U.S. Department of Commerce
National Oceanic and Atmospheric Administration
Washington, DC 20235

U.S. Environmental Protection Agency
Office of Water
Washington, DC 20460

COASTAL NONPOINT POLLUTION CONTROL PROGRAM

Program Development and Approval Guidance

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FOREWORD

As part of the Coastal Zone Act Reauthorization Amendments of 1990, Congress enacted a new Section 6217 entitled "Protecting Coastal Waters". This provision requires states with coastal zone management programs that have received Federal approval under section 306 of the Coastal Zone Management Act (CZMA), to develop and implement Coastal Nonpoint Pollution Control Programs. These coastal nonpoint programs are to be used to control sources of nonpoint pollution which impact coastal water quality.

Section 6217 requires coastal states to submit their coastal nonpoint programs to the National Oceanic and Atmospheric Administration (NOAA) and the Environmental Protection Agency (EPA) for approval. Failure to submit an approvable program will result in a state losing a portion of its Federal funding under section 306 of the CZMA and section 319 of the Clean Water Act.

This document, developed by NOAA and EPA, contains guidance for states in developing and implementing their coastal nonpoint programs. It describes the requirements that must be met, including: the geographic scope of the program; the pollutant sources to be addressed; the types of management measures used; the establishment of critical areas; technical assistance, public participation, and administrative coordination; and, the process for program submission and Federal approval. The document also contains the criteria by which NOAA and EPA will review the states' submissions.

This document should be used in conjunction with the Guidance Specifying Management Measures for Sources of Nonpoint Pollution in Coastal Waters published by EPA in January 1993. Copies of that document can be obtained from EPA, 401 M ST, SW, Washington D.C. 20460.

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EXECUTIVE SUMMARY

This document is the National Oceanic and Atmospheric Administration's (NOAA) and the Environmental Protection Agency's (EPA) *Coastal Nonpoint Pollution Control Program: Program Development and Approval Guidance* for state Coastal Nonpoint Pollution Control Programs (coastal nonpoint programs) developed under section 6217 of the Coastal Zone Act Reauthorization Amendments of 1990 (CZARA). This document should be read in conjunction with EPA's *Guidance Specifying Management Measures for Sources of Nonpoint Pollution in Coastal Waters*, which is discussed below.

Section 6217 requires states to establish coastal nonpoint programs, which must be approved by both NOAA and EPA. Once approved, the coastal nonpoint programs will be implemented through changes to the state nonpoint source pollution program approved by EPA under section 319 of the Clean Water Act (CWA) and through changes to the state coastal zone management program approved by NOAA under section 306 of the Coastal Zone Management Act (CZMA). Beginning in fiscal year 1996, states that fail to submit an approvable coastal nonpoint program to NOAA and EPA face statutory reductions in Federal funds awarded under both section 306 of the CZMA and section 319 of the CWA.

The statute and legislative history indicate that the central purpose of section 6217 is to strengthen the links between Federal and state coastal zone management and water quality programs in order to enhance state and local efforts to manage land use activities that degrade coastal waters and coastal habitats. This is to be accomplished primarily through the implementation of: (1) management measures in conformity with guidance published by EPA under section 6217(g) of CZARA, and (2) additional state-developed management measures as necessary to achieve and maintain applicable water quality standards.

This Program Development and Approval Guidance sets forth NOAA's and EPA's interpretation of the statutory requirements for the state coastal nonpoint programs, and is intended to assist states in developing approvable programs. The document first provides an overview of the legislative goals and requirements of section 6217. It then provides a description of the criteria that NOAA and EPA will use when reviewing coastal nonpoint programs for approval based on NOAA's and EPA's interpretation of CZARA's requirements. Finally, it discusses the program approval process established by NOAA and EPA. A decision by NOAA and EPA to approve or disapprove a state's program will be made on the basis of the applicable laws and regulations as applied to the specific facts presented by the program.

The following is a summary of the requirements for state coastal nonpoint programs.

6217(g) Guidance Management Measures and Additional Management Measures

The statute requires state programs to provide for the implementation of management measures in conformity with EPA's (g) guidance and for additional management measures for land uses and critical coastal areas adjacent to impaired or threatened coastal waters. Implementation of these additional management measures in combination with the basic (g) management measures must be designed so as to attain and maintain applicable water quality standards under section 303 of the CWA including protecting designated uses. (Section 6217(b)(1) and (2)).

In order to meet these requirements, states will need to include the following elements in their coastal nonpoint programs.

6217(g) Guidance Management Measures

- An identification of those nonpoint source categories and subcategories that impact coastal waters for which applicable (g) guidance management measures will be implemented. States must include a description of and justification for any exclusions from (g) guidance measures. These exclusions are limited to sources within a category (e.g., agriculture) or subcategory (e.g., confined animal facilities) which, individually or cumulatively, do not significantly impact coastal waters.

- A description of the (g) guidance management measures to be implemented, and the technical documentation for any alternative measures selected by the state for implementation in lieu of those in the (g) guidance.

- A description of the procedures that the state will use to ensure implementation of the management measures, including operation and maintenance practices, inspection procedures, certification procedures, and monitoring.

Additional Management Measures

- An identification of land uses and critical coastal areas that will require additional management measures.

- A description of state-developed additional management measures to be implemented to meet water quality standards and protect designated uses.

Implementation of All Management Measures

- A description of a state program that ensures implementation of both the (g) guidance management measures and the additional management measures, including: designation of a lead state agency for each source category and/or subcategory, a description of the legal authorities to implement the management measures (i.e., enforceable policies and mechanisms), and a description of how the lead agency will implement the program.

- A schedule for full implementation of the (g) guidance management measures within three years of Federal approval and full implementation of additional management measures within eight years of Federal approval. The latter includes a two year period for evaluating the implementation of the (g) measures, and three years to implement the necessary additional measures. New activities will be subject to the applicable management measure requirements at the time of Federal approval.

6217 Management Area and Coastal Zone Boundary Modification

The statute requires each state to include a proposal to modify its coastal zone boundary as the coastal management agency deems necessary to implement NOAA's boundary recommendation.

NOAA has conducted its initial review of each state's coastal boundary. Based on this review, NOAA will make its recommendation to the states on the area to be included in the coastal nonpoint program (i.e., the section 6217 management area) in early 1993. NOAA and EPA expect that states will respond either by modifying the coastal zone boundary to implement NOAA's recommendation or by identifying other authorities that exist or will be established, as necessary, to implement the coastal nonpoint program outside the state's current coastal zone boundary but within the 6217 management area.

Enforceable Policies and Mechanisms

Section 306(d)(16) of the CZMA requires state coastal zone management programs to contain enforceable policies and mechanisms to implement the applicable requirements of the coastal nonpoint programs.

In order to satisfy this requirement, states will need to adopt, at a minimum, enforceable policies and mechanisms to implement the (g) guidance management measures and the additional management measures. These enforceable policies and mechanisms may be

state and local regulatory controls, and/or non-regulatory incentive programs combined with state enforcement authority.

Program Coordination

The statute requires the coastal nonpoint programs to be coordinated closely with existing Clean Water Act programs and with approved state coastal zone management plans. In addition, the statute requires the establishment of coordination mechanisms among state agencies and between state and local officials responsible for land use programs and permitting, water quality permitting and enforcement, habitat protection, and public health and safety.

NOAA and EPA expect state coastal nonpoint programs to be well coordinated with all relevant Federal, state and local programs including those administered by EPA, NOAA and U.S. Department of Agriculture (USDA). In addition, states should establish mechanisms to coordinate the relevant state and local programs through joint project reviews, memoranda of agreement, or other mechanisms. Where possible, these mechanisms should build upon existing coordination procedures.

Technical Assistance

The statute requires states to provide technical and other assistance to local governments and the public for implementing the additional management measures.

NOAA and EPA expect states to identify those portions of the coastal nonpoint programs that are to be implemented by local governments and to include a program to provide technical and other assistance to local governments and the public in the state coastal nonpoint program.

Public Participation

The statute requires states to provide opportunities for public participation in all aspects of the coastal nonpoint program.

NOAA and EPA expect that the public will be involved early in the process of developing the coastal nonpoint program. The state must also provide an opportunity for public comment on the final coastal nonpoint program prior to submission of the program to NOAA and EPA, and an opportunity to participate in the implementation of the program.

Program Submission and Approval

States must submit their coastal nonpoint programs to NOAA and EPA for approval within 30 months of the publication of final management measures guidance (i.e., July 1995). When a state coastal nonpoint program receives final Federal approval, it will be incorporated automatically into the state's coastal management and nonpoint programs. NOAA and EPA have established a voluntary threshold review process to assist states in the development of their programs.

Federal Support for State Coastal Nonpoint Programs

NOAA is authorized under section 6217(f) of CZARA to provide funds to state coastal management agencies to develop coastal nonpoint programs. In addition, funds may be available under section 319 of the CWA to implement coastal nonpoint programs. NOAA and EPA will also work with the states to identify other sources of funds to develop and implement the state programs.

PROGRAM DEVELOPMENT AND APPROVAL GUIDANCE

I. PURPOSE AND INTRODUCTION

Water quality remains one of the most important environmental problems facing the United States. In coastal areas, beach closures, prohibitions on harvesting shellfish, and loss of biological productivity in coastal habitats are evidence of water quality impairment. Based on an assessment of 75% of United States estuarine waters, current best estimates are that 35% of these waters are impaired and 10% are threatened.

Coastal waters are affected by both point and nonpoint sources of pollution, with the latter a significant and, in many cases, the dominant form of pollution in a given water body. While great strides in controlling point sources of pollution have been made since the passage of the Federal Water Pollution Control Act in 1972, nonpoint source pollution remains a major problem in many coastal areas. The leading nonpoint contributors to estuarine waters are urban runoff (including certain construction activities and onsite disposal systems) and agriculture. Other significant nonpoint contributors in some coastal watersheds include silviculture, marinas, and hydromodification. In addition, the loss and degradation of wetlands and riparian areas has adversely impacted coastal water quality.

Congress enacted section 6217 of the Coastal Zone Act Reauthorization Amendments of 1990 (CZARA) in November 1990 to help address the problem of nonpoint source pollution in coastal waters.[1] (A copy of this statute is found in Appendix A.) Section 6217 requires that coastal states with federally approved coastal management programs develop Coastal Nonpoint Pollution Control Programs (hereafter, coastal nonpoint programs).[2] The legislative history indicates that the central purpose of section 6217 is to strengthen the links between Federal and state coastal zone management and water quality programs in order to enhance state and local efforts to manage land use activities that degrade coastal waters and coastal habitats.[3] The state coastal zone management agency designated under section 306 of the Coastal Zone Management Act (CZMA) and nonpoint source management agency designated under section 319 of the Clean Water Act (CWA) will have a dual and co-equal role and responsibility in developing and implementing the coastal nonpoint program.

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1 Section 6217 does not amend the CWA or the CZMA, but rather contains independent provisions.

2 The term "state" refers to states, territories and commonwealths having coastal management programs approved under section 306 of the Coastal Zone Management Act.

3 As defined in section 304 (10) of CZARA and used in this guidance, "land use" includes water uses.

Although nonpoint source pollution is a significant source of pollution in coastal waters, the legislative history states that "the new program will not and ought not bear the full burden of restoring and maintaining coastal water quality, but will operate instead in conjunction with controls on point sources established under the Clean Water Act and associated programs." Therefore, state coastal nonpoint programs under section 6217 are required only to address nonpoint source pollution, and are expected to address, at a minimum, the major sources of nonpoint pollution specified in the (g) guidance.[4]

Thus, a state does not need to provide in its coastal nonpoint program for the implementation of the management measures developed by EPA under section 6217(g) of CZARA for activities that are clearly regulated as point source discharges.[5] However, in the interest of consistency and comprehensiveness, each state may choose to apply the (g) management measures to both point and nonpoint sources throughout the state's section 6217 management area, as long as the specific NPDES requirements are also met for those sources subject to NPDES permitting requirements.

Section 6217 envisions a two-tiered management approach for the control of nonpoint sources of pollution. To receive Federal approval, the state coastal nonpoint program must ensure: (1) the implementation, at a minimum, of management measures in conformity with the guidance developed under section 6217(g) by EPA, in consultation with NOAA and other Federal agencies, to protect coastal waters generally, and (2) the implementation of additional management measures applicable to land and water uses and critical coastal areas identified by the state pursuant to section 6217(b)(1) and (2) so as to attain and maintain applicable water quality standards under section 303 of the CWA and to protect designated uses.[6]

The purpose of the first tier is to protect coastal waters generally, and therefore, is not tied to specific water quality problems. The state must provide for the implementation

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[4] Historically, there have been overlaps and ambiguities among programs addressing nonpoint and point sources of pollution. Some of these overlaps, such as those which occur with the National Pollution Discharge Elimination System (NPDES) stormwater permit program (under section 402(p) of the CWA), are discussed in more detail in Appendix B. Many of the techniques and practices used to control point sources, such as channelized urban stormwater, are equally applicable to nonpoint sources, and vice versa. Nevertheless, the programs do not have identical requirements. Certain NPDES requirements may go beyond the management measures specified in the (g) guidance.

[5] For simplicity, the guidance containing these management measures, which was published by EPA in January, 1993, will be referred to as the "(g) guidance" in this document. A list of the management measures included in this guidance is provided as Appendix C.

[6] In addition to addressing the contribution of pollution through runoff from the land, the state coastal nonpoint program should also consider the infiltration of pollutants into ground water which can result in the pollution of surface waters.

of these management measures in conformity with the (g) guidance which includes management measures for the following categories of nonpoint pollution sources: agricultural runoff; urban runoff; silvicultural runoff; hydromodification, shoreline erosion, and dams; and marinas. In addition, the (g) guidance includes management measures for wetlands protection, riparian areas, and vegetated filter strips, which are effective for several different source categories.

If the general level of protection provided by the first management tier is insufficient to enable coastal waters to meet water quality standards and protect designated uses, then the state must implement the second tier which consists of additional management measures. The purpose of the second tier is to restore coastal waters and, in the case of the critical areas, to protect against future pollution problems.

This document, developed by the National Oceanic and Atmospheric Administration (NOAA) and the Environmental Protection Agency (EPA), contains guidance for developing and implementing coastal nonpoint programs. The first section of this guidance introduces the coastal nonpoint program. The second section provides an overview of the statute's requirements. The third section discusses the specific program requirements, including requirements for coordination with other programs; the geographic scope of the coastal nonpoint program and coastal zone boundary review; implementation of management measures in conformity with EPA's (g) guidance and additional state-developed management measures; technical assistance; public participation; administrative coordination; and enforceable policies and mechanisms. The final section describes EPA's and NOAA's process for review and approval of coastal nonpoint programs submitted by the states, and the schedule for state implementation of the program.

II. OVERVIEW OF STATUTORY REQUIREMENTS AND PROGRAM APPROVAL PROCESS

Congress enacted CZARA section 6217, entitled "Protecting Coastal Waters," to address the impacts of nonpoint source pollution on coastal water quality.[7] Section 6217(a) requires each state with a federally approved coastal zone management program under section 306 of the CZMA to develop and submit to NOAA and EPA a coastal nonpoint program for approval. The statute states that the purpose of this new state program "shall be to develop and implement management measures for nonpoint source pollution to restore and protect coastal waters, working in close conjunction with other State and local authorities."

NOAA and EPA do not expect states to develop and implement stand-alone coastal nonpoint programs, but rather expect that states will develop and implement the coastal nonpoint program through changes to the approved state nonpoint source management program and to the approved state coastal zone management program developed under section 306 of the CZMA, as amended.

All states and territories have EPA-approved nonpoint source management programs or portions of programs and are currently receiving section 319 grants to assist them in implementing the approved programs. Currently, there are 29 federally approved state and territorial coastal zone management programs developed and approved pursuant to the CZMA (see Appendix D).

II.A. Statutory Requirements

Under section 6217, coastal nonpoint programs must contain a number of elements in order to be approvable by NOAA and EPA. The state programs must:

1. be closely coordinated with existing state and local water quality plans and programs developed pursuant to sections 208, 303, 319 and 320 of the CWA, and with state coastal zone management programs.

2. provide for the implementation, at a minimum, of management measures in conformity with the guidance published under section 6217(g) to protect coastal waters generally (discussed in section II.B).

3. provide for the implementation and continuing revision from time to time of additional management measures that are necessary to attain and maintain applicable water quality standards and protect designated uses with respect to:

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[7] This section has been codified at 16 U.S.C. § 1455b.

a. land uses which, individually or cumulatively, may cause or contribute significantly to a degradation of (a) coastal waters not presently attaining or maintaining applicable water quality standards or protecting designated uses, or (b) coastal waters that are threatened by reasonably foreseeable increases in pollution loadings from new or expanding sources; and

b. critical coastal areas adjacent to coastal waters which are failing to attain or maintain water quality standards or which are threatened by reasonably foreseeable increases in pollution loadings.

4. provide for technical and other assistance to local governments and the public to implement additional management measures.

5. provide opportunities for public participation in all aspects of the program.

6. establish mechanisms to improve coordination among state agencies and between state and local officials responsible for land use programs and permitting, water quality permitting and enforcement, habitat protection, and public health and safety.

7. propose to modify state coastal zone boundaries as the state determines is necessary to implement NOAA recommendations under section 6217(e), which are based on findings that modifications to the inland boundary of a state coastal zone are necessary to more effectively manage land and water uses to protect coastal waters.

This guidance discusses these requirements in greater detail in section III and explains NOAA's and EPA's expectations for state coastal nonpoint programs.

In addition to the provisions of section 6217, CZARA amended section 306 of the CZMA to require that, before approving a coastal zone management program submitted by a coastal state, NOAA shall find that, "...the management program contains enforceable policies and mechanisms to implement the applicable requirements of the Coastal Nonpoint Pollution Control Program of the State required by section 6217...." (section 306(d)(16)). States with federally approved coastal management programs must demonstrate compliance with section 306(d)(16) in order to receive final approval of their coastal nonpoint programs.

The statute requires that states submit their coastal nonpoint programs to NOAA and EPA 30 months after EPA publishes final (g) guidance. The final (g) guidance was published in January 1993; therefore, coastal states must submit their coastal nonpoint programs to NOAA and EPA for approval in July 1995.

II.B. Section 6217(g) Management Measures Guidance

Section 6217(g) requires that EPA, in consultation with NOAA, the U.S. Fish and Wildlife Service, and other Federal agencies publish "guidance for specifying management measures for sources of nonpoint pollution in coastal waters." Management measures are defined in section 6217(g)(5) as:

> *"economically achievable measures for the control of the addition of pollutants from existing and new categories and classes of nonpoint sources of pollution, which reflect the greatest degree of pollutant reduction achievable through the application of the best available nonpoint pollution control practices, technologies, processes, siting criteria, operating methods, or other alternatives."*

As provided by section 6217(g)(2), the management measures guidance includes:

> **(A)** "a description of a range of methods, measures, or practices, including structural and nonstructural controls and operation and maintenance procedures, that constitute each measure;
>
> **(B)** a description of the categories and subcategories of activities and locations for which each measure may be suitable;
>
> **(C)** an identification of the individual pollutants or categories or classes of pollutants that may be controlled by the measures and the water quality effects of the measures;
>
> **(D)** quantitative estimates of the pollution reduction effects and costs of the measures;
>
> **(E)** a description of the factors which should be taken into account in adapting the measures to specific sites or locations; and
>
> **(F)** any necessary monitoring techniques to accompany the measures to assess over time the success of the measures in reducing pollution loads and improving water quality."

The (g) guidance provides a basis for the state coastal nonpoint programs.

II.C. Procedures for Program Development and Approval

NOAA and EPA have prepared this program development and approval guidance to assist states in developing approvable coastal nonpoint programs. The states are

encouraged to consult with NOAA and EPA as they develop specific program elements. NOAA and EPA have established a voluntary threshold review process to assist states in the development of their programs. This process is discussed in more detail in section IV.B.

NOAA and EPA will jointly review the state program within six months after submission. Because of the inseparable nature of the land use and water quality portions of the coastal nonpoint programs in achieving the statutory goals, NOAA and EPA have determined as a matter of policy that neither agency will grant approval to a state's coastal nonpoint program until the program meets the Federal approval requirements as determined by both agencies.

If a coastal state fails to submit an approvable program within 30 months after publication of the (g) guidance, NOAA and EPA will reduce Federal grant dollars to the state under the coastal zone management and nonpoint source management programs as required by section 6217(c)(3) and (4). The penalty provisions begin in Fiscal Year 1996 with a 10% reduction in funding under both programs, increasing to 15% in FY 1997, 20% in FY 1998, and 30% in FY 1999 and each fiscal year thereafter. In the case of the coastal zone management program, the penalty is based upon the grants otherwise available to a state in the current fiscal year. In the case of the section 319 nonpoint source management program, the penalty is based on the grant amount awarded to the state for the preceding fiscal year.

Under certain limited circumstances, a state may request a conditional approval of its coastal nonpoint program. If a state is granted conditional approval of its program, the penalty provisions of section 6217 will be suspended during the conditional approval period if the state continues to make progress on the workplan and to meet the milestones agreed to with NOAA and EPA as part of the conditional approval. (See discussion of conditional approval in section IV.C.)

II.D. Federal Support for State Coastal Nonpoint Programs

NOAA is authorized under section 6217(f) of the CZARA to provide funds to the designated state coastal management agency to develop its coastal nonpoint program. The Federal funds may not exceed 50% of the cost of developing the program, and the state share of costs must be paid from non-Federal sources. NOAA has published separate guidance on application procedures and allocations. Since funds will be limited, state coastal agencies are encouraged to work closely with state nonpoint source agencies and other appropriate Federal, state, regional and local agencies to develop their coastal nonpoint programs. Funds under section 319(h) of the CWA are available for program implementation.

NOAA and EPA will consider using additional financial incentives and/or disincentives to encourage states to develop effective coastal nonpoint programs within the statutory deadline.

III. SPECIFIC COASTAL NONPOINT PROGRAM REQUIREMENTS

State coastal nonpoint pollution programs must contain a number of components mandated by section 6217. The following section discusses these statutory requirements and the minimum criteria that the state coastal nonpoint program needs to meet to obtain Federal approval.

III.A. Coordination with Existing State Programs

The statute requires that state coastal nonpoint programs be closely coordinated with state and local water quality plans and programs under sections 208, 303, 319, and 320 of the CWA, and with state coastal zone programs. (Section 6217(a)(2)). Some of these programs are discussed in Appendix E. This requirement is necessary to ensure that the new coastal nonpoint program can be integrated into existing state programs upon approval.

During the program development process, NOAA and EPA expect state coastal zone management and nonpoint source agencies to involve the relevant Federal, state, regional and local programs. A number of states already closely coordinate the activities of these programs through their existing coastal zone management and state nonpoint programs. States should develop their coastal nonpoint programs to complement and strengthen existing coastal management and nonpoint source authorities, while minimizing unnecessary duplication or conflicts at the Federal, state or local levels. Components of existing programs that meet the requirements of section 6217 should be incorporated into the states' coastal nonpoint programs.

III.B. Coastal Zone Boundaries and 6217 Management Area

As directed by section 6217(a), the geographic scope of each coastal nonpoint program must be sufficient to ensure implementation of management measures to "restore and protect coastal waters." Section 6217(e), which requires NOAA to conduct a review of each state's coastal zone boundary, refines the focus to require NOAA to determine the geographic area encompassing the land and water uses having a "significant" impact on a state's coastal waters. A significant impact can occur from both the individual and cumulative effects of land and water uses. NOAA and EPA will not approve a state coastal nonpoint program whose geographic scope does not encompass such uses because a program that does not control the significant land and water uses cannot be expected to "restore and protect coastal waters".

Section 6217(e) requires that NOAA, in consultation with EPA, review each state's existing state coastal zone boundary established under the CZMA, and recommend any

modification to that boundary needed to effectively manage land and water uses to protect coastal waters. Specifically, the statute directs NOAA, in consultation with EPA, to evaluate whether each state coastal zone boundary extends inland to the extent necessary to control nonpoint source pollution from land and water uses that have a significant impact on a state's coastal waters. See section 6217(e)(1). If NOAA, in consultation with EPA, finds that boundary modifications are necessary for a state to more effectively manage land and water uses to protect coastal waters, then NOAA shall recommend appropriate modifications. See section 6217(e)(2).

Although expressed in terms of a recommendation that a state modify its coastal zone boundary, NOAA's recommendation also defines what NOAA and EPA believe should be the geographic scope of that state's coastal nonpoint program, i.e., "the 6217 management area". A state program need not adopt the exact 6217 management area recommended by NOAA if the state can demonstrate that a smaller geographic area would be adequate to restore and protect coastal waters. Absent such a demonstration, however, NOAA and EPA expect the geographic scope of the coastal nonpoint program to correspond to NOAA's recommendation.

To provide a basis for its recommendation, NOAA conducted a review of states' existing coastal zone boundaries and provided each state with an analysis of its boundary. In conducting this review, NOAA, in consultation with EPA, compared indicators of nonpoint source pollution potential within coastal zone boundaries, and within coastal watersheds. Coastal watersheds were selected because watersheds provide a logical physical unit when dealing with nonpoint source pollution. To provide a uniform framework for evaluation, the review was based on the national hydrologic unit classification system developed by the U.S. Geological Survey (USGS). For purposes of this review, coastal watersheds were defined as the USGS Cataloging Units adjacent to the shore and extending inland along estuaries to include the USGS Cataloging Units that encompass the head of tide.

Within each state, NOAA evaluated each watershed that drains into coastal waters, whether or not that watershed is encompassed within a state's existing coastal zone. Based on nationally available data, NOAA determined for each watershed whether significant indicators of nonpoint pollution potential were present within four analysis areas: (1) the existing coastal zone, (2) the coastal watershed, (3) the area inland of the coastal watershed within the state's borders, and (4) the area beyond the state borders that drain into coastal waters. NOAA has focused on significant indicators of nonpoint source pollution in compliance with section 6217(e) which directs NOAA to evaluate whether the coastal zone extends inland "to the extent necessary to control land and water uses that have a significant impact on coastal waters of the State." (Section 6217(e)(1)).

Based on the review of each coastal watershed, NOAA will develop a preliminary assessment of the appropriate geographic scope of the state's program, i.e., the 6217 management area, and will make a corresponding recommendation for modification to the state's coastal zone boundary. Where the coastal watershed appears to capture most of the significant indicators of nonpoint pollution potential, NOAA will recommend the coastal watershed as the 6217 management area. Where significant indicators of nonpoint source pollution are present inland of the coastal watershed, NOAA will recommend that the 6217 management area extend inland of the coastal watershed.[8]

Finally, in coastal watersheds where an area less than the coastal watershed captures most of the significant indicators of nonpoint source pollution, especially where the existing coastal boundary closely aligns with the coastal watershed, NOAA will recommend that lesser area as the 6217 management area. In no case will NOAA recommend an area less than the existing coastal zone as the 6217 management area.

The geographic scope of the coastal nonpoint program must be based on the impact of land and water uses on coastal waters. NOAA's boundary recommendation will specify a 6217 management area to guide states during program development.[9] In response to this recommendation, states are encouraged to undertake their own analysis of their coastal watersheds. At the time of program submission, a state may propose an alternative 6217 management area, in which case the state must demonstrate to NOAA's and EPA's satisfaction that the management area extends as far as necessary to control sources of nonpoint pollution that, individually or cumulatively, significantly impact the state's coastal waters. NOAA and EPA will evaluate the adequacy of the state's proposed 6217 management area as part of the program review and approval process. Specific criteria for this evaluation are being developed by NOAA and will be published separately.

A state is expected to demonstrate authority to manage the final 6217 management area in one of two ways. First, a state may demonstrate that its coastal zone boundary has been modified to encompass the entire 6217 management area. If the state coastal zone management agency lacks authority to modify the boundary, the coastal nonpoint program must contain recommendations to the appropriate state authority for changes to the coastal zone boundary. Because there is no assurance that the coastal zone boundary will be modified as proposed, NOAA and EPA also expect a state to demonstrate that it

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8 The nature of the underlying data makes it infeasible for NOAA to recommend a specific distance beyond the coastal watershed. States will be expected to examine these watersheds during program development to analyze indicators of nonpoint pollution and to determine the inland extent of the 6217 management area.

9 Section 6217(b)(7) requires that each state program contain a proposed or recommended coastal zone boundary modification as necessary to implement the NOAA recommendation.

has the necessary authorities, including enforceable policies and mechanisms, to ensure implementation of the coastal nonpoint program within the 6217 management area.

Second, because the modification of a state's coastal zone boundary necessarily has other implications besides nonpoint source pollution control, a state may choose not to alter its coastal zone boundary. Areas outside the coastal zone, but within the 6217 management area, would be managed with other state authorities networked into the coastal nonpoint program. Although changing the coastal zone boundary to address NOAA's recommendation may be preferable because it would provide the clearest delineation of the geographic scope of the coastal nonpoint program, the statute does not make this a prerequisite for Federal approval. If the state's 6217 management area extends beyond the state's existing coastal zone boundary, the state must also show that it has the necessary authorities, including enforceable policies and mechanisms, to ensure the implementation of the program's management measures with the 6217 management area.[10]

III.C. Implementation of Management Measures In Conformity with Section 6217(g) Guidance

For program approval, each coastal nonpoint program must "provide for the implementation, at a minimum, of management measures in conformity with the guidance published under subsection (g), to protect coastal waters generally..."(section 6217(b)). In developing the (g) guidance, EPA focused on the significant categories and sources of nonpoint pollution identified in state section 319 nonpoint source assessments. The categories of nonpoint sources addressed in the (g) guidance are: agricultural runoff; urban runoff (including developing and developed areas); silvicultural (forestry) runoff; hydromodification, including shoreline erosion, and dams; and marinas. In addition, the (g) guidance includes management measures for wetlands protection, riparian areas and vegetated filter strips, which apply to a number of sources. A number of specific source subcategories are also discussed in detail in the (g) guidance.

In order to satisfy the statutory requirement to provide for implementation of management measures in conformity with the (g) guidance, state programs must:

1. Identify nonpoint source categories or subcategories that will be addressed;
2. Identify management measures to be implemented for those categories and subcategories; and,
3. Describe the process by which the state will ensure the implementation of the management measures.

[10] In addition, a state may choose to utilize a combination of the two approaches described above.

These elements are discussed in more detail in the following sections.

In its coastal nonpoint program document, a state must respond to each of the (g) management measures by either: (1) providing for the implementation of that measure or an alternative as effective as the (g) measure; or (2) justifying why the management measure is not included in the program. This justification must be based on the exclusion of certain nonpoint categories or subcategories using the process described in section III.C.1.

III.C.1. Identification of sources to be addressed

For program approval, states must provide for the implementation of management measures for each of the nonpoint source categories (e.g., agriculture) and subcategories (e.g., confined animal facilities) identified in the (g) guidance to protect coastal waters generally. States must also provide for the implementation of management measures specified for wetlands and riparian area protection. In addition, a state may include management measures for sources not identified in the (g) guidance (e.g., mining operations not subject to permitting under section 402 of the CWA), if the state determines such management measures are necessary to protect coastal waters generally.

NOAA and EPA may allow a state to exclude some categories, subcategories or sources from the requirements of its coastal nonpoint program. An exclusion may occur under two scenarios: (1) if a nonpoint source category or subcategory is neither present nor reasonably anticipated in the 6217 management area, or (2) if a state can demonstrate that a category, subcategory or particular source of nonpoint pollution does not and is not reasonably expected to, individually or cumulatively, present significant adverse effects to living coastal resources or human health.

Under the first scenario, a state can exclude one or more nonpoint source categories or subcategories in coastal watersheds or parts of coastal watersheds. To do so, a state must clearly demonstrate that each of those nonpoint source categories or subcategories is neither present nor reasonably anticipated in such areas. If such a demonstration is made, the state need not develop and provide for the implementation of management measures for those nonpoint source categories or subcategories. For example, if a state does not have and does not foresee the establishment of an animal feeding operation in the 6217 management area, it need not develop a program to control such operations. It should be noted, however, that when the exclusion applies only to a portion of the area or a particular coastal watershed, the state must still provide for the implementation of the management measures in all other portions of the 6217 management area where the categories or subcategories are present or anticipated.

Under the second scenario, states may exclude certain sources within retained categories and subcategories. To do so, the state must adequately demonstrate that those sources, individually and cumulatively, do not and are not reasonably expected to present significant adverse effects to living coastal resources or human health. Factors that may be considered to exclude such sources include, but are not limited to:

- pollutant loadings or estimates of loadings from the sources;
- intensity of land use; and
- ecological and human health risk associated with the source.

In general, this second type of exclusion is designed to exclude sources that are present in the 6217 management area but that, individually or cumulatively, do not and are not reasonably expected to cause significant adverse effects to living coastal resources or human health. In determining the significance of adverse effects, states should consider both direct and indirect adverse effects. An example of a source that may be excluded under this approach could include an on-site disposal system located a considerable distance from surface coastal waters and above the groundwater table.

NOAA and EPA wish to emphasize the limited applicability of this second type of exclusion. For this reason, NOAA and EPA have expressly placed the burden upon the states to demonstrate that any excluded sources will not and are not reasonably expected to present adverse effects to living coastal resources or human health, and that the application of the (g) measures to the remaining sources will protect coastal waters generally.

For either type of exclusion, states must submit a description and documentation of the data and rationale relied upon for excluding the sources. The documentation should include information contained in existing state water quality assessments (including those developed under sections 305(b) and 319 of the CWA), other information sources listed in Section III.D., and existing data (or modelling results) that indicate the insignificance of the loadings or hydrologic impacts caused by sources that the state proposes to exclude.

EPA and NOAA will review the states' submissions, including the adequacy of the assessments, to determine whether the category or subcategory needs to be addressed by the coastal nonpoint program. The issue of assessment adequacy may be discussed through the threshold review process. In addition, NOAA and EPA will, at a state's request, consider proposed exclusions during the threshold review process discussed in section IV.B.

In the "Applicability" section of many management measures in the (g) guidance, EPA has already established minimum sizes below which the measures do not apply (e.g., marinas with less than 10 slips) based on economic achievability analysis. In such cases,

state programs should address all sources above those minimum levels, except where a state can document, as described above, that a less stringent level in a particular geographic area will still allow protection of coastal waters generally.

It should be noted that sources excluded from the (g) measures implementation nevertheless may be subject to additional management measures discussed in section III.D.

III.C.2. Identification of management measures to be implemented

For program approval, states must specify the management measures that will be implemented to address each category or subcategory of sources identified through the process in section III.C.1 of this guidance document. Section 6217(b) requires state management measures to be in conformity with those measures specified in the (g) guidance. A state management measure is "in conformity with" those specified in the (g) guidance if it is identical to, or is demonstrated to be as effective as, the (g) guidance measures.

In order to accommodate variabilities relating to source, location and climate, or other local conditions that could affect the implementation of the (g) guidance management measures, the (g) guidance also lists a number of practices that can be used to implement each management measure. States have considerable flexibility in choosing management practices to achieve the management measures and are not restricted to specifying or implementing the practices described in the (g) guidance. The practices or system of practices chosen, however, must ensure the effective implementation of the management measures. For program approval, the coastal nonpoint program must describe the process the state will use to select practices that will result in the effective implementation of the (g) guidance management measures.

Selection of Alternative Management Measures

In developing management measures in conformity with the (g) guidance, states may select "alternative management measures" under two conditions: (1) states have conditions that make the 6217(g) measures inapplicable or unsuitable, or (2) other measures that equal or exceed the effectiveness of the 6217(g) measures already exist or are scheduled to be implemented under existing state laws or programs. The use of alternative management measures in these situations is supported not only by the statute, which acknowledges that the (g) measures may be adapted to specific sites or locations (section 6217(g)(2)(E)), but also by the legislative history which directs NOAA and EPA to accord states flexibility in selecting management measures.

States may use these alternative measures instead of the (g) measures in their coastal nonpoint programs only if they can demonstrate that such alternatives are as effective in controlling nonpoint pollution as the measures specified in the (g) guidance. For program approval, a state electing to specify an alternative management measure for implementation will need to demonstrate that the alternative is at least as effective as the (g) guidance management measure it intends to replace. States should use the best available information to make this showing.

Management measure effectiveness can be evaluated or described in many ways: pollutant loading, pollutant loading reductions, pollutant concentration in discharge, peak concentration reductions, mean concentration reductions, habitat impacts (including impacts resulting from changes in flow), impacts to fisheries, impacts to macroinvertebrates, wildlife impacts, effects on support of designated uses, direct impacts to the water resource of concern, the extent to which the source is actively managed, or other factors. States may use any combination of these factors to demonstrate the effectiveness of alternative management measures.

For approval of an alternative management measure, the state will need to demonstrate that the alternative management measure (or a combination of measures or a series of measures applied over time) is as effective as the measure set forth in the (g) guidance when applied in the specific state or local area. For example, when management measures in the (g) guidance specify certain storm events, design criteria or pollutant reduction levels, the alternative management measures must specify similar storm events, design criteria or pollutant reduction levels. In addition, the state will need to demonstrate that the operation and maintenance procedures for the alternative are feasible and adequate to maintain a level of pollution control as effective as the (g) guidance measure over the lifetime of the measure. In choosing an alternative management measure, states should take into account possible adverse impacts of these alternative measures on other coastal resources such as ground water or wetlands.

In support of its alternative management measure, a state will need to identify the procedures used to evaluate the measure and the results of that evaluation, and provide specific technical documentation of the evaluation as part of their coastal nonpoint programs. In general, information used to document that an alternative management measure is as effective as a (g) guidance measure should be comparable in scope and depth to that provided in EPA'S (g) guidance. States must support the evaluation of alternative management measures with appropriate technical documentation. Although sources such as "refereed" technical journals are preferred, other publications, such as Federal and state technical guides, are acceptable. Fliers, fact sheets, and other general public materials generally are not adequate sources of information without additional supporting information.

In addition, or as an alternative to relying on written studies, the state may wish to convene a technical review group consisting of experts knowledgeable in the subject area covered by the management measure. This may be especially useful where the state is interested in pursuing innovative approaches. The technical review group should provide a report describing the evaluation procedure that was used to assess the effectiveness of the alternative management measure. The report should be submitted to NOAA and EPA as part of the program review process. EPA and NOAA will, at the state's request, consider proposed alternative management measures during the threshold review process and/or approval process discussed in section IV.

Innovative Market-Oriented Incentive Mechanisms

EPA and NOAA are interested in encouraging states to propose innovative market-oriented incentive mechanisms to implement the (g) measures or alternative management measures at lower costs. An important example of incentive mechanisms that could serve to lower substantially the costs of obtaining a given level of loadings reductions is the trading of pollution reduction credits.

Trading programs are proving to be a successful and cost-effective approach under the Clean Air Act for reducing air pollutant emissions. Several case studies in North Carolina, Colorado, and Wisconsin show that the trading of pollution credits holds considerable promise for reducing water pollutant loadings as well, particularly nutrients. See Appendix H for short descriptions of these cases. Appendix H also presents several brief summaries of relevant technical publications. These publications indicate that pollutant trading programs may hold potential for achieving substantial cost savings while attaining pollution reductions equivalent to those established by the (g) measures guidance.

Conceptually, sources with low control costs would make trading arrangements directly with sources facing high control costs. The low-cost sources would undertake additional abatement efforts in exchange for financial compensation from the high-cost sources. Sources with higher abatement costs would undertake less control efforts, while acquiring additional reductions from other lower cost sources. Increased loadings from the high-cost sources would be offset by the additional abatement efforts of low-cost sources, so that the total loadings would be the same as if no trading occurred. In this manner, the private incentives of polluters would be harnessed for public purposes. Thus, more pollution abatement would be undertaken where it was cheapest, and less would be undertaken where it was costly, reducing the overall cost while achieving the same overall level of control. Such a trading scheme can minimize the total cost of achieving the required reduction in loadings.

EPA and NOAA encourage states to propose innovative approaches such as the theoretical case outlined above and as described in Appendix H. Any such proposal, of course, must be consistent with the requirements of CZARA. At a minimum, in order for EPA and NOAA to approve a market-based proposal as achieving implementation of particular (g) measures, states would need to demonstrate that the proposal would result in expected pollutant reductions equalling or exceeding those that otherwise would be achieved in the same watershed if each participant separately implemented the (g) measures. Finally, as with the implementation of any management measure, a trading program would also need to meet the requirements for enforceable policies and mechanisms described in section III.H.

States may consider trading schemes which involve trading of pollution credits among nonpoint and point sources as well as among nonpoint sources alone. States may also consider trading among sources inside and outside of the geographic area subject to the (g) measures guidance, as long as such sources are within the same watershed. States may also consider trading arrangements involving different pollutants (such as nutrients) with similar environmental effects, to the extent that the state demonstrates that any net environmental benefit is expected to result from the trading program. However, these trading schemes should take into account uncertainties such as those associated with measurements or predictions of pollutant loadings of a pollutant from the array of sources involved. States should consider whether trading ratios should be established to account for such uncertainties.

The likelihood of success of trading programs can be increased if states carefully define the responsibilities of sources involved. Trading programs should provide assurance that the validity of trading agreements will be preserved. Trades between sources are most promising if they shift the responsibility for the agreed-to controls entirely from the buyer to the seller, who would then be subject to the enforceable policies and mechanisms referenced above. If buyers are required to adopt additional controls when sellers fail to implement agreed-to controls, then trading programs are less likely to succeed. Similarly, trades are most promising if they are based only on the validity of the agreement, and not on the success of the controls agreed to by the seller. Otherwise, the risks to buyers of trading -- that is, having to pay twice -- may prevent many trades and undermine the effectiveness of a trading program.

EPA and NOAA encourage states to focus on minimizing the costs of transacting trades. Delays and uncertainty in arranging specific trades, as well as direct application fees, can serve to raise the costs of transacting trades, to hinder trades, and to lower the likelihood that such trades will reduce compliance costs. Similarly, arbitrary requirements that trades substantially reduce net expected pollutant loadings can serve to raise transaction costs and deter trades. Finally, states should establish guidelines for sources to follow in arranging trades. Such guidelines should help reduce unnecessary delays, avoid any later

invalidation of trades, and lower transaction costs by increasing the likelihood that trades will be approved in advance.

When proposing a trading program to control nonpoint sources, a state would need to determine from EPA's (g) measures guidance and other sources the pollutant loading reductions that must be achieved from a group of sources within a watershed over a specified period, such as a season or a year. This establishes the baseline that the trade would need to achieve. For example, implementing the (g) guidance control measures on a dairy farm of given characteristics could be expected to reduce nutrient loadings by a certain amount. Each source would be required to reduce loadings by the necessary amount, by implementing controls on-site, or off-site through appropriate trading arrangements. Sources that believe their costs of achieving the necessary loading reductions are high could finance incremental controls at other sources with lower costs, expecting such trades to be approved. Compliance would be ascertained through demonstration that the necessary loadings reductions are achieved either on-site by implementing control measures, or off-site through appropriate trading arrangements, consistent with enforceable policies and mechanisms established elsewhere by the state in its coastal nonpoint program.

Multiple Management Measures

Section 6217(g)(5) of CZARA requires that management measures be economically achievable. In its economic achievability analysis, EPA estimated costs of selected combinations of multiple management measures applicable to sources. EPA focused its analysis on those cases which it believes are most likely to occur. Multiple measures which EPA concluded are economically achievable include (1) erosion control, confined animal feedlots, and grazing management measures, (2) combination of all forestry measures, (3) new development requirements such as stormwater, erosion and sediment control, and septic tanks, (4) all marina requirements; and (5) municipality requirements such as stormwater, erosion and sediment control, bridge maintenance, salt storage, street sweeping, wetlands protection, stream stabilization, and dam-related expenses.

EPA and NOAA recognize that it is impossible to determine economic achievability for all possible combinations of management measures. For example, a dairy farm might be responsible for control of discharge from animal feedlots, grazing, erosion, streambank stabilization, and wetlands preservation. In this case, EPA has found that a combination of management measures for erosion, feedlots and grazing are economically achievable, but not in combination with wetlands protection and streambank stabilization. In situations where EPA has not considered a specific combination of management measures in its economic achievability analysis, states may be granted flexibility to re-examine whether a particular combination of multiple management measures is economically achievable for a group of sources. If, in its program submission or in

subsequent revisions, a state finds that EPA did not consider the economic achievability of multiple management measures that apply to a group of sources when added together, the state may propose a fresh determination of management measures applicable to that group of sources. When making these determinations, states will need to meet the requirements of CZARA, including section 6217(g), which defines management measures as reflecting the greatest degree of pollutant reduction economically achievable. States may take into account direct and indirect costs and may consider incremental costs relative to incremental reductions in loadings.

III.C.3. Description of the implementation process and authorities

For program approval, the state will need to provide detailed information on how it will ensure implementation of the management measures in conformity with the (g) guidance. This information should be provided for each nonpoint source category or subcategory as identified in section III.C.1.

At a minimum, for each category and subcategory, the state coastal nonpoint program will:

a. Describe the scope, structure, and coverage of the state implementation program.

b. Describe the organization, structure and authorities of the state or local agency or agencies that will have responsibility for administering the implementation program, including:

i. an identification of the designated lead agency for the program addressing each category or subcategory. If the designated lead agency is not the section 319 or coastal zone management agency, the description must specify how the lead agency and its authorities have been incorporated into the coastal nonpoint program.

ii. a description of how the lead agency expects to implement the program including, for example, the number of staff and general responsibilities, cost of the program and potential funding sources.

c. Include a schedule for each nonpoint source category or subcategory with milestones for achieving full implementation of the management measures within three years as described in section IV.D.

d. Identify enforceable policies and mechanisms to ensure that each management measure identified in the coastal nonpoint program is implemented in accordance

with section III.H. of this guidance. States must submit copies of the appropriate legislative and administrative documents to demonstrate that authorities exist to support implementation of the management measures. Furthermore, if the enforcement authority will not be exercised directly by the state coastal zone management or section 319 agency, the state coastal nonpoint program must include provisions to ensure that the governmental body with the statutory authority exercises that authority as set forth in the state's coastal nonpoint program. States must submit documentation such as memoranda of understanding, executive orders or administrative directives which embody agreements to ensure this conformity. These authorities must be incorporated into the coastal nonpoint program.

e. Describe mechanisms to improve coordination among state agencies and among state and local officials responsible for land use programs and permitting, water quality permitting and enforcement, habitat protection, and public health and safety as required by section 6217(b)(6). States will need to include copies of any memoranda of agreement or provisions for joint project review. (See discussion in section III.G.)

f. Describe a process to identify practices to achieve the management measures.

g. Describe activities to ensure continuing performance and long term effectiveness of the measure through proper operation and maintenance. States should follow the operation and maintenance programs described in the (g) guidance or, where the state has developed its own measures, describe the operation and maintenance requirements for the alternative measures. Activities to monitor implementation and enforcement should include a program for the comprehensive survey of sources that are required to implement the management measure, and a program for periodic inspections of sources.

h. Describe state activities to monitor the effectiveness of the (g) measures based on accepted water quality monitoring protocols such as those described in Chapter 8 of the (g) guidance.

States may meet any of these requirements by: (1) identifying existing program activities currently being implemented effectively under state coastal zone management programs, state nonpoint source management programs, or by other state programs; (2) providing the information discussed above for the existing programs; (3) developing new enforceable policies, as necessary; and (4) incorporating these programs into the new coastal nonpoint program.

III.D. Requirements for Implementation of Additional Management Measures

For program approval, state coastal nonpoint programs must provide for the implementation of "additional management measures" where coastal water quality is impaired or threatened even after the implementation of the management measures specified in the (g) guidance. See Section 6217(b).[11] These additional measures apply both to existing land and water uses that are found to cause or contribute to water quality impairment and to new or substantially expanding land uses within critical coastal areas adjacent to impaired or threatened coastal waters. Specific statutory requirements for implementation of additional management measures can be found in sections 6217(b)(1), (2) and (3) of CZARA.

As described by the amendment's sponsor in a floor statement on CZARA, the additional management measures provide a "second tier of pollution control efforts" and "are targeted to those coastal land uses that are recognized to cause or contribute to water quality problems generally." See 136 Cong. Rec. E. 3590, October 27, 1990. In addition, the legislative history describes the additional management measures provision as also requiring "the identification of important coastal areas -- as contrasted to individual land uses under paragraph (1) [section 6217(b)(1)] -- that need additional measures to protect against anticipated pollution problems. Unlike paragraph (1), the imposition of additional measures are not contingent upon identified water quality problems, and are to be established as a preventative step to avoid water quality problems that might otherwise develop." Id.

For program approval, states will need to do the following:

1. identify coastal waters that are not attaining or maintaining applicable water quality standards or protecting designated uses, or that are threatened by reasonably foreseeable increases in pollution loadings from new or expanding sources;

2. identify land uses that individually or cumulatively cause or threaten water quality impairments in those coastal waters;

3. identify critical coastal areas;

4. develop a process for determining whether additional measures are necessary to attain or maintain water quality standards in the waters identified above;

[11] For purposes of section 6217(b), the definitions for water quality standards and designated uses are those found in section 303 of the Clean Water Act and in 40 C.F.R. Part 131.

5. describe the additional management measures the state will apply to the identified land uses and critical coastal areas; and,

6. develop a program to ensure implementation of the additional management measures within the time frame described in section IV.D.

These elements are discussed in greater detail in the following sections.

III.D.1. Identification of coastal waters that are not attaining or maintaining water quality standards

For program approval, states must, at a minimum, identify the following as threatened or impaired waters:

a. coastal waters identified in a state's most recent report under section 305(b) of the CWA as "partially meeting" or "not meeting" designated uses or as "threatened";

b. coastal waters listed by a state in accordance with the requirements of section 303(d)(1)(a) of the CWA requiring Total Maximum Daily Load calculations if listing is due at least in part to nonpoint sources;

c. coastal waters listed by a state under CWA section 304(l) as impaired by nonpoint source pollution;

d. coastal waters identified by a state as impaired or threatened by nonpoint source pollution in an assessment submitted to EPA under section 319 of the CWA or in any updates of the assessment.

States should also consider the results of water quality monitoring associated with assessing the effectiveness of the (g) measures in attaining and maintaining water quality standards when identifying impaired or threatened waters.

States should also identify coastal waters for which existing dilution calculations or predictive models indicate nonattainment of water quality standards. Other organizations and groups should be actively solicited for research they may be conducting or reporting. For example, volunteer monitoring organizations, university researchers, the USDA, NOAA, USGS, and the U.S. Fish and Wildlife Services and a wide variety of state agencies can be good sources of field data. In addition, states should examine waters for which coastal water quality problems have been reported to the state by local, state or Federal agencies, members of the public, or academic institutions.

States should use the most current data available, including information generated in evaluating the effectiveness of the (g) measures, and must describe the validity of the data used to determine threatened or impaired waters. States should consider the following in evaluating the validity of the data:

a. whether the assessments are based on monitored or evaluated data;

b. the limits on the availability of water quality information for coastal wetlands, estuaries and groundwater resources that affect coastal waters; and,

c. the difference between each coastal waterbody's current condition and the condition needed to support the designated uses that the state has identified in its water quality standards. (See Appendix F for examples of designated uses and support levels).

NOAA and EPA require each state to identify its impaired and threatened coastal waters in order to evaluate both the adequacy of the state's identification of land uses required by section 6217(b)(1) and the critical coastal areas required by section 6217(b)(2), and the adequacy of its determination that additional management measures need to be implemented. As part of the threshold review process (see section IV.B.), NOAA and EPA will work with the state to evaluate the state's water quality information. If the information is incomplete, the state may be asked to develop reasonable additional information on water quality impairments. States are encouraged to complete water quality assessments for coastal waters and estuaries. In addition, states are encouraged to adopt water quality standards for marine waters and for common nonpoint source pollutants such as nutrients.

III.D.2. Identification of land uses causing or threatening water quality impairments

Once threatened and impaired coastal waters have been identified, as described in section III.D.1, states must then identify those land uses that individually or cumulatively cause or contribute to coastal water quality impairments. The land uses should include the general nonpoint sources categories and subcategories described in the (g) guidance and other land uses not mentioned in the (g) guidance that are or may be sources of runoff and infiltration to coastal waters such as landfills and certain mining operations. States should use the most current land use information available (local and state land use maps, Geographic Information Systems, etc.) to identify these land uses. NOAA and EPA encourage states to use maps to display identified land uses.

Water quality impacts may occur where a land use involves: (1) substantial disturbance to the land or water resource; (2) substantial treatment, introduction, or creation of a

nonpoint source pollutant; or (3) a substantial temporary or permanent change to the hydrology or other natural characteristics of a land area or water resource.

Once general land use patterns and potential water quality impacts have been identified, states should consider more specific land use characteristics to help determine whether current or future uses are likely to cause or contribute to water quality impairments. State should consider the biological and physical impacts of these land uses within the watershed adjacent to the impaired or threatened waterbody or segment. States should consider physical characteristics such as: topography/slope; soil characteristics (erodibility, etc.); shoreline erosion characteristics; hydrology, in particular groundwater linkages to coastal waters and high water tables; and the presence of forest and other vegetated areas that may provide natural buffers or nutrient sinks. States should also consider habitat and other biological impacts that may be caused by specific land uses.

The preferred source of information on the relationship between land uses and water quality is "refereed" technical journals. However, other sources often will be needed to fill gaps caused by a shortage of information relating land use to nonpoint source impacts. Additional sources could include Federal and state publications, generally accepted models (e.g., loading coefficients), and similar information. Sources used by the state in identifying and evaluating the land uses should be cited in its coastal nonpoint program.

III.D.3. Identification of critical coastal areas

For program approval, a state must also identify and map critical coastal areas -- as contrasted to individual uses identified under paragraph (1) of section 6217(b) -- that need additional measures to protect against current and anticipated nonpoint pollution problems. See section 6217(b)(2). The establishment of critical coastal areas should focus on those areas in which new or substantially expanding land uses may cause or contribute to the impairment of coastal water quality.

States have flexibility in their approach to delineating critical coastal areas. The following two examples illustrate approaches for the establishment of critical coastal areas.

Under the first approach, a state could establish the critical coastal area as a strip of land along the portion(s) of the shoreline adjacent to threatened or impaired coastal waters. Some states have programs that specify a land area along the shoreline of a waterbody and that extend inland a uniform distance from the shoreline or from landward boundaries of wetlands or heads of tides. Within this area, special controls such as setbacks and low density zoning can be employed to protect coastal waters.

In establishing a critical coastal area along the shoreline, a state may omit areas where recent water quality assessments demonstrate that the coastal waterbody is neither impaired nor threatened, and where a state can demonstrate that new land uses or expansions of existing land uses will not contribute to a future threat or impairment of the waterbody. For example, shoreline segments could be omitted if: (1) a state can demonstrate that its coastal area is predominantly in Federal or state conservancy, the use of which will not threaten coastal water quality, and that changing or expanding land uses are not a concern; or (2) existing ordinances for an adjacent area effectively manage new or expanding land uses (e.g., by controlling the extent of impervious surfaces and/or the density of development along the coastal waters).

Under a second approach, a state could rely on site specific evaluations to determine the extent of a critical coastal area. The critical coastal area could be established on an ecosystem basis for the impaired or threatened coastal waters.[12] Under this approach, states may include broader geographic areas in the critical area designation, starting with shoreline segments adjacent to threatened or impaired coastal waters, and extending inland to encompass significant coastal features or resources further inland. These broader areas may include entire watersheds or portions of watersheds adjacent to coastal waters, and may encompass significant biological features such as wetlands.

In selecting an approach, states should consider the following factors:

- The nature of the coastal water quality problem(s) caused by nonpoint sources.
- The extent to which the nonpoint sources are located adjacent to the waterbodies as opposed to further inland.
- The physical and biological characteristics of the adjacent lands, such as those described in the previous section on land use, that will affect the extent to which uses of these lands will cause nonpoint source pollution problems. (See section III.D.2.).
- Important biological features that should be included as a whole in critical coastal areas, e.g. wetlands.
- The type(s), density and characteristics of the new or expanding land uses that are anticipated and their expected effect(s) on water quality.

[12] Ecosystem is defined as a biological community whose environment functions as an ecological unit.

- The extent to which the above effects can be prevented or reduced by implementation of (g) management measures and/or the additional management measures for land uses.

NOAA and EPA also encourage states to consider including other previously designated areas within the critical coastal areas under this program. Such areas may include: areas of particular concern designated as part of state coastal zone management programs; National Estuarine Research Reserves; National Marine Sanctuaries; and, significant watershed areas within National Estuaries designated by EPA under section 320 of the CWA. NOAA and EPA expect that this approach will help to fully integrate and coordinate this new coastal nonpoint program with other existing programs.

III.D.4. Process to implement additional management measures

Once the land uses and critical coastal areas, described above, have been identified, states must describe additional management measures applicable to those land uses and areas in order to address the sources of nonpoint pollution. See section 6217(b)(3). States will also need to develop a continuing process, including milestones, for implementing, evaluating and, as necessary, revising the additional measures.

NOAA and EPA expect that it may be necessary for a state to provide for the implementation of some additional management measures immediately and others only if implementation of the (g) measures are shown to be insufficient to protect and restore water quality. The two categories of additional management measures are:

1. **Immediate Implementation:** For the waterbodies identified in section III.D.1., states should evaluate the relative contributions from point and nonpoint sources. Where a threat or impairment of a particular water or waterbody segment is due to nonpoint sources, the state should determine whether existing pollution prevention activities and/or the implementation of the (g) measures will be adequate to address the threat or impairment. If existing information indicates that the implementation of the (g) measures will not be adequate to attain or maintain water quality standards of the coastal waters or waterbody segment due to contributions from nonpoint sources, then the state program must specify, at the time of program submission, additional management measures applicable to the appropriate land uses and critical coastal areas. Implementation of these additional measures should begin at the time program approval is granted. Two instances where additional management measures are most likely to be needed immediately are: (1) where the (g) measures (or their equivalents) are already being implemented under existing nonpoint source programs but water quality is still impaired due to identifiable nonpoint sources; and (2) where states have identified critical coastal areas pursuant to the description in III.D.3. because new

or expanding land uses threaten or impair coastal waters notwithstanding existing nonpoint source controls.

2. **Implementation based on performance of (g) measures:** States should also specify a continuing process for identifying, implementing, and revising, as necessary, additional management measures after the program's (g) measures have been implemented. As the (g) measures are implemented, the states should monitor their effectiveness and should verify whether water quality standards are being attained or maintained and designated uses protected. If a state determines that nonpoint sources contribute in whole or in part to water quality impairment even after implementation of the (g) measures, then the state will need to provide for the implementation of additional management measures. As discussed in section IV.D. (Schedule for Program Implementation), additional measures under these circumstances must be fully implemented within eight years of Federal approval of the coastal nonpoint program. The additional management measures also must be monitored to assess their effectiveness in attaining and maintaining water quality standards and protecting designated uses. Further refinements to these management measures, the use of other additional measures, or enforcement action may be necessary if water quality goals are still not met.

III.D.5. Selection of additional management measures

Having determined the need for additional management measures under III.D.4., states will then need to select the additional measures to be implemented. Like the (g) measures, these measures can include a broad range of structural and nonstructural nonpoint source controls. Unlike the (g) measures, the additional measures need not apply to all similar land uses throughout the 6217 management area. Rather, the additional management measures apply only to those identified land uses and critical coastal areas where further nonpoint source controls are necessary to ensure that coastal water quality standards are attained or maintained and designated uses are protected.

For program approval, states are expected to provide the following information on the additional management measures that will be implemented:

a. a discussion of the measure and the land uses and pollutants it is designed to address;

b. evidence of the anticipated effectiveness of the measure in reducing nonpoint pollution to meet water quality standards; and,

c. a process for evaluating the effectiveness of the measures once they are implemented, and a schedule for revising such measures, as necessary, to meet water quality standards.[13]

A number of alternatives are available to states in selecting the additional management measures.

- States can select management measures not specified in the (g) guidance. Under this alternative, states or local governments could develop very specific additional management measures that could include buffer zones, low density zoning, cluster development ordinances, conservation zoning, or other land use measures best developed at the local level.

- States can apply the measures specified in the (g) guidance more intensively (e.g., require a wider stream-side management area for certain forestry operations than that necessary to achieve the (g) guidance measures for stream-side management).

- States can apply the measure specified in the (g) guidance more stringently (e.g., require a higher removal rate for suspended solids for new urban development than that specified in the (g) guidance measure).

- States can provide management measures for land and water uses not identified in the (g) guidance, or for sources excluded under the process described in section III.C.1.

- States can employ innovative approaches as additional management measures. For example, where there is adequate information, states could consider the use of pollution trading for discharges from nonpoint and point sources or among nonpoint sources in watersheds in order to attain or maintain water quality standards in coastal waters and to protect designated uses.

Given the focused nature of additional management measures and the opportunity to tailor the measures to local conditions, the requirement provides an excellent opportunity to use local land use measures to control nonpoint source pollution. Thus states are encouraged to work closely with local governments to develop and implement these measures.

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[13] EPA and NOAA will establish a schedule for evaluating the need for management measures revision, which may be tied to 305(b) biennial water quality assessments. If these assessments indicate that water quality is not improving, the additional management measures already in place will need to be revised.

III.D.6. Using Innovative Pollutant Trading Techniques

One innovative approach that states could consider as they develop additional management measures is pollutant trading. Pollutant trading is a concept that enables one or more sources to meet less stringent treatment levels in exchange for other sources meeting more stringent treatment levels than the levels they would otherwise be required to meet. In appropriate situations, trading can result in more cost-effective pollutant control.

There are two types of nonpoint source trades that are possible:

(1) Point-nonpoint source trading. A point source that has complied with its technology-based requirements may be able to avoid or lessen more stringent water-quality-based treatment requirements by obtaining the requisite (water-quality driven) reductions from nonpoint sources.

(2) Nonpoint-nonpoint source trading. A nonpoint source may apply more stringent treatment than another one, and together the sources obtain the requisite reductions.

Pollutant trading, to date, has been used only sparingly under the Clean Water Act. Point-nonpoint trades have been approved in the Dillon Reservoir, Colorado (for phosphorus) and for North Carolina's Tar-Pamlico watershed (for nitrogen).

The following factors, developed at a recent EPA conference on pollutant trading, should be considered before considering the use of trading techniques[14]:

1. Trading is a potentially valuable tool, but its usefulness has not been fully demonstrated.

2. Trading cannot be applied uniformly nationwide; it is site-specific and local in nature.

3. Cause and effect water quality data, improved predictive modeling, and definitive information on nonpoint source control effectiveness are all crucial technical elements for trading.

4. Education and monitoring are both essential to the success of any trading program.

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[14] A summary of that conference, "Administrator's Point/Nonpoint Source Trading Initiative Meeting" (August 1992) is available from EPA.

Despite the formidable technical and administrative difficulties, EPA and NOAA continue to believe that trading offers some potential water quality benefits and will work to help state and local governments identify opportunities for beneficial trades and to implement such trades.

III.E. Technical Assistance

For program approval, state coastal nonpoint programs will be required to provide for technical and other assistance to local governments and the public for implementing the additional management measures (section 6217(b)(4)). This may include "assistance in developing ordinances and regulations, technical guidance, and modeling to predict and assess the effectiveness of such measures, training, financial incentives, demonstration projects, and other innovations to protect coastal water quality and designated uses." States are also encouraged to provide assistance to local governments and the public on the implementation of the (g) measures.

In order to tailor the type and scale of their technical assistance activities, states should identify those aspects of the program requiring implementation at the regional or local level and the situations where regional entities or localities may need additional expertise and/or experience. In designing the assistance program, NOAA and EPA expect that states will consult with regional and local governments regarding their concerns about implementation, and with the public about its needs and concerns. For certain management measures, training sessions and certification programs conducted by the state for regional and local officials may be appropriate. For others the financing of demonstration projects may be an effective means of enhancing implementation. NOAA and EPA will provide support to states in the implementation of this technical assistance, as requested.

The statute states that technical and other assistance shall be provided to the public as well as to local governments. The technical assistance to the public should include help in solving individual problems and information on how citizen groups can participate in the development and implementation of state programs (e.g., monitoring).

At a minimum, the state coastal nonpoint program should discuss the types of technical assistance that will be provided to support implementation of additional management measures for each of the major land use categories identified in a state's program. States should identify the agency that will provide the technical assistance, the intended recipients of the assistance, and a schedule of when such assistance will be available.

NOAA and EPA are committed to providing technical assistance to the states in the development and implementation of their coastal nonpoint programs. EPA has assembled a great deal of technical information during development of the (g) guidance,

and is continuing to add to this collection. This information will be available to the states in a variety of formats, including bibliographies and summaries, both in hard copy and by electronic bulletin board. NOAA and EPA will hold a series of national and regional meetings with state and local officials to discuss their technical assistance needs. Throughout the development and implementation of the coastal nonpoint programs, NOAA and EPA will maintain a dialogue with the states and will provide technical assistance whenever possible. NOAA and EPA will also work with other Federal agencies and will encourage them to use their expertise to assist the states in the development and implementation of the state programs.

III.F. Public Participation

For program approval, states must provide opportunities for public participation in all aspects of the program (section 6217(b)(5)). Congress intended the public to have the opportunity to be extensively involved in the development and implementation of the state coastal nonpoint programs, calling not only for public participation, but also for public education.

As an integral part of the coastal nonpoint program, the goals of the public involvement and education program should be defined by the state before it begins to develop its coastal nonpoint program. The public will need to be involved as early as possible in the development and implementation of the coastal nonpoint program, and the process should seek to promote and maintain the public's long-term commitment to the program. Each state must demonstrate that its coastal nonpoint program has undergone public review and comment prior to submittal to NOAA and EPA. Specifically, a state will need to demonstrate that it has provided opportunities for public comment prior to determining which management measures will be used, what enforceable policies and mechanisms should be employed to ensure implementation of the identified measures, the geographic scope of the coastal nonpoint program, the identification of land uses and critical coastal areas, and the selection and implementation of additional management measures. Depending on the type of threshold review a state selects, there may also need to be public participation as part of that process (see section IV.B.).

The public involvement and education program should include a schedule for initial public contact and education activities, and milestones for further involvement throughout the development and implementation of the coastal nonpoint program. These milestones will need to address public participation, particularly in the development phase, and public education, particularly in the implementation phase. The coastal nonpoint program should also describe how the state expects to fund the public involvement and education programs, including both program development and implementation activities (e.g., Federal funds, state and local funds, or the innovative use of private sector dollars).

As part of the public participation and education programs, states should describe how they will periodically evaluate the effectiveness of these programs.

Public education programs are expected to target several types of audiences, including those regulated or affected by the program (e.g., farmers, building contractors, and marina operators) and those that can assist with program implementation (e.g., conservation organizations and county extension agents). In the implementation phase of the coastal nonpoint program, volunteers may be a very valuable source of assistance. For example, Federal and state funds often are limited for water quality monitoring programs, but volunteers can help to fill the gap. While clearly supplemental to professional data collection, a number of states have successfully used volunteers in their programs. Although costs will be incurred for training volunteers and supporting staff time to coordinate the volunteer efforts, studies and reports demonstrate that volunteers can effectively provide accurate, useful long-term water quality monitoring data.

III.G. Administrative Coordination

For program approval, the coastal nonpoint program must include administrative coordination mechanisms (section 6217(b)(6)). At a minimum, the coastal nonpoint program must include a list of state, regional and local agencies that will play a role in developing and implementing the state nonpoint program. The list should describe the mission, structure and operation of the agencies as they relate to nonpoint source pollution control, and identify the specific role to be played by each agency in the coastal nonpoint program.

A variety of mechanisms can be used to improve coordination among the agencies involved in the coastal nonpoint program and to ensure that the various programs are fulfilling their responsibilities to implement the applicable provisions of the program. These mechanisms include, but are not limited to:

- Memoranda of Agreement/Understanding describing specific agency roles and points of coordination
- Joint permitting processes
- Formal interagency comments during other agencies' permitting processes
- Cross training of staff in other agencies' programs
- Temporary assignment of staff to other agencies, e.g., Intergovernmental Personnel Agreements

- Interagency task forces (e.g., those associated with national estuary programs)
- Interagency advisory committees
- Regularly scheduled interagency staff meetings
- State statutes/regulations describing expectations for interagency cooperation and coordination

The mechanisms selected to ensure coordination among participating agencies should be in place when the coastal nonpoint program is submitted to NOAA and EPA for review and approval. The coastal nonpoint program should also explain how the state will measure the effectiveness of program coordination and should provide a schedule for periodic evaluation and reporting of the results to NOAA and EPA.

NOAA and EPA will work with other Federal agencies at the national level to ensure their understanding and cooperation in the development of the coastal nonpoint programs. NOAA and EPA will also work to assist in resolving conflicts that may occur between states and Federal agencies during the development and implementation of the state coastal nonpoint program.

III.H. Enforceable Policies and Mechanisms

Section 306(d)(16) of the CZMA states that, "[b]efore approving a management program submitted by a coastal state, the Secretary shall find the following: ... [t]he management program contains enforceable policies and mechanisms to implement the applicable requirements of the Coastal Nonpoint Pollution Control Program of the State required by section 6217 of the Coastal Zone Act Reauthorization Amendments of 1990." The Act further provides that, "[e]ach State which submits a management program for approval under section 306 of the Coastal Zone Management Act of 1972, as amended by this subtitle (including a State which submitted a program before the date of enactment of this Act), shall demonstrate to the Secretary -- ... that the program complies with section 306(d)(16) of that Act by not later than 30 months after the date of publication of final guidance under section 6217(g) of this Act."

The statute includes a definition of "enforceable policy" in section 304(6a) of the CZMA: "[t]he term "enforceable policy" means State policies which are legally binding through constitutional provisions, laws, regulations, land use plans, ordinances, or judicial or administrative decisions, by which a State exerts control over private and public land and water uses and natural resources in the coastal zone."

NOAA interprets the term "applicable requirements" in section 306(d)(16) of the CZMA to include the implementation, at a minimum, of: (1) management measures in conformity with the guidance developed under section 6217(g) in order to protect coastal waters generally, and (2) such additional management measures applicable to land uses and critical areas identified in the program as are necessary to maintain or restore coastal water quality and protect designated uses.

States can design a coastal nonpoint program that uses a variety of effective regulatory and/or non-regulatory approaches in order to meet the requirement for enforceable policies and mechanisms. Non-regulatory approaches must be backed by enforceable state authority which ensures that the management measures will be implemented. States are expected to demonstrate that they have the authority to take enforcement actions where incentive or other programs do not result in implementation of management measures, or where significant harm to coastal waters is found or threatened. The selection and design of enforceable policies can be tailored to specific state or local circumstances. The approaches states choose should take into account the nature of the activity and existing institutions and authorities. States may also want to evaluate the costs and benefits of various approaches. States may include existing and/or new enforceable polices and mechanisms in their coastal nonpoint programs. Whatever enforceable policies and mechanisms a state uses, they must meet the threshold test in section 306(d)(16) of ensuring implementation of the applicable requirements, (e.g., management measures as described above).

Enforceable policies may be established through state, regional or local authorities. Where implementation occurs at the regional or local levels, the state must be able to exert or retain authority to ensure local implementation in accordance with the federally approved coastal nonpoint program.

As reflected in the section 6217(g) management measures guidance, a state may need to develop different approaches or requirements for new and existing sources. For example, the (g) guidance specifies separate management measures for the installation of new onsite disposal systems and for the operation of existing onsite disposal systems. States may want to consider these differences in designing enforceable policies and mechanisms for implementing the various management measures to restore and protect coastal waters.

To ensure the effective implementation of the enforceable policies and mechanisms, states should educate the public about the importance of the management measures and should provide technical assistance to local governments and the affected interests. While public education and technical assistance programs alone may not be used to fulfill the requirement for enforceable policies and mechanisms (except as noted below), these programs can enhance the success of both regulatory and non-regulatory programs.

Although the (g) guidance includes educational programs as practices under a number of management measures, only the measures for urban pollution prevention and marina public education require educational programs as part of the management measures itself. For these measures, a demonstration that the state will conduct educational activities will be adequate, and, therefore the state programs need not include enforceable policies and mechanisms for these two measures.

Similarly, the guidance contains management measures which call for the state to promote the restoration of wetlands and riparian areas, and the use of engineered vegetated treatment systems such as constructed wetlands or filter strips. A demonstration that the state will promote these efforts will be adequate to respond, and the state will not be required to include enforceable policies and mechanisms in its coastal nonpoint program for these two measures.

The next two subsections describe examples of the various approaches that a state might consider in developing enforceable policies and mechanisms. The presence in a state coastal nonpoint program of enforceable policies and mechanisms identical to the examples does not necessarily guarantee approval of these approaches because NOAA and EPA will need to evaluate a state's enforceable policies and mechanisms in the context of that state's complete coastal nonpoint program.

III.H.1. Regulatory approaches

One way to implement the requirement for enforceable policies and mechanisms in the coastal nonpoint program is the traditional regulatory approach. Examples of regulatory approaches include permit programs, local zoning, or direct requirements contained in state statutes.

Permit programs

If a state chooses a permitting approach, it has flexibility in the type of permits it uses: individual and general. An individual permit is written for a specific entity. For example, states and localities can issue individual permits for onsite sewage disposal systems prior to home construction. These permits can require implementation of the management measures related to the siting, design, installation, operation, inspection, and maintenance of new systems. These permits also may be renewed periodically to ensure that the system continues to operate properly and/or is pumped out at specified intervals. Implementation of the management measures for the operation of onsite sewage disposal systems can be accomplished through these permit renewals. Other types of individual permits such as coastal development, building, or grading permits can be used to ensure that a number of the urban management measures are implemented.

A state can also issue general permits for specific source categories. These permits prescribe management measures that must be adopted by all entities that meet the category definition. The state would conduct an education program to notify the targeted entities that they must comply with the conditions of the general permit. Individual permits may be issued or penalties imposed for non-compliance.

For example, a general permit can require farmers to adopt management measures for various facets of their operation: e.g., nutrient management, pesticide management, and livestock management. Farmers would choose site-specific management practices from technical guidance provided by the state.

In another example, general permits are currently allowed for certain storm water discharges under section 402(p), e.g., construction activities. Persons engaged in construction activities would have to undertake certain sediment and erosion control practices as conditions of a general permit. If recipients of a general permit fail to meet conditions of the permit by not adopting the management measures, they may face enforcement actions or could be required to apply for an individual permit containing more detailed management, reporting, and inspection requirements.

Local zoning

Many local governments already use zoning ordinances to set conditions on development. For example, local zoning ordinances may restrict the siting of marinas to protect sensitive areas such as shellfish beds, and could, therefore, be used to implement the management measures for marina siting. States could provide oversight of these local decisions by setting the standards by which the zoning ordinances are adopted and by retaining appeal of local decisions if they do not meet the state standards. In addition, local zoning may be an effective mechanism to implement additional management measures. For example, a state may direct local governments to adopt provisions restricting land uses in critical coastal areas to protect and restore water quality.

Direct state statutory requirements

A state may adopt laws that directly require or prohibit certain activities in certain areas as a way to implement some of the management measures. While not requiring a permit per se, state forest practices acts can require forest operators to maintain streamside management areas as part of their plans of operation. This mechanism could provide a way to implement a number of forestry management measures.

Enforcement of Regulatory Approaches

Enforcement under the regulatory approach could be triggered for failure to obtain or comply with a permit, zoning ordinance, or direct statutory requirement. Enforcement actions may include cease and desist orders, administrative orders, fines, or in certain cases, criminal penalties. Fines can be punitive or can be based on the economic benefit an entity gained from not implementing the management measures or the cost of restoring the environment from harm caused by the noncompliance. Enforcement may be triggered when inspections or monitoring programs show that operators are failing to implement the (g) measures or the additional management measures.

III.H.2. Non-regulatory approaches

Although regulatory approaches may be well suited for certain nonpoint sources, they may be difficult to design and implement for other sources. In addition, efforts to control some nonpoint sources historically have relied almost solely on non-regulatory programs. Accordingly, a state has the flexibility to employ economic incentive, disincentive, or innovative approaches to address these types of sources, provided that the state can ensure such approaches will result in the necessary implementation of the (g) management measures and additional management measures. States will have to include back-up enforcement authority for voluntary programs. Such back-up authority could include sunset provisions for incentive programs. For example, a state could provide that if too few operators participate in a tax incentive program, the state would develop additional incentives or mandatory requirements to achieve the necessary implementation of management measures.

Non-regulatory approaches may use financial mechanisms to encourage or discourage certain behaviors. State tax credits, tax deductions, tax rebates, cost-share programs, performance bonds, or loan programs are economic incentives that are often used to encourage changes in behavior. Economic disincentives include increased taxes, fees, or pricing structures. There are a variety of economic tools that states can use; however, each state should analyze the relative effectiveness of the tools in implementing the management measures before applying them in a given situation.

Economic incentives

State economic incentives can be used to provide financial support to guarantee implementation of some management measures. For example, as a condition of the receipt of state agricultural cost-share funds, farmers can be required to fully implement specific management measures (e.g., sediment and erosion control, nutrient management, pesticide management). Cost-share funds can also be used to ensure

that some of the forestry management measures are implemented (e.g., road construction/reconstruction, road management, revegetation of disturbed areas).

State tax credits, deductions, or rebates could be granted or pricing structures created to encourage the adoption of water efficiency measures to implement urban management measures for onsite disposal systems (e.g., marginal cost water pricing to encourage conservation of water, installation of low-flow plumbing fixtures). States could set up grant or low interest loan programs to help individuals finance capital expenditures associated with management measures such as replacing failing onsite disposal systems, installing animal waste controls, stabilizing eroding shorelines using vegetative methods, or constructing pumpout facilities for marinas.

Although economic incentive programs can be very effective in many cases, states should recognize their limitations. Incentive programs can be very expensive for a state to administer and implement, and state revenues will be required to support them. In addition, if such approaches are used alone, it may be difficult to establish the rate of cost-share or tax credits at a level that guarantees widespread adoption of the management measures. As a state raises the level of financial support, the costs of the incentive program will increase.

Economic disincentives

States can also develop economic disincentive programs to implement some management measures. Fees, taxes, or price increases on specific items can be used to reach the level specified in the management measures. For example, increased prices may be used to stimulate water conservation (or modifications to pricing structures that inadvertently encourage high consumption). Similarly, taxes or fees may be levied on products to discourage their inefficient use.

States also should recognize the limitations on the effectiveness of disincentive programs. The success of these approaches depends on the level of the tax or fee relative to the price of the good. If a tax or fee is too high, it may change behavior more than is necessary to meet the management measure. If a tax or fee is too low, it may not change behavior sufficiently to adequately implement the management measures. However, a fee could be supplemented by other approaches to meet the measure. Despite these limitations, the use of mechanisms such as taxes and fees has the advantage of generating program revenues.

Other innovative approaches

States also may use more innovative approaches to encourage management measure implementation. Trading of pollution control requirements among point and nonpoint

sources or among nonpoint sources may be a useful tool in implementing additional management measures to meet water quality standards in a particular waterbody. (See discussion in section III.D.6.)

States may require that performance bonds be posted before an entity engages in an activity requiring management measure implementation. For example, prior to authorizing a channelization project, a state could require a developer to post a bond to ensure that proper design and construction activities occur. When the developer complies with the practices, the bond will be returned. If not, the bond will be forfeited to the state. Bonds can also be used to ensure that proper operation and maintenance activities occur.

As mentioned earlier, states may enhance the success of these non-regulatory approaches through education programs. For example, as part of an existing pesticide applicators' licensing program, states may require that applicators be educated on management measures and appropriate practices and may require certification of course attendance.

In conclusion, NOAA and EPA expect that states will employ a range of approaches in crafting enforceable policies and mechanisms to implement the (g) management measures and additional management measures. A state coastal nonpoint program should indicate clearly what approaches and authorities the state will rely on to meet the requirement for enforceable policies and mechanisms and should describe how the approaches will ensure the necessary implementation of the management measures.

IV. PROGRAM SUBMISSION, APPROVAL AND IMPLEMENTATION

The legislative history of section 6217 states that "coastal nonpoint pollution control programs are not intended to supplant existing coastal zone management programs and nonpoint source management programs. Rather, they are to serve as an update and expansion of existing programs." Id. See also section 6217(a)(2). The legislative history indicates that the central purpose of section 6217 is to strengthen the links between Federal and state coastal zone management and water quality programs and to enhance state and local efforts to manage land use activities that degrade coastal waters and coastal habitats.

The sections below describe several aspects of the approval process. States may elect to undertake "threshold reviews" with NOAA and EPA. Under certain circumstances, NOAA and EPA may grant "conditional approvals" for state coastal nonpoint programs. The last step in the process is "final approval" by NOAA and EPA. When a state coastal nonpoint program receives final approval, it will automatically be incorporated into the state's coastal management and nonpoint source programs.

IV.A. Program Submission and NOAA/EPA Review

Within 30 months after the publication of EPA's (g) guidance, states must submit their coastal nonpoint programs to NOAA and EPA for approval. Appendix G contains a listing of the information that needs to be included in the state's submission.

The statute requires the Secretary of Commerce to make a determination whether the portions of the state's program under the Secretary's authority meet the requirements of section 6217, and likewise, the Administrator of the EPA must make a determination whether the portions under the Administrator's authority meet the requirements of section 6217. If both officials determine that the requirements of section 6217 have been met and each agency official concurs with the other's determination, then the program will be approved. As stated previously, NOAA and EPA have determined as a matter of policy that neither agency will approve a state's coastal nonpoint program until the program meets all the Federal approval requirements as determined by both agencies. NOAA and EPA (including both headquarters and regional offices) will coordinate their review of the coastal nonpoint program.

IV.B. Threshold Review

A state may request that NOAA and EPA conduct a threshold review of its proposed coastal nonpoint program. The threshold review is an initial review by NOAA and

EPA of a state's approach to specific elements of its coastal nonpoint program. The review would address key issues and decision points (e.g., identification of sources, geographic scope, alternative management measures) that a state may wish to discuss prior to drafting its coastal nonpoint program. The intent of this early review is twofold. First, the process would allow the state, NOAA and EPA to discuss the state's approach to certain program elements before the state invests substantial resources in program development. Second, it would help states set priorities and focus early on the final program, particularly on elements, such as enforceable policies and mechanisms, that may take time to adopt. Threshold reviews may take the form of informal consultations or a more formal process. The requirements for each type of review are discussed below.

Informal Review

The first type of threshold review would be an informal consultation between a state and NOAA and EPA. The informal threshold review should occur as early in the program development process as is practical.

A state would initiate the threshold review by developing a threshold review package that briefly describes how it expects to address the requirements for the coastal nonpoint program. NOAA and EPA will provide additional information for states to use in preparing for the threshold review.

NOAA and EPA will review the information and will work with the state coastal and nonpoint agencies to refine the state's approach, as necessary. Public participation in an informal threshold review is not required; however, states may decide to involve the public in some aspects of the process.

Formal Review

States may wish to undertake a more formal review of specific program elements prior to submitting their final program. NOAA and EPA may issue preliminary findings on the approvability of elements of the program. The purpose of these findings would be to increase the predictability of the final review process, although these findings would still be subject to the outcome of review of the program in its entirety.

As with the informal review, a more formal review is optional. However, if a state wishes to take advantage of this form of threshold review, it should submit, at a minimum, the following information: a description of the portion(s) of the coastal nonpoint program which the state wishes to have reviewed, an analysis of how that portion(s) meets the program requirements, the specific management measures addressed by that portion(s) of the program, a description of opportunities for public

review and comment, and to the extent possible, how that portion(s) would fit in with and relate to the remainder of the program.

Unlike the informal threshold review, the formal review process must include opportunities for public participation and review. Prior to seeking formal review, the state must provide a minimum period of 30 days in which the public is given the opportunity to review and comment upon all portions of the program being submitted to NOAA and EPA for their preliminary findings. The public notice for the review period must indicate that the state is seeking such findings from the Federal agencies on the specific portions of its coastal nonpoint program. It must also include a description of the submitted portions and how they address the 6217 requirements. NOAA and EPA also expect the state to consider any comments received prior to finalizing the submitted portion(s) of the program.

NOAA and EPA will review the submissions and determine, as a preliminary matter, whether they meet the specified program requirements. NOAA and EPA will provide the state with written preliminary findings. Elements that have received preliminary findings would still be subject to the final approval process, including public participation, as part of the state's submission of its final coastal nonpoint program.

IV.C. Conditional Approvals

States are expected to submit a coastal nonpoint pollution control program that meets all the requirements of section 6217 at the time of the statutory deadline for program submission. However, NOAA and EPA recognize that in limited situations, a state might submit a program for which all state enforceable policies and mechanisms necessary to implement the applicable program requirements are in place, but that will require further development of state, regional, or local authorities, or administrative mechanisms, to ensure close coordination with existing plans and programs as required by 6217(a)(2). In other cases, a state might have a substantial majority of the required state enforceable policies and mechanisms in place, but need additional time to develop other state enforceable policies and mechanisms to ensure implementation of all applicable program requirements.

In either situation, NOAA and EPA may elect to exercise their discretion and grant conditional approval of the state coastal nonpoint program. Final approval of the program would be conditioned upon the state's ability to demonstrate that all necessary enforceable policies and mechanisms are in place. It should be noted, however, that a conditional approval will not postpone the date by which NOAA and EPA expect full implementation of the (g) measures. As discussed in section IV.D. below, these measures are to be fully implemented within three years of the first Federal approval action regardless of whether that approval is final or conditional.

Conditional approval of the program will be granted only in situations where the state can demonstrate its ability to ensure adoption of the necessary regulations or local ordinances or obtain state authorities for the remaining portions of the program. NOAA and EPA will consider the following factors in evaluating a state's submittal for conditional approval:

- Scope and significance of nonpoint sources addressed and the geographic coverage for the enforceable policies and mechanisms already in place;
- Status of efforts to date to obtain the remaining enforceable policies and mechanisms;
- The state's plan and reasonable timetable for obtaining the remaining enforceable policies and mechanisms; and,
- The presence, in the submitted program, of enforceable policies and mechanisms for additional management measures to be implemented immediately to protect and improve coastal water quality.

In cases in which NOAA and EPA grant conditional approval of a state's program, the state and local enforceable policies or mechanisms necessary to satisfy the conditions will be required to be adopted within one year from the date of conditional approval. Under very limited circumstances, NOAA and EPA may grant a state an additional year to obtain the required enforceable policies and mechanisms. If the state is able to satisfy the conditions within the required period, final approval of the program will be granted. Conditional approval does not alter the program implementation schedule described in section IV.D. below.

If NOAA and EPA find that a state fails to submit an approvable program or fails to meet the conditions for full approval, both section 319 and section 306 funds will be withheld according to the schedule described below.

IV.D. Schedule for Program Implementation

NOAA and EPA expect states to fully implement management measures, including alternative measures in conformity with the measures specified in the (g) guidance, within three years of Federal approval of the program and to fully implement additional measures within eight years of that Federal approval.[15] That is, if state

[15] "Federal approval" as used in this section means the first Federal approval action, whether final or conditional. For states receiving conditional approval, the implementation schedule begins to run at the time that conditional, rather than final, approval is granted.

programs are submitted in July, 1995 and approved by NOAA and EPA in January, 1996, the (g) measures must be fully implemented by January, 1999 and the additional measures by January, 2004. The period for implementation of additional measures includes a two year period for evaluating the implementation of the (g) measures and a three year period for implementing the additional management measures.

Under the statute, the purpose of the states' coastal nonpoint programs is to protect and restore coastal waters. This purpose is advanced by establishing a schedule that requires management measure implementation as soon as possible. In addition, NOAA and EPA believe that states should begin implementing certain additional management measures at the time of program approval to ensure that the statutory goal of attaining and maintaining coastal water quality standards is achieved. However, it is recognized that it may be necessary to defer implementation of other additional management measures until the (g) measures are in place and their effectiveness is monitored. The statute also requires continuing revision of the additional management measures to ensure that water quality standards are met.

For new sources, NOAA and EPA interpret full implementation to mean that new sources within each identified nonpoint source category or subcategory would be subject to the management measures at the time of Federal approval. Full implementation of management measures for existing sources (e.g., existing agricultural operations or existing urban development) means that each identified category and subcategory of existing sources is expected to implement the management measures to which they are subject not later than three years after Federal approval.

The state coastal nonpoint program should include milestones established at appropriate intervals within the three year implementation period, by which progress toward full implementation can be assessed in terms of management measures in place and water quality protection achieved. This schedule should ensure that sources having the most significant impact on coastal waters are addressed first. NOAA and EPA will monitor progress of state implementation as part of program and grant reporting requirements under section 319 of the CWA, section 306 of the CZMA, and regular program evaluations under section 312 of the CZMA. States not making satisfactory progress in meeting their milestones may be subject to loss of funds awarded under section 319, as well as to sanctions imposed under section 312 of the CZMA.

State coastal nonpoint programs must also include a schedule and milestones for implementation of additional measures. Implementation of additional management measures for critical areas and for those land uses (sources) for which state authorities already require management measures in conformity with the (g) management

measures but where coastal water quality is still threatened or impaired, should begin at the time of Federal approval.

IV.E. Program Approval Standards, Implementation and Penalties

Both EPA and NOAA will base their review of a state's coastal nonpoint program on whether the state has met the requirements of the statute. NOAA and EPA will perform their review consistent with the interpretation set forth in this guidance. NOAA and EPA will consult with the states during the six month review period above. The states will have an opportunity to amend their submission, if necessary, subject to the public participation requirements and time constraints.

If either NOAA or EPA determines that a state has failed to submit an approvable coastal nonpoint program, the relevant penalties will be levied both on section 306 coastal management grants and section 319 nonpoint source grants. The penalties start at 10% in fiscal year 1996, and increase to 15% in FY 1997, 20% in FY 1998, and 30% in FY 1999 and each fiscal year thereafter. In the case of the coastal zone management program, the penalty is based upon the grants otherwise available to a state in the current fiscal year. In the case of the section 319 nonpoint source management program, the penalty is based on the grant amount awarded to the state for the preceding fiscal year. Given the joint approval process, no state will experience penalties to only one program. Funds withheld by NOAA and EPA will be made available to states with approved coastal nonpoint programs.

APPENDICES

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APPENDIX A: Section 6217 of the Coastal Zone Act Reauthorization Amendments of 1990

P.L. 101-508

SEC. 6217. PROTECTING COASTAL WATERS.

(a) IN GENERAL.–

(1) PROGRAM DEVELOPMENT.–Not later than 30 months after the date of the publication of final guidance under subsection (g), each State for which a management program has been approved pursuant to section 306 of the Coastal Zone Management Act of 1972 shall prepare and submit to the Secretary and the Administrator a Coastal Nonpoint Pollution Control Program for approval pursuant to this section. The purpose of the program shall be to develop and implement management measures for nonpoint source pollution to restore and protect coastal waters, working in close conjunction with other State and local authorities.

(2) PROGRAM COORDINATION.–A State program under this section shall be coordinated closely with State and local water quality plans and programs developed pursuant to sections 208, 303, 319, and 320 of the Federal Water Pollution Control Act (33 U.S.C. 1288, 1313, 1329, and 1330) and with State plans developed pursuant to the Coastal Zone Management Act of 1972, as amended by this Act. The program shall serve as an update and expansion of the State nonpoint source management program developed under section 319 of the Federal Water Pollution Control Act, as the program under that section relates to land and water uses affecting coastal waters.

(b) PROGRAM CONTENTS.–Each State program under this section shall provide for the implementation, at a minimum, of management measures in conformity with the guidance published under subsection (g), to protect coastal waters generally, and shall also contain the following:

(1) IDENTIFYING LAND USES.–The identification of, and a continuing process for identifying, land uses which, individually or cumulatively, may cause or contribute significantly to a degradation of–

(A) those coastal waters where there is a failure to attain or maintain applicable water quality standards or protect designated uses, as determined by the State pursuant to its water quality planning processes; or

(B) those coastal waters that are threatened by reasonably foreseeable increases in pollution loadings from new or expanding sources.

(2) IDENTIFYING CRITICAL COASTAL AREAS.–The identification of, and a continuing process for identifying, critical coastal areas adjacent to coastal waters referred to in paragraph (1)(A) and (B), within which any new land uses or substantial expansion of existing land uses shall be subject to management measures in addition to those provided for in subsection (g).

(3) MANAGEMENT MEASURES.–The implementation and continuing revision from time to time of additional management measures applicable to the land uses

and areas identified pursuant to paragraphs (1) and (2) that are necessary to achieve and maintain applicable water quality standards under section 303 of the Federal Water Pollution Control Act (33 U.S.C. 1313) and protect designated uses.

(4) TECHNICAL ASSISTANCE.–The provision of technical and other assistance to local governments and the public for implementing the measures referred to in paragraph (3), which may include assistance in developing ordinances and regulations, technical guidance, and modeling to predict and assess the effectiveness of such measures, training, financial incentives, demonstration projects, and other innovations to protect coastal water quality and designated uses.

(5) PUBLIC PARTICIPATION.–Opportunities for public participation in all aspects of the program, including the use of public notices and opportunities for comment, nomination procedures, public hearings, technical and financial assistance, public education, and other means.

(6) ADMINISTRATIVE COORDINATION.–The establishment of mechanisms to improve coordination among State agencies and between State and local officials responsible for land use programs and permitting, water quality permitting and enforcement, habitat protection, and public health and safety, through the use of joint project review, memoranda of agreement, or other mechanisms.

(7) STATE COASTAL ZONE BOUNDARY MODIFICATION.–A proposal to modify the boundaries of the State coastal zone as the coastal management agency of the State determines is necessary to implement the recommendations made pursuant to subsection (e). If the coastal management agency does not have the authority to modify such boundaries, the program shall include recommendations for such modifications to the appropriate State authority.

(c) PROGRAM SUBMISSION, APPROVAL, AND IMPLEMENTATION.–

(1) REVIEW AND APPROVAL.–Within 6 months after the date of submission by a State of a program pursuant to this section, the Secretary and the Administrator shall jointly review the program. The program shall be approved if–

(A) the Secretary determines that the portions of the program under the authority of the Secretary meet the requirements of this section and the Administrator concurs with that determination; and

(B) the Administrator determines that the portions of the program under the authority of the Administrator meet the requirements of this section and the Secretary concurs with that determination.

(2) IMPLEMENTATION OF APPROVED PROGRAM.–If the program of a State is approved in accordance with paragraph (1), the State shall implement the program, including the management measures included in the program pursuant to subsection (b), through–

(A) changes to the State plan for control of nonpoint source pollution approved under section 319 of the Federal Water Pollution Control Act; and

(B) changes to the State coastal zone management program developed under section 306 of the Coastal Zone Management Act of 1972, as amended by this Act.

(3) WITHHOLDING COASTAL MANAGEMENT ASSISTANCE.–If the Secretary finds that a coastal State has failed to submit an approvable program as required by this section, the Secretary shall withhold for each fiscal year until such

a program is submitted a portion of grants otherwise available to the State for the fiscal year under section 306 of the Coastal Zone Management Act of 1972, as follows:

(A) 10 percent for fiscal year 1996.
(B) 15 percent for fiscal year 1997.
(C) 20 percent for fiscal year 1998.
(D) 30 percent for fiscal year 1999 and each fiscal year thereafter.

The Secretary shall make amounts withheld under this paragraph available to coastal States having programs approved under this section.

(4) WITHHOLDING WATER POLLUTION CONTROL ASSISTANCE.–If the Administrator finds that a coastal State has failed to submit an approvable program as required by this section, the Administrator shall withhold from grants available to the State under section 319 of the Federal Water Pollution Control Act, for each fiscal year until such a program is submitted, an amount equal to a percentage of the grants awarded to the State for the preceding fiscal year under that section, as follows:

(A) For fiscal year 1996, 10 percent of the amount awarded for fiscal year 1995.
(B) For fiscal year 1997, 15 percent of the amount awarded for fiscal year 1996.
(C) For fiscal year 1998, 20 percent of the amount awarded for fiscal year 1997.
(D) For fiscal year 1999 and each fiscal year thereafter, 30 percent of the amount awarded for fiscal year 1998 or other preceding fiscal year.

The Administrator shall make amounts withheld under this paragraph available to States having programs approved pursuant to this subsection.

(d) TECHNICAL ASSISTANCE.–The Secretary and the Administrator shall provide technical assistance to coastal States and local governments in developing and implementing programs under this section. Such assistance shall include–

(1) methods for assessing water quality impacts associated with coastal land uses;

(2) methods for assessing the cumulative water quality effects of coastal development;

(3) maintaining and from time to time revising an inventory of model ordinances, and providing other assistance to coastal States and local governments in identifying, developing, and implementing pollution control measures; and

(4) methods to predict and assess the effects of coastal land use management measures on coastal water quality and designated uses.

(e) INLAND COASTAL ZONE BOUNDARIES.–

(1) REVIEW.–The Secretary, in consultation with the Administrator of the Environmental Protection Agency, shall, within 18 months after the effective date of this title, review the inland coastal zone boundary of each coastal State program which has been approved or is proposed for approval under section 306 of the Coastal Zone Management Act of 1972, and evaluate whether the State's coastal zone boundary extends inland to the extent necessary to control the land and water uses that have a significant impact on coastal waters of the State.

(2) RECOMMENDATION.–If the Secretary, in consultation with the

Administrator, finds that modifications to the inland boundaries of a State's coastal zone are necessary for that State to more effectively manage land and water uses to protect coastal waters, the Secretary, in consultation with the Administrator, shall recommend appropriate modifications in writing to the affected State.

(f) FINANCIAL ASSISTANCE.–

(1) IN GENERAL.–Upon request of a State having a program approved under section 306 of the Coastal Zone Management Act of 1972, the Secretary, in consultation with the Administrator, may provide grants to the State for use for developing a State program under this section.

(2) AMOUNT.–The total amount of grants to a State under this subsection shall not exceed 50 percent of the total cost to the State of developing a program under this section.

(3) STATE SHARE.–The State share of the cost of an activity carried out with a grant under this subsection shall be paid from amounts from non-Federal sources.

(4) ALLOCATION.–Amounts available for grants under this subsection shall be allocated among States in accordance with regulations issued pursuant to section 306(c) of the Coastal Zone Management Act of 1972, except that the Secretary may use not more than 25 percent of amounts available for such grants to assist States which the Secretary, in consultation with the Administrator, determines are making exemplary progress in preparing a State program under this section or have extreme needs with respect to coastal water quality.

(g) GUIDANCE FOR COASTAL NONPOINT SOURCE POLLUTION CONTROL.–

(1) IN GENERAL.–The Administrator, in consultation with the Secretary and the Director of the United States Fish and Wildlife Service and other Federal agencies, shall publish (and periodically revise thereafter) guidance for specifying management measures for sources of nonpoint pollution in coastal waters.

(2) CONTENT.–Guidance under this subsection shall include, at a minimum-

(A) a description of a range of methods, measures, or practices, including structural and nonstructural controls and operation and maintenance procedures, that constitute each measure;

(B) a description of the categories and subcategories of activities and locations for which each measure may be suitable;

(C) an identification of the individual pollutants or categories or classes of pollutants that may be controlled by the measures and the water quality effects of the measures;

(D) quantitative estimates of the pollution reduction effects and costs of the measures;

(E) a description of the factors which should be taken into account in adapting the measures to specific sites or locations; and

(F) any necessary monitoring techniques to accompany the measures to assess over time the success of the measures in reducing pollution loads and improving water quality.

(3) PUBLICATION.–The Administrator, in consultation with the Secretary, shall publish–

(A) proposed guidance pursuant to this subsection not later than 6 months after the date of the enactment of this Act; and

(B) final guidance pursuant to this subsection not later than 18 months after such effective date.

(4) NOTICE AND COMMENT.–The Administrator shall provide to coastal States and other interested persons an opportunity to provide written comments on proposed guidance under this subsection.

(5) MANAGEMENT MEASURES.–For purposes of this subsection, the term "management measures" means economically achievable measures for the control of the addition of pollutants from existing and new categories and classes of nonpoint sources of pollution, which reflect the greatest degree of pollutant reduction achievable through the application of the best available nonpoint pollution control practices, technologies, processes, siting criteria, operating methods, or other alternatives.

(h) AUTHORIZATIONS OF APPROPRIATIONS.–

(1) ADMINISTRATOR.–There is authorized to be appropriated to the Administrator for use for carrying out this section not more than $1,000,000 for each of fiscal years 1992, 1993, and 1994.

(2) SECRETARY.–(A) Of amounts appropriated to the Secretary for a fiscal year under section 318(a)(4) of the Coastal Zone Management Act of 1972, as amended by this Act, not more than $1,000,000 shall be available for use by the Secretary for carrying out this section for that fiscal year, other than for providing in the form of grants under subsection (f).

(B) There is authorized to be appropriated to the Secretary for use for providing in the form of grants under subsection (f) not more than-

(i) $6,000,000 for fiscal year 1992;

(ii) $12,000,000 for fiscal year 1993;

(iii) $12,000,000 for fiscal year 1994; and

(iv) $12,000,000 for fiscal year 1995.

(i) DEFINITIONS.–In this section–

(1) the term "Administrator" means the Administrator of the Environmental Protection Agency;

(2) the term "coastal State" has the meaning given the term "coastal state" under section 304 of the Coastal Zone Management Act of 1972 (16 U.S.C. 1453);

(3) each of the terms "coastal waters", and "coastal zone" has the meaning that term has in the Coastal Management Act of 1972;

(4) the term' "coastal management agency" means a State agency designated pursuant to section 306(d)(6) of the Coastal Zone Management Act of 1972;

(5) the term "land use" includes a use of waters adjacent to coastal waters; and

(6) the term "Secretary" means the Secretary of Commerce.

APPENDIX B: National Pollutant Discharge Elimination System

A. Urban Runoff

Historically, there have always been overlaps and ambiguity between programs designed to control urban runoff nonpoint sources and those designed to control urban stormwater point sources. For example, runoff may often originate as a nonpoint source but ultimately be channelized and become a point source. Two statutory requirements have resulted in additional confusion about program applicability. Section 402(p) of the Clean Water Act, establishes permit requirements for certain municipal and industrial storm water discharges, and Section 6217 of CZARA, which requires EPA to promulgate and States to implement management measures to control nonpoint pollution in coastal waters. The discussion below is intended to clarify the relationship between these two programs and describe the scope and applicability of the coastal nonpoint program to urban runoff in coastal areas.

B. The Storm Water Permit Program

The storm water permits program is a two-phased program enacted by Congress in 1987 under section 402(p) of the Clean Water Act. Under Phase I, National Pollutant Discharge Elimination System (NPDES) permits are required to be issued for municipal separate storm sewers serving large or medium-sized populations (greater than 250,000 or 100,000 people, respectively), and for storm water discharges associated with industrial activity. Permits are also to be issued, on a case-by-case basis, if EPA or a State determines that a storm water discharge contributes to a violation of a water quality standard or is a significant contributor of pollutants to waters of the United States. EPA published a rule implementing Phase I on November 16, 1990.

Under Phase II, EPA is to prepare two reports to Congress which assess remaining storm water discharges; determine, to the maximum extent practicable, the nature and extent of pollutants in such discharges; and establish procedures and methods to control storm water discharges to the extent necessary to mitigate impacts on water quality. Then, EPA is to issue regulations which designate storm water discharges, in addition to those addressed in Phase I, to be regulated to protect water quality, and EPA is to establish a comprehensive program to regulate those designated sources. The program is required to establish (A) priorities, (B) requirements for State storm water management programs, and (C) expeditious deadlines.

These regulations were to have been issued by EPA not later than October 1, 1992. However, due to the numerous discharges to be covered by the studies and regulations, EPA has not yet issued these regulations.

C. Scope of Urban Runoff in Coastal Nonpoint Pollution Control Programs

As discussed above, Congress enacted section 6217 of CZARA in late 1990 to require that States develop coastal nonpoint pollution control programs that are in conformity with the management measures guidance published by EPA. Although EPA's management measures guidance includes measures to address certain urban runoff, EPA is excluding from coverage under this Section 6217(g) guidance all storm water discharges that are covered by Phase I of the NPDES storm water permit program. Thus EPA is excluding any discharge from a municipal separate storm sewer systems serving a population of 100,000 or more; any point source discharge associated with a permitted industrial activity; any discharge which has already been permitted; and any discharge for which EPA or the State makes a determination that the storm water discharge contributes to a violation of a water quality standard or is a significant contributor of pollutants to waters of the United States. All of these activities are clearly addressed by the storm water permit program and thus are excluded from the coastal nonpoint pollution control program.

EPA is adopting a different approach with respect to other (non-Phase I) storm water discharges. At present, EPA has not yet promulgated its regulations that would designate additional storm water discharges, beyond those regulated in Phase I, that will be required to be regulated in Phase II. It is thus not possible to determine at this point which additional storm water discharges may be regulated by the NPDES program and which will not. Furthermore, due to the great number of such discharges, it is likely that it would take many years to permit all of these discharges, even if EPA allows for relatively expeditious State permitting approaches such as the use of general permits.

Therefore, to give effect to Congressional intent that coastal waters receive special and expeditious attention from EPA, NOAA, and the States, discharges that potentially may be ultimately covered by Phase II of the storm water permits program are covered by the management measures guidance and will be addressed by the coastal nonpoint pollution control programs. Any storm water discharge that ultimately is issued an NPDES permit will become exempt from this guidance and from the coastal nonpoint pollution control program at the time that the permit is issued.

In addition, we note that some other activities are exempt from the NPDES permit requirements and thus are covered by the coastal nonpoint pollution control program. Most important, construction activities on sites less than five acres, which are not currently covered by the NPDES Phase I stormwater application requirements, are covered by the coastal nonpoint pollution control program.[1] Similarly, discharges from wholesale, retail, service or commercial activities, including gas stations, which are not covered by Phase I of the NPDES stormwater program, are covered instead by the

[1] The provision exempting construction activities on sites less than five acres from the NPDES permit requirements is currently being reviewed by EPA in response to a recent court decision.

coastal nonpoint pollution control program. Further, on-site disposal systems, which are generally not covered by the stormwater permit program, are covered by the coastal nonpoint pollution control program.

Finally, EPA emphasizes that while different legal authorities may apply to different situations, the goals of the NPDES and CZARA programs are complementary. Many of the techniques and practices used to control urban runoff are equally applicable to both programs. Yet, the programs do not work identically. In the interest of consistency and comprehensiveness, States have the option to implement the CZARA section 6217(g) management measures throughout the State's coastal zone, including Phase I stormwater areas, as long as the NPDES requirements are met for areas subject to NPDES requirements. In general, States are encouraged to develop consistent approaches to addressing urban runoff throughout their coastal zones.

D. Marinas

Another specific overlap between the stormwater program and this coastal nonpoint source program occurs in the case of marinas. EPA intends that the management measures guidance for marinas and recreational boating apply only to sources that are not currently required to apply for and receive an NPDES permit. In the (g) guidance, EPA has attempted to avoid addressing marina activities that are clearly regulated point source discharges. Any stormwater discharge that is ultimately issued an NPDES permit will become exempt from this guidance and from the coastal nonpoint pollution control program at the time that the permit is issued.

Marinas contributing stormwater runoff to municipal sewer systems serving a population of 100,000 or more are a part of the municipal NPDES permit and are not covered by the coastal nonpoint source program. Marinas are also required to obtain permits for those portions of the marina that are involved in vehicle maintenance (including vehicle rehabilitation, mechanical repairs, painting, fueling, and lubrication) and equipment cleaning operations. However, many marinas are not currently required to apply for and receive NPDES permits. The (g) management measures are applicable to marinas and the parts of marinas that are not required to apply for NPDES permits.

E. Other Point Sources

Overlapping areas between the point source and nonpoint source programs occur in addition to storm water and marinas. For example, concentrated animal feeding operations that meet particular size or other criteria are defined and regulated as point sources under the section 402 permit program, while other confined animal feeding operations are not currently regulated as point sources. Overlaps may occur with respect to aspects of mining operations, oil and gas extraction, land disposal, and other activities.

EPA intends that the coastal nonpoint pollution control programs to be developed by the States apply only to sources that are not currently required to apply for and receive an NPDES permit, and that the management measures similarly apply only to sources that are not required to apply for and receive an NPDES permit. In the (g) guidance, EPA has attempted to avoid addressing activities that are regulated point source discharges.

APPENDIX C: List of Section 6217(g) Management Measures

Management Measures for Agriculture Sources

Erosion and Sediment Control Management Measure

Management Measure for Facility Wastewater and Runoff from Confined Animal Facility Management (Large Units)

Management Measure for Facility Wastewater and Runoff from Confined Animal Facility Management (Small Units)

Nutrient Management Measure

Pesticide Management Measure

Grazing Management Measure

Irrigation Water Management

Management Measures for Forestry

Preharvest Planning Management Measure

Streamside Management Areas (SMAs)

Road Construction/Reconstruction Management Measure

Road Management

Timber Harvesting

Site Preparation and Forest Regeneration Management Measure

Fire Management

Revegetation of Disturbed Areas

Forest Chemical Management

Wetlands Forest

Management Measures for Urban Areas

New Development Management Measures

Watershed Protection Management Measure

Site Development Management Measure

Construction Site Erosion and Sediment Control Management Measure

Construction Site Chemical Control Management Measure

Existing Development Management Measure

New Onsite Disposal Systems Management Measure

Operating Onsite Disposal Systems Management Measure

Pollution Prevention Management Measure

Management Measure for Planning, Siting and Developing Roads and Highways

Management Measure for Bridges

Management Measure for Construction Projects

Management Measure for Construction Site Chemical Control

Management Measure for Operation and Maintenance

Management Measure for Road, Highway, and Bridge Runoff Systems

Management Measures for Marinas and Recreational Boating

Marina Flushing Management Measure

Water Quality Assessment Management Measure

Habitat Assessment Management Measure

Shoreline Stabilization Management Measure

Storm Water Runoff Management Measure

Fueling Station Design Management Measure

Sewage Facility Management Measure

Solid Waste Management Measure

Fish Waste Management Measure

Liquid Material Management Measure

Petroleum Control Management Measure

Boat Cleaning Management Measure

Public Education Management Measure

Maintenance of Sewage Facilities Management Measure

Boat Operation Management Measure

Management Measures for Hydromodification: Channelization and Channel Modification, Dams, and Streambanks and Shoreline Erosion

Management Measure for Physical and Chemical Characteristics of Surface Waters

Instream and Riparian Habitat Restoration Management Measure

Management Measure for Erosion and Sediment Control

Management Measure for Chemical and Pollutant Control

Management Measure for Protection of Surface Water Quality and Instream and Riparian Habitat

Management Measure for Eroding Streambanks and Shorelines

Management Measures for Wetlands, Riparian Areas, and Vegetated Treatment Systems

Management Measure for Protection of Wetlands and Riparian Areas

Management Measure for Restoration of Wetland and Riparian Areas

Management Measure for Vegetated Treatment Systems

APPENDIX D: List of States and Territories with Approved Coastal Zone Management Programs

ALABAMA	NEW HAMPSHIRE
ALASKA	NEW JERSEY
AMERICAN SAMOA	NEW YORK
CALIFORNIA	NORTH CAROLINA
CONNECTICUT	NORTHERN MARIANA ISLANDS
DELAWARE	OREGON
FLORIDA	PENNSYLVANIA
GUAM	PUERTO RICO
HAWAII	RHODE ISLAND
LOUISIANA	SOUTH CAROLINA
MAINE	VIRGIN ISLANDS
MARYLAND	VIRGINIA
MASSACHUSETTS	WASHINGTON
MICHIGAN	WISCONSIN
MISSISSIPPI	

APPENDIX E: Overview of Existing National Efforts to Control Nonpoint Source Pollution

Section III.G of this document describes the statutory requirement for administrative coordination. It also describes EPA's and NOAA's expectation that state coastal nonpoint source programs build on and complement, rather than duplicate and conflict with, other Federal statutory requirements and state-implemented programs. The following section describes several existing and on-going efforts to control nonpoint source pollution. State coastal zone and nonpoint source agencies are encouraged to work with these programs in implementing their coastal nonpoint programs.

EPA Programs

1. Clean Water Act Section 319 - Nonpoint Source Program

A number of local, state and Federal programs have been implemented over time to address nonpoint source pollution. However, the first national program to authorize Federal funding for the control of nonpoint sources began in 1987 when Congress passed the Water Quality Act of 1987, enacting section 319 of the Clean Water Act, which established a national program to control nonpoint sources of water pollution. Section 319 requires that, in order to be eligible for federal funding, states develop an assessment report detailing the extent of nonpoint pollution, and a management program specifying nonpoint source controls. Section 319 authorizes EPA to issue grants to states to assist them in implementing their nonpoint source management programs or portions of management programs that have been approved by EPA.

As of August 1992, all states and territories had approved nonpoint source assessments and management programs or portions of management programs. Congress appropriated $40 million in section 319 FY 1990 and $51 million in FY 1991 funds to assist States in implementing their management program.

2. Clean Water Act Section 320 - National Estuary Program

EPA also administers the National Estuary Program under section 320 of the Clean Water Act. This program focuses on point and nonpoint pollution in geographically targeted, high-priority estuarine waters. Under this program, EPA assists state, regional and local governments in developing estuary-specific comprehensive conservation and management plans that recommend corrective actions to restore and maintain estuarine water quality and to protect fish populations and other designated uses of these targeted waters. To date, seventeen estuaries have been designated as part of the National Estuary Program.

3. Near Coastal Waters Program

The Near Coastal Waters (NCW) Program serves as a primary vehicle for implementing environmental protection in coastal areas under a variety of programs and authorities. It is also the framework for coastal regions for carrying out Agency directives, strategic themes, and other initiatives not specifically related to distinct program issues. Examples of these cross-cutting themes include geographic targeting for management attention; pollution prevention; and setting priorities based on the expected efficacy of preventive measures as well as the magnitude of ecological or human health risks. Specific objectives include:

- directing and focusing EPA's coastal activities within priority geographic areas;
- promoting linkages among programs;
- encouraging a comprehensive approach to problem assessment and management; and
- maximizing environmental results.

The NCW Program is implemented through two basic components: specific national activities which provide direction, support, and oversight; and Regional development of NCW Strategies that serve to implement the Program within EPA's Regions and that are carried out through activities described in annual work-plans.

4. Ground Water Protection Programs

EPA has a number of programs, in addition to section 319, to control nonpoint source pollution of ground water. Since at least 1984, ground water protection programs have provided technical and financial assistance to states for the development of state ground-water strategies and, more recently, Ground Water Protection Programs. Under the Safe Drinking Water Act, EPA may designate sole source aquifers. These are aquifers that are the sole or principal of drinking water source for an area. At EPA's discretion, no commitment for federal funds can be made for projects that will contaminate these aquifers. In addition, the 1986 amendments to the Safe Drinking Water Act established a Wellhead Protection program. This program was created to protect ground waters that supply wells and wellfields that contribute to public drinking water supply systems. USDA and EPA are also cooperating under a program to assess private drinking water wells on farmsteads.

5. Pesticides Program

EPA's pesticides program under the Federal Insecticide, Fungicide, and Rodenticide Act addresses some forms of nonpoint pollution. Among other things, this statute authorizes EPA to control pesticides that may threaten ground water and surface waters. In determining the appropriate regulatory approach for specific pesticides, EPA uses the following step-by-step approach:

1) EPA determines the pesticide's potential for leaching into ground and surface water; 2) if there is such potential, EPA considers whether establishing national label restrictions (enforceable under FIFRA) would adequately address leaching concerns (included in these restrictions can be classification of the pesticide as "restricted-use," which requires application by a trained, certified applicator; requirements for certain methods of application, safe handling, storage, and disposal; etc); 3) if these restrictions are not adequate to address the potential problem, EPA will determine whether providing states with the opportunity to develop Pesticide State Management Plans for the chemical will effectively address the unreasonable risk from pesticide contamination. In the event that Pesticide State Management Plans could not sufficiently reduce the risks to human health and the environment (i.e., an unreasonable risk remains), then EPA would resort to national cancellation of the pesticide.

Pesticide State Management Plans will be developed by state agriculture, water/environment, and health agencies and will prescribe pesticide application measures to protect ground water that is vulnerable to pesticide contamination. Required components of these Plans will include: state philosophy and goals, state roles and responsibilities, legal authority, resources, assessment and planning, monitoring, prevention, response, enforcement, public awareness and participation, information dissemination, and records and reporting.

Since areas to be managed under State Pesticides Management programs and coastal nonpoint programs may overlap in developing the coastal nonpoint programs' management measures for agricultural pesticides, state coastal zone and nonpoint source agencies should work with the State Lead Agency for Pesticides (or the state agency that has a lead role in developing and implementing the State Management Plan). Such coordination is necessary to ensure that program efforts and pesticide management measures and practices to protect ground and surface water, complement and are not in conflict with the pesticide label and with requirements in the Pesticide State Management Plans. (For instance, if a Pesticide State Management Plan prescribes a moratorium on pesticide use in one are, the coastal nonpoint program should not allow pesticide use in that area). In states where Pesticide State Management Plans have not been developed, planning efforts for the two programs should be closely coordinated.

6. Wetlands Protection Program

EPA's wetlands program also has undertaken a number of projects to increase awareness of the relationship between the protection and restoration of wetlands and nonpoint source control. In 1990, the agency developed guidance to encourage coordination of nonpoint sources and wetlands programs, both within EPA and the states, to attain water quality goals shared by the two programs. In addition, EPA has released guidance on how to ensure effective application of water quality standards to wetlands. Projects in this area include:

Efforts with other Federal Agencies: The Wetlands Division is working with several agencies to develop methods and transfer information on protecting and restoring wetlands in ways which can be expected to provide nonpoint source abatement benefits:

- The Wetlands Division is working with members of the Interagency Task Force on Floodplain Management and the Association of State Floodplain Managers to better protect and enhance the natural and beneficial values of the Nation's floodplain by promoting the concept of comprehensive or multi-objective river corridor management. Managing river corridors for multiple uses provides the opportunity for communities to simultaneously address nonpoint source pollution, water quality, flooding, recreation, habitat and any number of needs and challenges.

- The Wetlands Division is initiating a pilot project with USDA, the Fish and Wildlife Service, and non-profit groups to encourage landowner participation in USDA's Wetland Reserve Program. By working cooperatively, these groups will help landowners identify wetland restoration sites that will improve water quality as well as enhance other wetland values.

Development of technical and outreach materials: The Wetlands Division has worked with a number of other EPA offices and regions to develop materials that can increase awareness of the important role wetlands play in improving water quality.

- Publications include: "Livestock Grazing on Western Riparian Areas"; "Summary of Section 319(h) Wetlands and Riparian Projects for Fiscal Years 1990 and 1991"; and "Beyond the Estuary: The Importance of Upstream Wetlands to Estuarine Processes" which focuses on the beneficial effects that upstream wetlands have on the downstream water quality in estuaries.

- EPA has released technical guidance to States on how to ensure effective application of water quality standards to wetlands. The development of standards provides the foundation of a broad range of water quality management activities including, but not limited to, monitoring under Section 305(b), permitting under

Sections 402 and 404, water quality certification under Section 401, and control of nonpoint pollution under Section 319.

- The Wetlands Division is developing a manual on best management practices to protect wetlands from excessive stormwater runoff and to avoid overloading their water quality improvement functions.

Criteria to address nonpoint source pollution: EPA is providing support for the development of criteria to address the many types of nonpoint source pollutants including nutrients, clean sediment, and organic contaminants (e.g., pesticides). The Wetlands Division is assisting in the development of wildlife criteria applicable to all waterbody types and biological criteria for wetlands.

Wetlands Regional Contacts: For more information regarding regional or state initiatives, contact the EPA regional wetlands coordinator.

Region I	(617) 565-4422
Region II	(212) 264-5170
Region III	(215) 597-9302
Region IV	(404) 347-2126
Region V	(312) 886-0243
Region VI	(214) 655-2263
Region VII	(913) 551-7573
Region VIII	(303) 293-1570
Region IX	(415) 744-1971
Region X	(206) 553-1412

NOAA Programs

Coastal Zone Management Program

The Coastal Zone Management Act of 1972 established a program for states and territories to voluntarily develop comprehensive programs to protect and manage coastal resources. In order to receive Federal approval and implementation funding, states and territories must demonstrate that they have programs, including enforceable policies that are sufficiently comprehensive and specific to regulate land uses, water uses, and coastal development; and to resolve conflicts among competing uses. In addition, they must have the authority to implement the enforceable policies. The programs operates within a coastal zone bound any which includes coastal waters and those which have a direct one significant impact on coastal waters.

There are currently 29 federally approved state and territorial programs. Despite institutional differences, each program must protect and manage important coastal

resources, including: wetlands, estuaries, beaches, dunes, barrier islands, coral reefs, and fish and wildlife and their habitats. Resource management and protection is accomplished in a number of ways through state laws, regulations, permits, and local plans and zoning ordinances.

While water quality protection is integral to the management of many coastal resources, it was not specifically cited as a purpose or policy of the original statute. The Coastal Zone Act Reauthorization Amendments of 1990 specifically charged state coastal programs, as well as state nonpoint source programs, with addressing nonpoint source pollution affecting coastal water quality.

USDA Programs

The U.S. Department of Agriculture's Agricultural Stabilization and Conservation Service (ASCS), Soil Conservation Service (SCS) and Extension Service administer a number of programs that contribute to reducing nonpoint pollution from agricultural production.

Agricultural Conservation Program

The Agricultural Conservation Program, administered by ASCS, provides cost-share funds to farmers and ranchers to install conservation practices. The program has several goals including: conserving soil and water, improving water quality, protecting and maintaining productive farm and ranch land, and preserving and developing wildlife habitat.

ASCS also administers the Conservation Reserve Program (CRP), designed to protect the nation's most highly erodible land and to protect and improve water quality. Under the CRP, farmers are reimbursed for retiring highly erodible and environmentally sensitive croplands from production under ten year contracts. Water quality improvements occur as lands are taken out of production because of lower fertilizer and pesticide applications and because reductions in soil erosion decrease sediment loadings to water. Land enrolled in the reserve program also provides habitat and other environmental benefits.

Criteria for the conservation reserve program have been expanded to include environmentally sensitive lands such as filter strips, wetlands and wellhead protection areas.

Soil Conservation Service

The Soil Conservation Services (SCS) is the technical arm of USDA. SCS provides technical assistance to conservation districts throughout the U.S. Under the President's Water Quality Initiative, started in 1989, SCS is focusing some of its technical assistance on a number of demonstration projects to address water quality problems. SCS staff are

also located in many of EPA's Regional Offices to provide technical assistance and support to the States and EPA. SCS is also providing accelerated technical assistance to multi-state, regional projects such as the Chesapeake Bay Program, the Gulf of Mexico, the Great Lakes National Program, Land and Water 201, and the National Estuary Program.

Nonpoint Source Hydrologic Unit Areas

In selected agricultural watersheds and aquifer recharge areas, SCS, Extension Service, and cooperating federal, state and local agencies will provide technical assistance and conservation planning to help farmers and ranchers meet state water quality goals without undue economic hardship. These hydrologic units are selected based on: significance of the agricultural sources of pollution, relative predominance of pollutants such as pesticides, nutrients, and animal wastes, and conformance with other water quality efforts. Findings on the water quality effects of selected conservation practices will provide a basis for expanding applications of such practices to other areas with similar water quality problems.

Forest Service

The Forest Service managers 191 million acres of public forest and range land for multiple use purposes. These lands comprise the National Forest System. EPA and the Forest Service held a joint technical workshop in Oregon this past winter on sediment and water quality. This meeting reflects the increased concern regarding the potential impacts of sediment production from forest management activities on water quality and aquatic life.

President's Water Quality Initiative

In 1989, President Bush launched an initiative to protect ground and surface water from contamination of fertilizers and pesticides. Congress has funded the initiative in the past several years. USDA, EPA, USGS, and NOAA are all working together on this initiative through a series of work groups. Through this initiative, a number of watershed projects have begun to address fertilizer and pesticides problems. The agencies are tracking the implementation progress in these watersheds.

U.S. Geological Survey

EPA and the U.S. Geological Survey have signed a memorandum of understanding (MOU) pledging cooperation and collaboration on water quality monitoring and assessment activities. Both agencies expend much effort on monitoring and assessment activities and the MOU is a tool to coordinate these efforts.

APPENDIX F: Designated Uses and Support Levels

DESIGNATED USES

Wildlife	Fish and wildlife
Fishery	Warmwater Fishery Coldwater Fishery
Shellfishery	Shellfish protection
Drinking water	Domestic water supply
Agriculture	Agriculture Irrigation Livestock watering
Industry	Industrial
Recreation	Recreation Primary contact Secondary contact Noncontact
Navigation	Navigation
High Quality	High Quality Nondegradation

SUPPORT LEVELS

Fully Supported	= all uses supported
Partial Support	= one use <u>not</u> supported
Non-support	= 2 or more uses <u>not supported</u>
Threatened	= all uses supported, but one or more uses may not be fully supported in the future (unless additional management measures are implemented) because of anticipated new or expanded sources

APPENDIX G: State Coastal Nonpoint Program Submission

1. DESCRIBE PROGRAM GOALS AND OBJECTIVES

The introduction should include a description of the magnitude and distribution of sources of nonpoint pollution in the 6217 management area.

2. DESCRIBE OVERALL PROGRAM COMPONENTS

a. §6217 Management Area
Respond to NOAA's boundary recommendation.
[§6217(b)(7); Program Guidance, p.9]

b. Coordination Mechanisms
Describe the mechanisms which have been established to coordinate among the state, regional, and local agencies responsible for implementing portions of the program. [§6217(b)(6); Program Guidance, p.33]

c. Public Participation
Describe the process used to ensure full public participation in the development and implementation of the program. [§6217(b)(5); Program Guidance, p.32]

d. Technical Assistance
Describe the state program for technical assistance to localities and the public. [§6217(b)(4); Program Guidance, p.31]

e. Water Quality Monitoring
Describe activities to monitor the effectiveness of management measures (see Chapter 8 of the (g) Guidance). States may choose to design specific monitoring programs for individual source categories.

3. DESCRIBE MANAGEMENT MEASURES "in conformity with" (g) GUIDANCE

State programs should address each management measure identified in the (g) Guidance for the six source categories: agriculture, forestry, urban, marinas, hydromodification, wetlands and riparian areas. The following information should cover each management measure, but may be provided by source category, subcategory, or individual management measure.

a. Covered Sources
Identify nonpoint source categories and subcategories in the 6217 management area. Identify the categories or subcategories specified in the (g) Guidance which 1) do not exist in the 6217 management area or 2) may be excluded based on Program Guidance criteria, p.13.

b. Management Measures
Identify the (g) Guidance measure or alternative measure to be implemented. Alternative measure must include technical documentation. [Program Guidance, p.15]

c. Management Practices
Describe state practices to implement measure or the process for selecting practices to meet site-specific conditions. Include operation and maintenance practices where appropriate.

d. Lead Agency
Identify the lead agency and cooperating agencies responsible for implementation of the management measure. Identify available resources (staff, funding, etc.)

e. Enforceable Policies and Mechanisms
Cite state and local authority to ensure implementation of the management measure, including inspection and monitoring provisions. If the program relies on local or regional authorities, cite state oversight authority to ensure implementation. [§306(d)(16); Program Guidance, p.34]

f. Schedule
Describe schedule, including milestones, to ensure implementation of management measures for existing sources within three years of program approval or conditional approval. New sources are subject to management measures at time of program approval. [Program Guidance, p.44]

4. DESCRIBE ADDITIONAL MANAGEMENT MEASURES

Describe the implementation of additional management measures including the following information:

a. Impaired and Threatened Coastal Waters
Identify impaired and threatened coastal waters using existing water quality assessments. [§6217(b)(1)(a); Program Guidance, p.23]

b. Land Uses
Identify land uses in the 6217 management area which individually or cumulatively may cause or contribute to a degradation of coastal waters. Use(g) Guidance source categories as a starting point and add others appropriate to state conditions. [§6217(b)(1); Program Guidance, p.24]

c. **Critical Coastal Areas**
Identify and map, critical areas adjacent to impaired and threatened coastal waters. [§6217(b)(2); Program Guidance, p.25]

d. **Additional Management Measures**
Describe measures that will be implemented at time of program approval 1) in critical areas and 2) in cases where (g) Guidance measures (or their equivalent) are fully implemented for certain source categories or subcategories, but water quality threats or impairments persist.

Describe process for determining the need for additional measures to meet water quality standards even after implementation of (g) Guidance measures. Describe process for revising measures.

e. **Enforceable Policies and Mechanisms**
Cite state and local authority to ensure implementation of the management measure, including inspection and monitoring provisions. [§306(d)(16); Program Guidance, p.34]

f. **Schedule**
Describe schedule, including milestones, to ensure implementation of management measures for existing sources within three years of program approval or conditional approval. [Program Guidance, p.44]

Appendix H: Demonstrated Benefits of Trading

I. SIGNIFICANT TECHNICAL DOCUMENTS

A. Emissions Trading: An Exercise in Reforming Pollution Policy, 1985. T.H. Tietenberg.

In Emissions Trading: An Exercise in Reforming Pollution Policy, Tietenberg references studies that show that trading may be used in lieu of command-and-control approaches to limit biological oxygen demand in water. The studies demonstrate that trading can lower costs by factors of 1.12 to 3.13 without affecting benefits. Tietenberg also discusses a variety of air emission studies that illustrate that trading can lower the costs of achieving environmental objectives by factors ranging from 1.07 to 22.

B. "Financial Cost Effectiveness of Point and Nonpoint Source Nutrient Reduction Technologies in the Chesapeake Bay Basin," 1991. R. Camacho.

Trading can offer very large cost savings to sources while achieving quality goals. In order to offer gains to all market participants, incremental costs of pollution control must differ between sources. Camacho demonstrates this in "Financial Cost Effectiveness of Point and Nonpoint Source Nutrient Reduction Technologies in the Chesapeake Bay Basin." The article states that for nitrogen and phosphorus, the cost effectiveness of controls differs by as much as a factor ten. This differential provides the necessary economic incentive for trading to be effective.

C. The Private Use of Public Interest, 1975. C. Schultze

Schultze presents trading programs as a means of harnessing the private incentives of polluters for public purpose in The Private Use of Public Interest. Trading programs allow sources with low control costs to undertake additional abatement efforts in exchange for compensation from high-cost sources. More pollution abatement is therefore undertaken where it is cheapest, and less is undertaken where it is costly. Such a trading scheme minimizes the total cost of achieving loading reductions.

D. "Incentive Analysis for Clean Water Act Reauthorization: Point Source/Nonpoint Source Trading For Nutrient Discharge Reductions," 1992. USEPA.

"Incentive Analysis for Clean Water Act Reauthorization: Point Source/Nonpoint Source Trading For Nutrient Discharge Reductions" provides an assessment of trading potential for nutrient discharges to surface waters. The report states that

over 900 water quality-limited waterbodies could potentially benefit from trading under current conditions, and that the best opportunities are for trading nutrient allocations.

E. "Point Nonpoint Source Trading of Pollution Abatement: Choosing the Right Trading Ratio," 1992. A. Malik.

The question of the right trading ratio for trades between point sources and nonpoint sources has been addressed by Malik et. al. in "Point Nonpoint Source Trading of Pollution Abatement: Choosing the Right Trading Ratio." Two types of uncertainty are recognized: the effectiveness of nonpoint source controls, and NPS loadings reductions attributable to weather. Uncertainty in the effectiveness of nonpoint source controls would justify higher trading ratios, which imply expected net reductions in loadings. The uncertainty attributable to weather, however, may justify lower ratios.

II. NOTABLE CASE STUDIES

A. Dillon Reservoir, Colorado

The Dillon Water Quality Management Plan established the nation's first point/nonpoint source phosphorus trading program. The program is driven by the reservoir's phosphorus limit and a perceived need to offset new nonpoint sources of phosphorus with phosphorus removals elsewhere in the watershed. A 2:1 trading ratio was established in which point sources received a credit of one additional pound of phosphorus above their allocation for every 2 pounds of phosphorus removed from a nonpoint source that existed before 1984. This ratio establishes a safety margin and has also been used in two trades to offset increased loadings from new nonpoint source discharges to the reservoir.

B. Tar-Pamlico, North Carolina

A point/nonpoint source trading program was developed as part of the overall nutrient management strategy of the Tar-Pamlico River Basin. Under the established rules of this trading program, it is anticipated that trading will achieve equivalent or better water quality than would have been achieved under originally proposed effluent limits. The trading program allows a coalition of point source discharges (the Basin Association) to fund less expensive nonpoint source controls, thus avoiding high compliance costs associated with major facility upgrades. Monies generated by trading go into a fund where they are subsequently allocated by the Division of Soil and Water Conservation for nonpoint source control implementation.

C. Cherry Creek, Colorado

Several years ago, the citizens of Cherry Creek Reservoir in Colorado anticipated a significant population increase as a result of development pressure. It was determined that this growth would result in an exceedance of the reservoir's phosphorus budget by 1990. The Cherry Creek trading program will allow the reservoir to accommodate growth by permitting municipal wastewater treatment plants to gain waste load allocation credits in exchange for the implementation of nonpoint source controls. Because the greatest amount of phosphorus loading comes from nonpoint sources, the trading program will go into effect only after urban nonpoint sources reduce their loading by 50 percent.

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