in protecting riparian ecosystems is the Forestry Impacts on Freshwater Habitat of Anadromous Salmonids in the Pacific Northwest and Alaska--Requirements for Protection and Restoration (Murphy 1995). In chapter eight, the author presents a comparative analysis of several states and Federal forest management rules, and concludes that several deficiencies exist in Washington's rules. Shade requirements for non-fish perennial streams may be inadequate in Washington because timber harvest does not necessarily maintain sufficient natural vegetation. Long-term recruitment of large woody debris is expected to be substantially below amounts present in mature conifer stands. Buffers for small non-fish streams appear to be minimal or inadequate for sediment protection.

In a Memorandum (February 20, 1997) to U.S. EPA, Region 10, the Northwest office of the National Marine Fisheries Service (NMFS) of NOAA concluded that the management of industrial forest lands conducted under the current Forest Practices Act (Ch. 76.09 RCW) is generally inadequate to protect riparian ecosystems and their anadromous salmonids to meet Endangered Species Act (ESA) requirements.

In summary, current practices are not sufficient to address water quality and beneficial uses. In particular, the beneficial use of salmon breeding and habitat, is adversely affected by detrital inputs, water temperature, stream bank stability, sediment loading and inadequate large woody debris recruitment. Section 6217 states that when implementation of the (g) measures alone are not adequate to achieve and maintain applicable water quality standards and protect beneficial uses, the State must identify and implement additional management measures. Thus, Washington will need to adopt additional management measures for forestry.

## XII. MONITORING

**FINDING:** Washington's program does not include a plan to assess over time the success of the management measures in reducing pollution loads and improving water quality.

CONDITION: Within one year, Washington will develop a plan that enables the State to assess over time the extent to which implementation of management measures is reducing pollution loads and improving water quality.

### XIII. STRATEGY AND EVALUATION FOR BACK-UP AUTHORITIES

Within one year, Washington will develop a strategy to implement the management measures for agriculture; urban (i.e., new development, watershed protection, site development, construction site erosion and sediment control, construction site chemical control, existing development, and roads, highways and bridges management measures); marinas (i.e., operation and maintenance management measures); and wetlands, riparian areas and vegetated treatment systems throughout the 6217 management area. This strategy will include a description and schedule for the specific steps the State will take to ensure implementation of the management measures; describe how existing or new authorities can be used to ensure implementation where voluntary efforts are unsuccessful; and identify measurable results which, if achieved, will demonstrate the State's ability to achieve implementation of the management measures using the described approach.

The strategy will be developed and evaluated in the context of and coordinated with the development and actions of the State with regard to the Clean Water Act and Endangered Species Act. Actions taken with regard to these acts as well as recently enacted State legislation and initiatives regarding dairies, local watershed planning and salmon recovery may also fulfill the requirements of CZARA.

Washington will also develop and apply credible survey tools to demonstrate the ability of the State's approach to achieve implementation for these management measures. The use of credible assessment techniques are necessary in order for NOAA and EPA to evaluate, at the end of the 3 year period described in the March 16, 1995 guidance issued by NOAA and EPA entitled Flexibility for State Coastal Nonpoint Programs, whether the State's approach has been successful or whether new, more specific authorities will be needed.