

**THE NATIONAL ESTUARY PROGRAM:  
FINAL GUIDANCE ON THE CONTENTS OF A  
GOVERNOR'S NOMINATION**

January 1990

Office of Marine and Estuarine Protection

Office of Water

U.S. Environmental Protection Agency

401 M Street, S.W.

Washington, DC 20460

# TABLE OF CONTENTS

	<u>Page</u>
<b>1. INTRODUCTION</b>	<b>3</b>
■ PURPOSE	
■ OVERVIEW	
<b>2. CONTENTS OF THE GOVERNOR'S NOMINATION</b>	<b>8</b>
■ INTRODUCTION	8
■ NATIONAL SIGNIFICANCE: NATIONAL DEMONSTRATION PROGRAM	9
■ THE NEED FOR A CONFERENCE	12
■ LIKELIHOOD OF SUCCESS	16
■ FORMAT	20
<b>3. APPENDICES</b>	
■ APPENDIX A: LIST OF MEASURES	
■ APPENDIX B: EPA NOAA AGREEMENT	
■ APPENDIX C: CHECKLIST	
■ APPENDIX D: AVAILABLE DATA SOURCES	
<b>4. LIST OF FIGURES</b>	
■ FIG. 2-1 NEP PROBLEMS/CAUSES MATRIX	
■ FIG. 2-2 NEP BIOGEOGRAPHIC PROVINCES AND REPRESENTATION	

# INTRODUCTION

## PURPOSE

The Clean Water Act as amended by the Water Quality Act of 1987 (the Act) formally establishes the National Estuary Program (NEP) to promote long-term planning and management in nationally significant estuaries threatened by pollution, development, or overuse. This guidance describes the NEP, explains how the Environmental Protection Agency (EPA) plans to implement Sections 317 and 320 of the Act, and defines the information and format required for a Governor to nominate an estuary for the program. Special attention is paid to the term “National Significance” and how Governors may develop nominations to address this factor. Each nomination must answer the following key questions:

- Why should EPA and the state promote comprehensive planning for this estuary?
- What are state and local governments, and public and private institutions already doing for the estuary?
- What goals and objectives are proposed for the estuary and how will they be met?
- Is there public and political will, as well as financial capability, to support implementation of a comprehensive management plan?

### ***Relationship to State Clean Water Strategies***

This guidance is part of EPA's overall plan to implement the Act, and integrate all aspects of water quality management into State Clean Water Strategies (SCWS). Where a state is developing a SCWS, individual estuary programs should be integral parts of these strategies, and should follow the steps of the strategies; assess environmental problems, target certain programs or geographic areas for action, and develop and implement multi-year plans of action.

### ***National Estuary Program Overview***

Section 1 of this paper presents an overview of the NEP, including the history, philosophy, goals, and objectives of the program. It also explains the requirements of the Act and the three-stage process being used to evaluate estuaries for inclusion in the program.

### ***Contents of a Governor's Nomination***

Section 2 of this guidance defines the contents of a Governor's nomination and the factors EPA considers in reviewing nominations. The NEP is optional and states are not required to participate; however, any state that chooses to participate must follow the format and meet the requirements defined in Section 2. Governors may nominate estuaries at any time.

## OVERVIEW

Estuaries are unique waterways where fresh water drained from the land mixes with salt water from the ocean. This blend of salt and fresh water makes estuaries biologically productive, sustaining certain finfish, shell fish, marshes, underwater grasses, and microscopic marine life. Because of their economic, aesthetic, and recreational value, estuaries are increasingly attracting both people and commerce to their shores. Aquatic life is affected by these growing populations, which need and use water for services as well as for commercial and industrial activity.

The National Estuary Program is managed by EPA to identify nationally significant estuaries threatened by pollution, development, or overuse, and to promote the preparation of comprehensive management plans to ensure their ecological integrity. The program's goals are protection and improvement of water and sediment quality, and enhancement of living resources. To achieve these goals, NEP conducts activities to help:

- Establish working partnerships among federal, state, and local governments;
- Transfer scientific and management experience and expertise to program participants;
- Provide technical assistance and outreach from program participants to other estuary managers;
- Increase public awareness of pollution problems and ensure public participation in consensus building;
- Promote basinwide planning to control pollution and manage living resources; and
- Oversee the development and track the progress of the implementation of estuary pollution control programs.

### ***Roots of the National Estuary Program***

The National Estuary Program has roots in earlier efforts and legislation. The experiences of the Great Lakes Program and the Chesapeake Bay Program provide useful models for the NEP. One lesson from both of these programs is that their successes in controlling pollution evolved from a phased process: identifying pollution problems, evaluating alternative solutions, and recommending and implementing cost-effective plans to alleviate the problems. A second key point is that a collaborative problem-solving process that involves all concerned parties in each phase of the program is crucial to the success of an estuary program. This collaboration secures commitments to carry out recommended actions.

Through the experiences of the Great Lakes and Chesapeake Bay programs, EPA and program participants also learned how to get results with limited money. The National Estuary Program achieves this by focusing on the most significant problems, using existing and readily available data, emphasizing applied research, funding specifically targeted basic research, and employing demonstrated management strategies. These techniques save both time and money, and, just as importantly, lead to earlier protective and corrective actions.

In 1985, the Congress directed EPA to conduct programs in four estuaries: Buzzards Bay in Massachusetts; Long Island Sound in New York and Connecticut; Narragansett Bay in Rhode Island; and Puget Sound in Washington. In 1986, EPA added Albemarle/Pamlico Sounds in North Carolina and San Francisco Bay in California to the Program.

These two estuaries were added because EPA believed it was appropriate to extend the program to new coastal areas. The Agency also wanted to expand the types of pollution problems being addressed, while making certain they were representative of pollution problems nationally. EPA was further persuaded by the obvious commitments State and local governments and the public had already made to pollution abatement in these estuaries.

EPA thus began to develop a national "demonstration program." Such a program is viewed as critical to developing state and local expertise nation wide in estuary management. What is learned in any estuary should be applicable to other estuaries with the same or similar problems. The transfer of lessons learned about common problems between estuaries is essential because there will never be enough federal resources to address all 192 estuaries in the country. If we are to reach the goals Congress established in the Act, EPA must focus on a group of estuaries that cover a range of environmental problems and then through technical assistance and outreach, share experiences with other state and local resource managers.

## ***Water Quality Act of 1987***

Until 1987, program activities were supported by broad legislative authorities and funding appropriations. There was no legislation aimed specifically at these fragile bodies of water.

Passage of the Water Quality Act of 1987 signaled recognition by Congress that additional measures were needed to protect the health of the nation's estuaries. The new law amends and extends the Federal Water Pollution Control Act of 1972 and its 1977 amendments, known as the Clean Water Act. The Water Quality Act formally establishes the National Estuary Program. Section 317 declares that the increase in coastal population, demands for development, and other direct and indirect uses of the estuaries threaten these unique bodies of water. The law further states that it is in the national interest to maintain the ecological integrity of the nation's estuaries through long-term planning and management.

The Water Quality Act (WQA) of 1987 provides that “the Governor of any State may nominate to the Administrator an estuary lying in whole or in part within the State as an estuary of national significance and request a management conference to develop a comprehensive management plan for the estuary.”

Once an estuary has been nominated and selected for inclusion in NEP, the Administrator convenes a Management Conference to oversee activities. The WQA defines seven purposes for the Management Conference:

1. Assess the trends in water quality, natural resources, and uses of the estuary.
2. Identify the causes of environmental problems.
3. Evaluate relationships between pollutant loads and environmental effects.
4. Develop a Comprehensive Conservation and Management Plan (CCMP).
5. Develop plans with states and other agencies to coordinate implementation of the CCMP.
6. Monitor the effectiveness of actions.
7. Review federal financial assistance programs and development projects for consistency with the CCMP.

The WQA acknowledges the importance of collaboration by requiring that a Management Conference consist of Federal, State, and interstate agencies having jurisdiction over the estuary, as well as interested academic institutions, industries, and citizen groups. EPA may act as the lead agency or serve as a cooperating or sponsoring agency for each program. EPA's role is primarily to facilitate and provide scientific and management expertise. The Conference may involve other federal agencies, such as the National Oceanic and Atmospheric Administration (NOAA), the Corps of Engineers (COE), the Soil Conservation Service (SCS), and the Fish and Wildlife Service (F&WS). Approaches for establishing an organizational framework to coordinate the efforts of program participants are discussed in the Estuary Program Primer (the Primer).

The Management Conference performs an objective, technical assessment of the state of the estuary, including an evaluation of existing management programs designed to protect the estuary. This phase, called characterization, is the basis for identifying and selecting the problems to be addressed in the Comprehensive Conservation and Management Plan (CCMP).

A CCMP summarizes the estuary's problems and indicates which of them will be addressed. Through a collaborative process, the Management Conference establishes program goals and objectives, determining desirable and allowable uses for the estuary and its various segments. These goals may range from maintaining current conditions, or restoring the estuary to a past condition, to restoring or maintaining pristine quality. Action plans describing specific pollution control and resource management strategies, designed to meet each objective, are the core of the CCMP. After carefully evaluating the strategies, the conferees select those strategies that will produce the greatest environmental benefit—at the least cost and in the most timely manner—for action.

The CCMP, which must be approved by the Agency and the Governor, should cover three management areas:

- Water and sediment quality management; pollution abatement and control. Action plans focus on point and nonpoint sources.
- Living resources management, including specially protected areas. Action plans focus on protection and restoration.
- Land use and water resources management. Action plans may include conservation areas as well as special protective legislation and initiatives.

The final phase consists of the implementation of the CCMP. Strong public support and subsequent political commitments are required to accomplish the actions agreed upon in the CCMP. Information on implementation of the CCMP, and the required elements of the CCMP, including the method for developing action plans to address specific priority problems, appear in the Primer.

### ***Priority Consideration***

The Act directs the Administrator of EPA to give priority consideration to Long Island Sound, New York and Connecticut; Narragansett Bay, Rhode Island; Buzzards Bay, Massachusetts; Puget Sound, Washington; New York-New Jersey Harbor, New York and New Jersey; Delaware Bay, Delaware and New Jersey; Delaware Inland Bays, Delaware; Albemarle Sound, North Carolina; Sarasota Bay, Florida; San Francisco Bay, California; and Galveston Bay, Texas. The Conference Report for the Act states that these estuaries are of national importance. Santa Monica Bay, California, was added to this list in the Fiscal Year 1988 Appropriations Act. Priority consideration of this list of estuaries led EPA to develop a process for addressing evaluating estuaries in three tiers:

- Tier 1 estuaries are the estuary programs existing before the WQA of 1987. Management conferences for these estuaries were convened early in Fiscal Year 1988.
- Tier 2 estuaries include the five new estuaries named in the WQA plus Santa Monica Bay. Management Conferences for these estuaries were convened on July 18, 1988.
- Tier 3 estuaries are all other estuaries.

The purpose of this guidance is to assist Governors in the development of nominations for these "other estuaries", including the four (Massachusetts Bay, the Barataria-Terrebonne Bay estuary complex, Indian River Lagoon, and Peconic Bay) that Congress added to the priority list in October 1988. In achieving this purpose, the guidance remains virtually intact from the April 1988 Interim Final Guidance, (see Federal Register Vol. 53, No. 76, 12989) with minimal changes providing additional guidance on the demonstration of national significance.

A Governor's nomination submitted for any new estuary must address national significance. The interim final guidance briefly discussed how EPA proposed to address national significance. This guidance addresses the contents of the Governor's nomination and the factors EPA will use in reviewing nominations. A nomination must first identify the estuarine values that make the estuary nationally significant. The concept of national significance is discussed in detail in Section 2. In addition, the WQA mandates that the nomination must demonstrate the need for a management conference and the likelihood that the conference will succeed.

### ***Tier 3 Review Process***

EPA representatives will visit those states interested in nominating estuaries to the NEP to discuss the NEP and the responsibilities and commitments involved in establishing an estuary program. Just as in Tier 2, EPA will provide assistance to States interested in nominating estuaries. Again, this assistance may include conference calls, workshops, and direct technical assistance.

Upon receipt of nominations, EPA will begin a review process similar to that conducted for Tier 2 estuaries. The review will evaluate the nomination's consistency with this guidance. Review comments will be transmitted to the respective State officials. After receiving a revised nomination, if one is required, EPA will conduct a second review. Comments to the State(s) will address the results of the evaluation and the realistic chances of being able to convene a management conference. The following section addresses how EPA will evaluate the degree to which an estuary meets national demonstration needs and priorities.

# CONTENTS OF THE GOVERNOR'S NOMINATION

## INTRODUCTION

This guidance provides a description of what the U.S. Environmental Protection Agency (EPA) requires in a Governor's nomination under Section 320 of the Clean Water Act as amended by the Water Quality Act (the Act) of 1987. A Governor's nomination is a State's proposal for an estuary program. If a Management Conference is convened, the contents of the nomination (problem statements, goals, objectives, etc.) would be subject to review, evaluation, and redirection by consensus of the convened Management Conference. It is expected that some of what is proposed by the State in the nomination will be modified or changed by a management committee once a Management Conference is convened. EPA will evaluate how well nominations address three factors defined by the statute and other considerations important to the success of the National Estuary Program (NEP).

The relationship between the key questions to be addressed and three factors defined by the Act is shown below:

- National Significance
  - - How can the lessons learned from this estuary be applied to other coastal areas or within the state or to other states? What problems, causes of those problems, and biogeographic area represented by this estuary are not already addressed by existing programs in the NEP?
  - - Why is the estuary important to the nation?
  - - What is the geographic scope of the estuary?
- The Need for a Conference
  - - What is the importance of the estuary on a local or regional scale?
  - - What are the major environmental problems facing the estuary?
  - - What are the most likely causes of these problems?
  - - How are the causes of each problem to be identified?
  - - What are the current institutional arrangements for environmental management of the estuary and how are they working?
- Likelihood of Success
  - - What are state and local governments, and public and private institutions already doing for the estuary?
  - - What goals and objectives are proposed for the estuary and how will they be met?
  - - Who will participate in the Management Conference and how will it be organized?
  - - Is there public and political will, as well as financial capability, to support implementation of the CCMP?



The nominations should completely and concisely discuss these factors and questions. Although quantitative information is not required, such information provides a more concise and forceful presentation. Thus, if quantitative information is readily available, such information should be provided. States are encouraged to build on work already done in the continuous process of water quality and natural resource monitoring. Other sources of readily available data include 305(b) reports, fishery catch statistics, and university studies (see Appendix D). However, the nomination should use existing and readily available information (see Appendix A); preparation of the nomination should not entail new research. Charts, graphs, maps, and other forms of graphical presentation should also be included.

Section 2 describes methods and measures that may be employed to describe the estuary's national significance and to demonstrate both the need for the conference and the likelihood of success. The presentation order does not signify that greater importance is assigned to any one of these three factors; all factors must be addressed in the nomination and will be reviewed. The remainder of this section describes methods by which Governors should address each of the factors defined by the statute in the contents of a nomination. It also describes the rationale that led to EPA's addition of other considerations into the review process.

## **NATIONAL SIGNIFICANCE: NATIONAL DEMONSTRATION PROGRAM**

A discussion of national significance should demonstrate why EPA should promote comprehensive planning for the estuary being nominated. The following factors need to be addressed in this section:

- How can the lessons learned from this estuary be applied to other coastal areas within the State or to other states? What problems, causes of those problems, and biogeographic area are represented by this estuary are not already addressed by existing programs in the NEP?
- Why is the estuary important to the nation?
- What is the geographic scope of the estuary?

The intent of the national significance section is to demonstrate the value of the estuary on a national scale. In the near term, EPA believes that it is of highest importance to build the NEP as a national demonstration program. It is our goal to develop estuary management expertise throughout the country, and to focus on a wide range of important environmental problems.

With limited resources in a limited number of estuaries, the NEP will develop and implement successful estuary management tools and strategies. The program will also attempt to develop by 1991 a quantitative ranking scheme that evaluates economic value and threats to the estuaries. The NEP will share the results of its demonstration programs with managers working on all other estuaries nationwide, and will attempt to implement successful strategies in the top ranked estuaries to the extent that fiscal resources allow.

Of the three factors addressing national significance, EPA is giving priority to the first. The rationale for this is as follows. Congress authorized the NEP through 1991. EPA needs to demonstrate measurable programs toward results, involving either the protection, maintenance, or improvement of water quality, sediment quality and/or living resources, from the NEP by that time. Moreover, those results should have demonstrated applicability to other estuarine settings. In the absence of results that may be applied to other estuaries, the value of the program to the nation's estuaries is severely limited. Thus, the nomination must explain what aspect(s) of the program are applicable to other coastal/estuarine waters.

EPA is placing major importance on “applicability”, consistent with long-term program objectives. Both San Francisco Bay and Albemarle/Pamlico were added to the NEP based on a perceived need to increase the geographic scope of the program. Congress then defined six more estuaries as “nationally significant.” These six provide the program with additional geographic diversity as well as additional coverage of certain problem areas and associated causes. Figure 2-1 portrays the diversity of environmental problems and causes now being addressed the NEP.

Many of these estuarine areas are large, e.g., Galveston Bay, or present a wide variety of problems, e.g., NY/NJ Harbor. Consequently, achieving near-term results where a clear cause/effect relationship can be drawn will be extremely difficult. As a partial response to this problem, OMEP is funding priority action plan demonstration projects to address well identified problems for which remedial actions can be developed and results expected in the short term. Management Conferences may submit proposals to EPA for matching grants to conduct pilot projects to maintain, restore, or enhance estuarine quality. The projects must lead to progress toward achievement of a Conference objective such as reduced toxic contamination from combined sewer overflows.

### ***Applicability of Results to Other Estuary Programs***

As discussed briefly in Section 1, the NEP will focus on a group of estuaries that covers a range of environmental problems, and will provide technical outreach to environmental resource managers in the rest of the country. EPA must, therefore, evaluate how inclusion of a nominated estuary in the NEP will enhance such a national demonstration program.

Nominations should pay special attention to demonstrating that the problems to be addressed by a management conference will yield results that could be applied to other coastal areas within the state or in other states. State managers should be able to look at the statement of environmental problems and the statement of the goals and objectives and predict, in a broad sense, some possible results of the management conference. EPA, in its evaluation of the nomination, will then examine potential applications for such results outside the boundaries of the estuary.

EPA will first be looking for nominations of estuaries that will focus on major problems that are unaddressed thus far by the NEP. Nominations should indicate which of the unaddressed problems would be addressed in the nominated estuary. The problem/cause matrix in figure 2-1 shows the major problems and causes now being addressed by the existing programs. Gaps in program coverage are indicated by empty cells in the matrix.

Some cells, however, are empty because of a lack of a relationship between the cause and effect (e.g. toxic contamination and septic tanks).

EPA in its evaluation must also determine that the problems to be addressed are broadly shared, and not just unique to the nominated estuary. For example, some potentially important sources of nonpoint pollution (mining and silviculture) have not been widely addressed to date. Another problem not currently being addressed is threats to pristine environments.

Another aspect of the applicability scheme is the geographic (including biogeographic and hydrographic) location of the estuary. EPA encourages nominations that address problems/causes similar to those in existing programs but in a different geographic setting. Figure 2-2 is a map of the United States that notes nine biogeographic provinces. Figure 2-2 also lists existing NEP estuaries in each province. This province classification scheme is very similar to that used by NOAA's National Estuarine Research Reserve Program.

If the nomination does not address empty cells and/or geographic considerations, EPA will consider further demonstration of applicability. This analysis will consider whether the nominated estuary would increase the comprehensiveness of the various cells. For example, most of the habitat problems addressed to date involve changes to wetlands or submerged aquatic vegetation. Examples of a different slant on the topic would include concerns associated with dredging and loss of soft bottom sediment habitats, bulkheading and the loss of natural shorelines, and water resource projects that alter salinity patterns in the estuary.

**Figure 2-1**  
**National Estuary Program**  
**Problems/Causes Matrix**

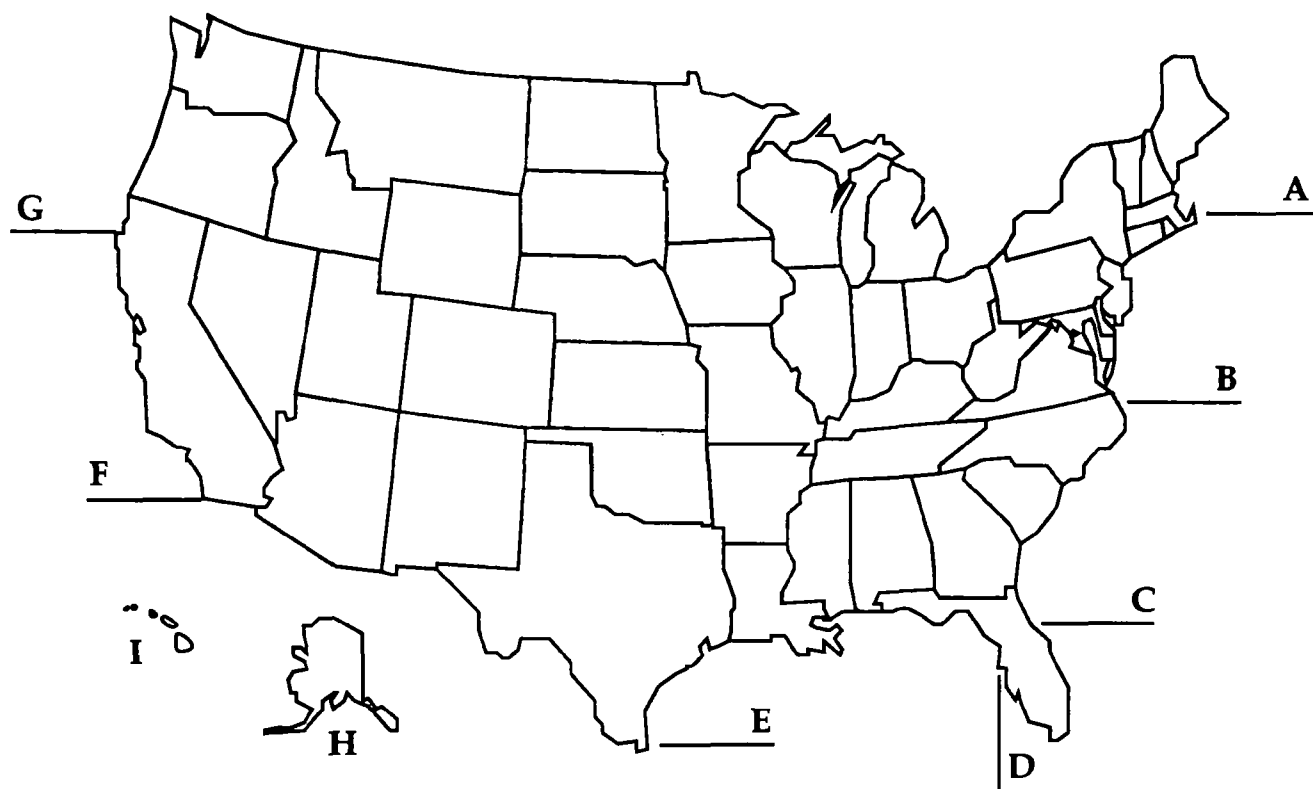
CAUSES = PROBLEMS	POINT SOURCES					
	Industrial Sources- Direct	Industrial Sources- Indirect	POTWs	CSOs	Storm Water	Animal Feedlots
Toxicants	AP,C,D, G,LIS,M, N,NY,PS, SF,SMB	BT,C,D, G,LIS,M, N,NY,PS, SF,SMB	G,M,N, PS,SF	B,D,LIS, N,NY, PS,SF	C,D,G, N,PS, SF,SMB	AP
Pathogens			B,D,G, LIS,M,N, NY,PS, SMB	AP,C,D, LIS,M,N, NY,PS,S	AP,B,C, D,S,B,I, LIS,M,N, PS,SMB	AP,DE, G,PS
Eutrophication	AP(1),T	T	AP,B,T,G, G,LIS, M,NY,PS, S,SMB	LIS,M,N, NY,S	BT,DE,I, T	DE
Habitat Loss/Modification	AP(1),G, M,SF,T	G,SF,T	AP,G,I, M,SF	AP,M, SF	AP,G,I, SF,T	
Changes in Living Resources	AP,C,D, LIS,M,N, NY,PS, SF,T	D,LIS,M, N,NY, PS,SF, T	AP,D,G,I, LIS,M,N, NY,SMB	D,LIS, M,N,NY, PS,SF	D,DE,G, L,M,PS, S,SF, T	DE
Other				NY(2)		

CAUSES = PROBLEMS	NONPOINT SOURCES									
	Agri- culture	Suburban and Urban	Mining	Silvi- culture	Construc- tion	Septic	Landfills	In-place Sediments	Atmos- phere	Ground Water
Toxicants	AP,B,BT, C,G,PS, SF,T	BT,D,G, LIS,M,N, NY,PS,SF, SMB,T	BT(3)	PS			AP,N,NY, LIS	AP,B,C,D, G,LIS,M,N, NY,PS,SF, SMB,T	AP,G,M, PS	C,G
Pathogens	BT,DE, G,PS	BT,D,I, LIS,M,N, NY,S, SMB			DE	AP,B,BT, C,DE,G,I, M,N,PS, S,T				
Eutrophication	AP,B,BT,C, DE,G,I, LIS,PS, S,T	BT,I, LIS,N, S,T	AP(1), T(1)		DE,G,S	B,G,DE, G,I,M, N,T		M	G,M,N, SMB	DE,N
Habitat Loss/Modification	AP,G,PS, SF,T	G,I,S,T	AP(4), BT(3), T(1)	PS	AP,D,DE, G,I,M, PS,S		BT,G			
Changes in Living Resources	AP,DE,G, SF,T	D,M,NY, S,SF,T			D,DE,M, S	R,D,B, PS		B,D,M, N,NY,PS, SF,SMB		DE
Other		NY(2)					NY(2)			

Figure 2-1 Continued

OTHER						
CAUSES —	Shipping * Mannas	Dredging	Shoreline Development	Freshwater Inflow	Sealevel Rise	Other
Problems						
Toxicants	C,D,DIB, G,I,M, PS,SMB, T	G,M,NY, SF		BT,M,SF		SMB(7)
Pathogens	C,DIB,G, LIS,M		B,DIB,M, S			SMB(8)
Eutrophication	C,DIB,G	G,T	DIB,M,N	I		SMB(8)
Habitat Loss/Modification	BT,C,G,I, M,PS,S, T	AP,C,DIB, G,I,M, PS,S,SF, T	AP,B,C,D, DIB,G,I,M, NY(6), LIS, M,S,SF,PS,T	AP,BT,G,I, SF,T	AP,BT,G, M,S	BT(9), I(10), S(10)
Changes in Living Resources	C,D,DIB,I, SF,T	AP,DIB,G, M,S,SF, T	B,D,DIB, G,I,N,LIS, M,S,SF,T	BT,G,SF, T	BT,S	NY(7), IX(11)
Other	NY(2)	S(5)	S(5)			

KEY	
(1)	Phosphate
(2)	Floatables
(3)	Oil and gas drilling
(4)	Peat Mining
(5)	Access
(6)	Platforms
(7)	Ocean Dump Site
(8)	301 (h)
(9)	Hydrologic modification/channelization
(10)	Exotic Species, Mangrove Loss
(11)	Impingement/Entrainment
AP:	Albermarle/Pamlico Sounds
B:	Buzzards Bay
BT:	Barataria-Terrebonne Estuarine Complex
C:	Casco Bay
D:	Delaware Estuary
DIB:	Delaware Inland Bays
G:	Galveston Bay
I:	Indian River Lagoon
LIS:	Long Island Sound
M:	Massachusetts Bays
N:	Narragansett Bay
NY:	New York/New Jersey Harbor
PS:	Puget Sound
S:	Sarasota Bay
SF:	San Francisco Bay
SMB:	Santa Monica Bay
T:	Tampa Bay



<u>Province Description</u>	<u>EPA Region</u>	<u>Current NEP Programs</u>
A. North of Cape Cod	I	—
B. Cape Cod to Cape Hatteras	I-III	Buzzards Bay, Narragansett Bay, New York- New Jersey Harbor, Long Island Sound, Delaware Bay, Delaware Inland Bays
C. Cape Hatteras to Cape Canaveral, FL	IV	Albemarle-Pamlico Sound
D. Cape Canaveral, FL to Tampa Bay, FL	IV	Sarasota Bay
E. Gulf of Mexico	IV, VI	Galveston Bay
F. Southwestern	IX	Santa Monica Bay, San Francisco Bay
G. Humboldt Bay to Canadian Border	IX, X	Puget Sound
H. Alaska	X	—
I. Hawaii to Pacific Islands	IX	—

**Figure 2-2. NEP Biogeographic Provinces and Representation**

Beyond the demonstration of a “new” aspect of applicability, EPA will be looking for a demonstration that the state(s), through the Management Conference, can address the problems and their probable causes within a relatively short time frame. The focus is on results, not problem lists and plans, to ensure that successful efforts and cost-effective results in demonstration program estuaries can be quickly spread to other estuaries. A discussion of cause/effect relationships follows.

### ***Recreational and Commercial Values***

The nomination should describe the known recreational values of the estuary to the nation including aesthetic values, such as water clarity, breathtaking scenery, or unique physical features. Other recreational values of the estuary may include such activities as fishing, shellfishing, boating, hunting, water skiing, beachcombing, swimming, and diving.

The commercial value of the estuary to the nation can include many different types of activities, not all of them dependent on the ecological integrity of the estuary. For example, the economic health of a commercial fishery is, in part, dependent on the ecological health of the estuary. Other commercial values of the estuary, for example shipping, are not dependent on ecological health.

### ***Living Resources***

Many of the nation's estuaries are of national significance in that they provide critical habitat for living resources that spend part of their life cycle in the estuary. The loss or impairment of this habitat results in a loss to the nation, to countries in the western hemisphere, and in the case of endangered species, a loss to mankind. Some examples might include the following:

- The estuary or its tributaries serve as a spawning, nursery, or feeding ground for a fish species that is an offshore recreational or commercial species important to the entire coast or nation.
- The estuary or its associated wetlands are part of a flyway for migratory waterfowl.
- The estuary or its watershed represent unique habitats that are threatened by population and coastal development. The loss of these might represent, for example, a loss of a unique habitat for scientific studies, research, or education.

### ***Definition of the Estuary's Boundaries***

The nomination should address how the estuary meets the statutory definition of an estuary. The CWA defined estuary to mean “...all or part of the mouth of a river or stream or other body of water having unimpaired natural connection with the open sea and within which sea water is measurably diluted with the fresh water from land drainage.” The Act expanded this definition to include “associated aquatic ecosystems and those portions of tributaries draining into the estuary up to the historic height of migration of an anadromous fish or the historic head of tidal influence, which ever is higher.” The nomination package should define the boundaries of the estuary, and should include a map to illustrate these boundaries.

In addition, the nomination should include a general description of the estuary, including such geographical features as the estuary boundaries, surface drainage area and major tributaries, land use, wetland acreage, and aquifer boundaries. Other physical factors such as salinity gradients also may be described. Political boundaries may be noted on maps and/or described in text. The nomination should address whether the estuary's drainage area crosses state lines and how many local jurisdictions are affected.

## **THE NEED FOR A CONFERENCE**

A discussion of the need for a conference must demonstrate that the estuary is important on a local level, that it has problems, that the causes of these problems can be discerned, and that changes are needed in programs to solve the problem. The questions that need to be addressed in this section are:

- What is the importance of the estuary on a local or regional scale?
- What are the major environmental problems facing the estuary?
- What is known about cause/effect relationships and how will the causes of environmental problems be better identified?
- What are the current institutional arrangements for the estuary and how are they working?

### ***Documentation of Estuary Importance***

While Section 2 describes how to demonstrate that an estuary is of national significance, the nomination should also include a demonstration of the estuary's value on a local or regional scale. As outlined in this section, the demonstration should discuss the economic/ecologic relationship; the value of the estuary to the local economy; the value of living resources within the estuary; and how the economy and ecology are affected by changes in the estuary. This demonstration should be provided based on readily available data, such as dockside value of fish catches.

The difference between the demonstration of the estuary's importance on a local/regional scale versus a national scale is a matter of degree. For instance, if a certain fishery provides many jobs and generates much of the income near the estuary, it should be discussed here. If, however, the estuary is a critical spawning or nursery ground for a large proportion of the shrimp (or some other important commercial or recreational species) caught in the U.S., it should be discussed above in Section 2.

### ***Economic Importance***

The economic values of an estuary are categorized as recreational and commercial. Although economic values can be measured in dollars, other non-monetary measures of economic activity also may be used. These measurements should be related to water and sediment quality and living resources. Recreational value may be measured, for example, by providing counts of users (e.g., number of hunters, charter boats, fishing licenses, employees in tourism industry) or the number of dollars generated by recreational activities (e.g., tax revenues from hotels, restaurant receipts). The commercial values of the estuary can include many different types of activities. To demonstrate the commercial value of the estuary, the applicant might summarize quantitative data that would include (1) the size and/or value of fish catches; and (2) the number and/or economic value of commercial shellfish beds. Appendix A presents examples of measures that may be used to identify the ecological and economic values of an estuary based on readily available information.

### ***Living Resources***

Quantitative information on the known living resources value within the estuary should be presented under this section to demonstrate the ecological value on a local scale. The following types of information might be included:

- The number of species, their diversity and distribution;
- The number of resident versus migratory species;
- The number of species critical to the food chain; and
- Species identified by state wildlife officials as being endangered or threatened.

## ***The Problem Statement***

The types of problems that may exist in an estuary are both diverse and complex. However, they are all problems if they detract from the estuary's potential value. As part of a recent survey EPA conducted under the Near Coastal Waters Initiative, five priority threats were identified: (1) toxicants, (2) pathogen contamination, (3) eutrophication, (4) habitat loss/modification, and (5) changes in living resources. The problems that can be caused by these priority threats have been widely documented and are discussed below. These examples are provided as a tool to organize the "threat" or problem statement; this organization is not required.

- **Toxicants** may enter an estuary from a variety of sources, including industrial effluents and other point sources, runoff from urban areas and agricultural lands, atmospheric inputs, and the disposal of contaminated dredge spoils. Pollutants from these sources may include organics (such as pesticides, herbicides and petroleum products), heavy metals, and other inorganic compounds. Although some of these materials are biodegradable, others may accumulate in sediments, in the water column, or in the tissue of biota. Toxicants are a threat to both the integrity of the estuary ecosystems and to human health if they accumulate in the tissues of food organisms. In some instances the problems from toxicants may be manifested by the closure of fisheries and by public health advisories on the consumption of fish.
- **Pathogen contamination** may result from the discharge of domestic wastes from wastewater treatment plants and combined sewer overflows, and runoff from agricultural areas. Contamination could cause beach closings, changes to the classification of shellfish beds under the National Shellfish Sanitation Program, and increases in the reported cases of human gastrointestinal disorders or other diseases.
- **Eutrophication** may result from increased nitrogen and phosphorus loadings to the estuary from the discharges of sewage treatment plants and industries, and runoff from forests and farmland. Increased levels of nitrogen and phosphorus can allow excessive phytoplankton growth (and shifts in the dominant phytoplankton species), which may contribute to the depletion of dissolved oxygen levels.
- **Habitat loss/modification** may result from changes in siltation, nutrient loading, development activities in wetlands and other critical habitats, channels, dredging, diversion of water, sea-level rise, and other direct or indirect disturbances. The problem statement might include information on acreage lost; type of habitat (i.e., coastal marsh, tidal flat, submerged aquatic vegetation, etc.); and activities altering habitat. Loss of wetlands adjacent to the estuary and those adjacent to tributaries feeding into the estuary are both critical to the health of the estuarine system.
- **Changes in living resources** may result from one or more of the pollution threats above or can reflect the impacts of overfishing or other human activities in the estuary. A problem statement in this topic area could address changes in species composition or distribution, or a severe reduction in species number that is not fully understood.
- **Other problems** may include oil spills, aesthetic degradation caused by floating debris, or any problems that may be unique to the estuary. The five threats listed above are examples and are not meant to be all-inclusive.

The concept of demonstrating threats to estuarine values extends to threats to pristine, or partially pristine, estuaries. The CWA and associated regulations mandate that each state establish water quality standards. These water quality standards must consist of a use designation (e.g., shellfishery, cold water fish habitat), water quality criteria to protect that use (e.g., dissolved oxygen, cadmium concentration), and an antidegradation standard. Estuaries with good water quality supporting healthy biota may be the subject of a nomination if it is demonstrated that one or more of the priority threats may result in water quality degradation.



### ***Cause/Effect Relationship***

The ability to establish cause/effect relationships quickly will enable an estuary program to focus resources and to take actions to solve problems as rapidly as possible. Because one major purpose of the Management Conferences will be to refine and establish cause and effect relationships, EPA does not expect the nomination to demonstrate cause and effect relationships in great detail for all problems identified in the nomination. The nomination should, however, discuss the causes and effects of the major problems listed in the problem statement and the appropriate cells of Figure 2-1. Other potential causal relationships should be discussed briefly.

EPA recognizes that a perfect causal relationship cannot be drawn easily. Therefore, the nomination should demonstrate, to the extent possible, that a relationship is likely. This can be demonstrated by showing that the problem is in an area where the number of potential sources are limited or that the problem can be attributed to a single or few causes. Further evidence may include relative loadings information from various sources. Other evidence, such as bioassays conducted for certain discharges, may also be available. For example, the estuary as a whole may be subject to pathogen contamination due to nonpoint and point sources which, as yet, have not been quantified. However, perhaps shellfish beds in an isolated embayment have been closed due to pathogen contamination and the only potential source is a local pleasure boat harbor. In this case, reasonable evidence of a cause/effect relationship exists.

A thorough discussion of cause/effect relationships for major problems is a key piece of a strong nomination. If quantitative evidence of causal relationship is lacking, the nomination should outline what steps will be necessary to determine quickly the most likely cause of the problem.

Moreover, because EPA is interested in identifying successful control strategies and sharing that information among estuary managers, the nomination should list the variable or variables that will be used to measure success (e.g., decreases in pollutant concentrations, greater species diversity). The nomination should discuss how much background information is now available to allow for a pre/post measurement of the effects of the control action. Returning to the previous example, ambient measurements or fish tissue concentrations may be taken, as well as a measurement of the prevalence of disease. The nomination need also address the time period in which system recovery may be expected.

The nomination could include tables to illustrate cause/effect relationships. The nomination could summarize problems, observed changes, and probable causes in a tabular form similar to the following example:

<u>Living Resource</u>	<u>Observed Changes</u>	<u>Probable Cause</u>
Submerged aquatic vegetation	Reduced numbers resulting in reduced cover for fish, limited food supply for waterfowl	Nutrient loads from nonpoint source runoff
Benthic invertebrates	Changes in diversity; increase in pollution-tolerant species	Contaminated sediments from past sources of pollution
Commercial shellfish	Contamination from pathogens	Leaking and faulty septic systems
Finfish	Reduced reproduction of game fish	Diverted freshwater flow resulting in changed salinity

## ***Institutional Arrangements***

Along with an assessment of environmental problems and their causes, an evaluation of institutional structures, including laws, regulations, and management programs is needed.

The nomination should list laws, regulations, policies, and control programs at federal, state, and local levels, identify gaps and inconsistencies, and assess how well regulations are being enforced and whether programs are being coordinated. This assessment should highlight activities required under the Clean Water Act but must also address other applicable authorities such as the Coastal Zone Management Act, Safe Drinking Water Act, and the Marine Protection, Resources and Sanctuaries Act.

This institutional problem statement will help form the base of information needed to develop additional control strategies and to recommend new initiatives. The assessment should establish whether existing institutional mechanisms are appropriate for the estuarine system. It should also help determine whether existing programs are keeping pace with growing populations and increasing demands on the estuary and suggest programs in need of improvement.

The Administrators of NOAA and EPA signed an agreement in September 1988 (see appendix B) that spells out the need for coordinated actions between the NEP and the CZMP. The institutional arrangements between these organizations will be especially important. Under the agreement, one of the criteria for selection of new estuaries for the NEP is the existence of a federally approved coastal zone management program.

Further discussions of institutional structures need to be linked to the nomination's environmental problem statement.

## **LIKELIHOOD OF SUCCESS**

The success of a management conference will ultimately be measured by its ability to develop and implement a Comprehensive Conservation and Management Plan (CCMP) leading to the greatest improvements in water and sediment quality and living resources at the least cost and in the most timely manner. A nomination must demonstrate the likelihood of success of the program by addressing the following questions:

- What are state and local governments, and public and private institutions already doing for the estuary?
- What goals and objectives are proposed for the estuary and how will they be met?
- Who will participate in the Management Conference and how will it be organized?
- Is there public and political will, as well as financial capability, to support implementation of the CCMP?

## ***History of Environmental Management***

Prior involvement in an estuary provides a base on which a Management Conference can build. A discussion on what is already being done in the estuary should focus on Clean Water Act programs, new federal activities under the WQA, activities conducted under other federal programs, and state and local programs.

## ***Existing Federal Programs***

The Clean Water Act mandates a number of programs directed toward the improvement and maintenance of water quality. They include a spectrum of water quality control programs—from monitoring, to setting water quality standards, to imposing effluent limitations on point source dischargers to controlling disposal of dredged or fill material in wetlands. In addition, monies have been provided by EPA to states and areawide agencies for nonpoint source control planning. The nomination should address the state's effort to maintain and improve these CWA programs.

Past efforts that catalogued estuarine values and the impairment of those values include water quality standard reviews, 208 areawide management plans, 303 basin plans, 201 facility plans (especially those involving Publicly Owned Treatment Works (POTWs) seeking advanced wastewater treatment funding), environmental impact statements, and 305(b) reports. The proposed plan of action in the nomination should enhance the overall objective of meeting designated uses and should distinguish the CCMP as a plan of action, different from those planning efforts above.

For example, if point sources of nutrients and toxics have been identified as probable causes of problems, the nomination should address how well the state has implemented the National Pollutant Discharge Elimination System (NPDES). Are all POTWs secondary treatment? Are water quality based permits in effect? What is the status of pretreatment programs? How well are compliance monitoring and enforcement activities targeted on coastal dischargers?

In a case where loss of wetlands is a major threat to the estuary, the nomination should explain how the 404 permit review program has functioned, how advanced identification of critical habitats has helped or could help maintain the integrity of the estuary, or whether 401 water quality certification for federal permits has been used.

### ***New Federal Activities - WQA of 1987***

In addition, the WQA provides for several new or enhanced activities that further estuarine protection efforts. Coordinating activities across program areas to avoid redundant efforts, promote environmental results, and facilitate the efficient, effective use of resources is a principle outlined in the State Clean Water Strategies Guidance (SCWS). This is a voluntary effort. If the state is participating and is developing a SCWS, the nomination should describe how the SCWS and the estuary program are linked.

Whether or not a state is developing a SCWS, the state should indicate how it plans to coordinate the following WQA activities with the proposed estuary program:

- **Toxics Control Strategies** - Identification of waters affected by toxics and implementation of individual control strategies to assure water quality standards are attained. Does the nomination suggest how this activity may be factored into the proposed program?
- **Nonpoint Source Pollution** - The WQA provides for a state assessment of use impairment caused by nonpoint sources and funds to prepare management plans. Does the nomination suggest how these activities may be factored in the proposed program?
- **State Revolving Fund** - The WQA provides for funds to capitalize state revolving funds. From the state Revolving Fund, States can provide loans to local governments and intermunicipal and interstate agencies for the construction of publicly owned treatment works (POTWs) and related implementation projects, including the NEP. Does the nomination suggest how the state plans to use the State Revolving Fund to benefit the estuary?

The proposed estuary program should entail studies and control efforts beyond those already required in the core programs above.

### ***Other Federal Authority***

In addition to activities conducted under the Clean Water Act and WQA programs, many states have taken steps in estuary management under the authority of other federal statutes. Among them are the Coastal Zone Management Act, the Marine Protection, Resources and Sanctuaries Act, and the Safe Drinking Water Act. This section of the nomination provides the state an opportunity to highlight how these programs have been used to maintain or improve the estuary. Examples of subjects that could be addressed here are:

- **CZMA** - Are there Special Area Management Plans for sections of the estuary? How has the state applied federal consistency requirements to protect the estuary? Have grants been issued under CZMA for studies or management action in the estuary?
- **MPRSA** - How have reviews of dredging and ocean disposal permit applications helped maintain the quality of the estuary? Were studies done to support an application for Estuarine Research Reserve status?
- **SDWA** - Are ground water classification and wellhead protection part of the integrated management plans for the estuarine watershed?

### ***State and Local Programs***

The three management areas of the CCMP (water and sediment quality management, living resources management, and land use and water resources management) go beyond CWA mandates. EPA recognizes that state and local programs often provide more extensive authorities than the CWA to address water pollution control concerns. Special state or local efforts may have been initiated to protect the estuary. For example, land use planning to mitigate construction runoff, or to preserve wetlands, often appears in municipal ordinances. In addition, EPA recognizes that many states have embarked on ambitious monitoring and research programs, often in concert with state universities or private research foundations, to more fully characterize estuarine values, the threat to those values, and potential solutions.

### ***Environmental Quality Goals and Action Plans***

When Congress established the National Estuary Program under the Water Quality Act, it mandated the development of plans to restore and maintain the nation's estuaries. The law provides that the needs of an array of users are to be accommodated. The Management Conference is charged with achieving this intricate balance by setting broad environmental quality goals that comply with the mandate of the Act and the will of the people.

Goals are usually long term and broad in scope. The Conference establishes overall goals related to the desired condition for the estuary and its segments. To determine what goals the public wants to attain and will support, the Management Conference presents options for public discussion. These may range from maintaining current conditions to restoring the estuary to a past condition to restoring or maintaining pristine quality. The nomination should list the overall goals the state plans to propose to a management conference.

Environmental quality objectives, unlike goals, are specific and shorter term. They are aimed at achieving broader, longer term goals. Achievable through the implementation of specific action plans, objectives generally reflect the environmental criteria or the preferred uses that the Conference considers appropriate and desirable for various estuarine segments. Objectives undoubtedly will vary from one segment to another. Typically, they are established on the basis of preferred uses, standards, and permit activities to improve water quality. Objectives may also be set for the other management areas: sediment quality, living resources, and land and water resources. Examples of some of the types of objectives the management conference might propose should be included in the nomination.

To achieve environmental goals and objectives, action plans should be proposed to address the environmental and institutional problems identified in the problem statement. Action plans should address the three management areas. Action plans are detailed programs for meeting goals and objectives, indicating who, what, where, when, and how the plans will be carried out.

The description of goals, objectives, and actions in the nomination should demonstrate an understanding of the work that will be needed to mitigate various causes of environmental problems. The examples should include the goals of the program (maintaining current conditions, restoring the estuary to a past condition, or restoring or maintaining pristine quality), objectives to reach those goals, and sample action plans that will produce the greatest environmental benefit at the least cost and in the most timely manner.

### ***Management Conference Participants***

The WQA establishes conference membership as the EPA Administrator (or his designee); representatives of state, local, and foreign governments, and other appropriate interstate or regional agencies and entities; and affected industries, educational institutions, and the general public. Where appropriate, the conference may also involve federal agencies other than EPA. Although each nomination may propose a conference structure designed to meet the specific environmental, institutional, and political needs, each proposal must include scientific and technical and citizen advisory committees. This management support may be demonstrated through the use of organizational charts and expressions of interest from the respective organization. The Estuary Program Primer provides additional guidance on establishing a workable conference structure.

### ***Public Support***

The nomination must document the existence of, and/or potential for generating, public concern and support. The term “public” includes the public at large, environmental interest groups, special interest groups, and industry groups. Documentation may include newspaper clippings (articles and editorials) discussing estuarine problems; listings of the number of interest groups and membership; attendance at past public meetings; and referenda on state or local elections for additional funding for parkland, wetland protection, and/or recent industrial contributions of funds or expertise to estuarine quality protection or restoration.

Informing and involving the public and getting its support can be the most difficult aspect of an estuary program, yet it is the cornerstone of a successful program. An effective public participation effort will help ensure implementation of the Comprehensive Conservation and Management Plan (CCMP). This plan is the product of a collaborative problem-solving process in which key members of the public have been fully engaged. Everyone in the water basin needs to understand his or her role as a user of the estuary because the desired long-term improvements in the estuary will affect daily life through better septic systems, water conservation, additional taxes, or limits on some property uses. Because so much is at stake, it is important to put the best talent, adequate resources, and full program commitment into designing and executing an effective process for public participation.

Public participation in the context of the National Estuary Program means involving citizens in the decision-making process that the Management Conference oversees. The goal of public participation is to establish the public consensus that will ensure long-term support and implementation of the CCMP. As the Management Conference proceeds and the collaborative process evolves, public consensus must be achieved at least during two phases: first, when priority problems are identified; and second, when solutions and action strategies for implementation are selected and adopted. Additional information on processes to effectively involve the public in the Management Conference appears in Appendix B of the National Estuary Program Primer.

### ***Political Commitment***

Another public entity is that of political jurisdictions other than the state, including city governments, county governments, or other jurisdictions such as sewer use districts or harbor authorities. These jurisdictions also have an interest in the estuary. Their interest in and commitment to protecting or restoring estuarine water quality should be discussed. Some possible examples of political commitment include the establishment of an Estuary Management Commission and the passage of legislation or ordinances addressing the estuary.

### ***Financial Capability***

The WQA and program policy require that the state provide at least 25 percent of the funds toward the costs of the Conference. The Governor(s) must sign a commitment with the nomination that the state will provide the 25 percent match. These funds must come from non-federal sources and must be redirected from existing programs or new allocations. A detailed explanation of the matching fund requirement is found in regulation (40 CFR Part 35, Subpart P) and in the Federal Register (Vol. 54, No. 190, p. 40799).

In addition to the 25 percent match of funds, the state should demonstrate that it will be able to meet the expense of implementing action plans. Implementation costs could run as high as several million dollars, depending on the type and severity of the problems in the estuary. The nomination should include a commitment to develop a financial strategy within two years that will demonstrate how the management conference plans to pay for implementation costs.

A document prepared by EPA entitled Financing Marine and Estuarine Programs: A Guide to Revenues discusses several tools that could be used to access revenues, manage finances, and creatively build institutional arrangements. This primer includes several examples of how municipalities or states have successfully used these tools to fund water quality improvement projects.

## **FORMAT**

The Governor's nomination should follow the basic structure of this document, and must provide answers to the questions listed as topic headings. The checklist provided in Appendix C may serve as an organizing framework for developing the nomination.

The nomination should be short and concise, and generally should not exceed 50 pages. In designing the document, emphasis on charts, tables, graphs, and lists will allow more concise presentation of complicated ideas. Tables presenting raw data should not be included. EPA has found, based on the review of Phase II nominations, that discussions of estuary problems, causes, and resolutions to those problems can be best described on a segment-specific basis rather than in more general terms. The segment-specific approach allows for a clearer definition of cause-effect relationships and what actions may be taken to ameliorate problems. Moreover, such an organization is consistent with the manner in which states establish water quality standards and prepare state 305(b) reports.

The nomination should use data that federal agencies have collected. The National Oceanic and Atmospheric Agency (NOAA) maintains, among other information, data on land use; the classification of shellfish beds according to water quality and productivity (including historical data for some areas); dredging activities; and a comprehensive database of pollutants entering estuarine waters. Other sources of information might include studies and reports prepared by the U.S. Army Corps of Engineers on dredge and fill activities under Section 404 of the CWA; the National Marine Fisheries reports on landings; university studies and research conducted on the estuary; studies completed by private groups (e.g., the Nature Conservancy); and private consultant reports. More details on the type of data available from other groups, and points of contact for receipt of that information, appears in Appendix D.

In addition, the nomination need not detail existing reports on the state of the estuary, cause-and-effect relationships, or other material that may support the statements made in the nomination. For the most part, providing major conclusions and the data summaries supporting such conclusions are all that is necessary. It is better to indicate the types and number of studies that exist than to cite to each one individually.

The end result should be a concisely written document that best establishes an estuary's case for inclusion in the National Estuary Program. Well organized summary tables, charts, and graphs, and the use of interpreted data and information that are linked to program goals will add to the persuasiveness of the nomination.

## **APPENDIX A: LIST OF MEASURES**

## LIST OF MEASURES

### Measures of Problems in Estuaries

#### Fish and shellfish

##### Declining fish catches

{Fish landings, creel census, catch and effort, catch value, number of complaints about declining fish catches}

##### Consumption advisories for fish

{Number of local (state) health authorities issuing warnings, number of species covered by warnings, area covered by warnings, frequency of warnings being issued, extent to which fish exceed action levels}

##### Fish kills

{Frequency of fish kills, number of species affected, number of fish killed, mass of fish killed, number of reports of fish kills}

##### Fish tumors/diseases/structural abnormalities/parasites

{Percent of fish caught with tumors, diseases, or structural abnormalities /parasites}

##### Fish tastes/odors

{Number of complaints/questions about organoleptic problems}

##### Closed shellfish beds

{Area of closures, frequency of closures, length of time bed closed, number of species covered by closures, shellfish harvest}

##### Abundance of "trash" fish

{Percentage of undesirable fish in catch, number of complaints}

##### Loss of habitat (e.g., decline in submerged aquatic vegetation)

{Area of specific habitats, number of areas of habitats}

##### Decline in fishing license sales

{Number of licenses sold, dollar value of licenses}

#### Wildlife

##### Declining hunting bags

{Number of birds/mammals shot, hunter bags, species quality}

##### Decline in duck stamps sold

{Number of stamps sold, dollar value of duck stamps sold}

##### Consumption advisories on birds

{Number of health authorities issuing warnings, number of species covered, area covered, extent to which concentrations exceed action levels}

##### Mass bird mortalities

{Frequency of occurrence, number of species involved, area over which mortalities occurs}

##### Decrease in migratory waterfowl/waders/etc

{Christmas counts, bird censuses, area of habitat used}

##### Abnormalities/tumors/diseases in wildlife

{Frequency of occurrence in one species, number of species affected}

##### Decrease in resident waders

{Bird census, areal extent of occurrence}

##### Decrease in nesting birds/colonies

{Census, areal extent of occurrence}

##### Loss of wetlands

{Area of wetlands, number of wetland areas in region, bird use of wetlands, hunter use of wetlands}

##### Decline in hatching success

{Clutch size, clutch size versus brood size, hatching success}

##### Abundance of "trash" birds

{Relative numbers from census}



## LIST OF MEASURES (cont.)

### Recreational use

Decline in fishing/hunting success (see fish/wildlife)

Beach closures (bacteria, floatables, other contamination)

{Number of beach closures, frequency of beach closures, total length or percent of estuary beaches closed, total time of beach closures}

Decline in enjoyment of wildlife (see wildlife)

Silting up

{Areal extent of decreased depth, volume or mass of sediments deposited, number of vessel groundings}

Increased fouling of vessels

{Time between vessel drydocks, mass of material accumulated, type of material accumulated}

Decrease in recreational use/interest

{Number of user days, polls of recreational interest, launching ramp use, number of berths, use of available berths, number or use of swing moorings, use of anchorages, number of charter vessels and charters, number of party boats}

### Economic potential

Reduction in residential/commercial property values

{Individual property values, time on market, number of abandoned properties}

Decline in commercial fishing catch/catch sale due to contaminants

{Landed catch weight, landed catch numbers, diversity of catch, dollar value of catch sold}

Decline in recreationally-based retail outlets

{Number of stores, number of patrons, dollar value of sales, store profits}

Loss of commercial navigation/shipping

{Number of vessels, tonnage, value added by shipping, amount of channel dredging required}

Decline in hotel/motel/restaurant/car and boat rental/sightseeing trade/charters

{Number of establishments, dollar value of sales, number of patrons, profits}

Decline in souvenir trade (tourist traps)

{Number of establishments, dollar value of sales, number of patrons, profits}

Decline in aquaculture/agriculture/other enterprise relying on natural estuarine processes

{Number of establishments, dollar value of sales, weight of product}

## **APPENDIX B: EPA/NOAA AGREEMENT**

**THE COASTAL ZONE MANAGEMENT PROGRAM  
AND THE NATIONAL ESTUARY PROGRAM**

In order to avoid duplication of effort, unnecessary expenditures of Federal funds, and the development of conflicting regulatory mechanisms, involving the Coastal Zone Management Program (CZMP) and the National Estuary Program (NEP), the enclosed coordination paper, which we endorse, has been prepared to address NOAA and EPA responsibilities.

This paper serves as guidance to NOAA and EPA program managers in carrying out their respective responsibilities under these two programs. Steps will be undertaken to begin implementation of the specific actions called for under Section V, including the establishment of a mechanism at the national level for coordination and oversight of individual estuary programs under the NEP and to ensure continued integration of the NEP and CZMP.

Coordination of NOAA and EPA activities related to this agreement will be handled by John J. Carey, Deputy Assistant Administrator, NOAA, National Ocean Service and Tudor T. Davies, Director, Office of Marine and Estuarine Protection, EPA.

Enclosure

(signed by William E. Evans)

William E. Evans  
Under Secretary for  
Oceans and Atmosphere  
Department of Commerce

DATE (signed Sept. 12, 1988)

(signed by Lee M. Thomas)

Lee M. Thomas  
Administrator  
Environmental Protection  
Agency

DATE (signed Aug. 18, 1988)

## **THE COASTAL ZONE MANAGEMENT PROGRAM AND THE NATIONAL ESTUARY PROGRAM**

### **I. GOALS OF THE TWO PROGRAMS**

The Coastal Zone Management Act (CZMA) was enacted by Congress to create a comprehensive management umbrella for the beneficial use, protection, and development of the resources of the nation's coastal zone. Coastal management was conceived as a voluntary program that States would undertake in partnership with the Federal government. To achieve comprehensive management of coastal resources, States wishing to participate were required to develop programs that addressed protection of coastal development in coastal areas to avoid loss of life and property, priority consideration of water dependent uses, improved access to and enjoyment of the coastal zone, conservation and management of living marine resources, and increased coordination of governmental activities. Wetlands and water quality in estuaries are important elements of State coastal management programs.

States are required to weigh the concerns of different levels of government, various interest groups, and the general public in both the development and implementation of coastal management programs. There are 29 approved State CZM programs. Coastal zone programs encompass, through the application of program policies, interagency and Federal coordination and a wide range of management issues throughout the State's entire coastal zone.

The National Estuary Program (NEP) was established in the Water Quality Act of 1987 to develop and implement plans to protect the integrity of nationally significant estuaries threatened by pollution, development, or overuse. In some estuaries, the water pollution control requirements have been shown to be inadequate to protect the environment from degradation. The main direction of the NEP is to strengthen these requirements.

Some nationally significant estuaries will be selected for inclusion in the program. In the estuaries selected, the participants of a Management Conference are responsible for defining the environmental problems, investigating and determining the causes of system-wide problems, and developing and implementing plans of action to address the problems. Sources of point and non-point pollution are the focus, although the management of living resources, water resources, and land use in the watershed may also be identified causes of some environmental problems.

The conference membership consists of representatives of EPA, each affected State and foreign nation, international, interstate, or regional agencies, each interested Federal agency, local governments, affected industries, public and private educational institutions, and the general public.

## II. A MUTUAL GOAL

Although the CZMA is broader in scope, both the NEP and CZMA are focused on the protection of coastal resources and share a common environmental goal: to maintain and enhance or protect the health of the nation's coastal resources. In achieving this goal both EPA's and NOAA's programs seek to ensure that population growth and corresponding development occur in an environmentally sound manner.

## III. POINTS OF INTERSECT OF: NEP AND CZM

- Both NEP and CZM are dependent on the political will and institutions of State and local government to take action. These Federal programs depend on the establishment and implementation of effective programs through State and local government.
- Both NEP and CZM have a strong orientation for public education, awareness, and involvement.
- Both NEP and CZM programs require the development of comprehensive plans but also have a strong action orientation.
- Both NEP and CZM are designed to comprehensively address pollution abatement, living resources, and land and water resource management.

## IV. TOOLS

There are several distinct tools available within the two programs to integrate these programs and work toward the same environmental goal:

- A NEP Management Conference is convened under Section 320 of the Clean Water Act to provide a forum for consensus building and problem solving.
- A NEP Comprehensive Conservation and Management Plan (CCMP) is developed by the Management Conference. The plan specifies goals and objectives for restoring and maintaining the estuary, and identifies actions, schedules, and resources to meet the goals.
- A Special Area Management Plan is developed by CZM States which create a comprehensive program providing special protection for a designated geographic area.
- A CZM Section 312 evaluation is a biennial review of a CZM program which recommends future actions.
- Section 307(c)(1) of the CZMA requires Federal agencies conducting or supporting activities directly affecting the coastal zone to do so in a manner which is

consistent, to the maximum extent practicable, with Federally approved State coastal zone management programs.

- A CZM implementation grant is made to States with approved CZMPs requiring "significant improvements" ensured in part by Section 312 evaluations.
- A CZM Section 309 grant is a competitive grant to States to integrate coastal programs and solve problems in Coastal Zones affecting more than one State.

V. EPA/NOAA CONCEPTS TO INTEGRATION OF NEPs AND CZMPs

NOAA

- To the extent permitted by law, States will be required to submit CCMPs developed under the NEP for incorporation into approved State CZM programs after approval by the Governor(s) and the EPA Administrator. CZMA Section 312 biennial evaluations will be used to ensure compliance.
- CZMA Section 312 biennial evaluations will stress activities identified by Management Conferences convened under the NEP, including activities outlined in a CCMP, or activities to support the overall objectives of the national demonstration program as defined under the NEP. As appropriate, an EPA representative would be invited to participate on the evaluations.
- CZM guidance governing the allocation of Section 309 grants for interstate coastal waters will give priority consideration to interstate estuaries and seek opportunities to coordinate activities where Management Conferences have been convened under the NEP.
- NOAA will provide scientific support and technical assistance to EPA for the development of national guidance on the management of pollution abatement and control programs to better address the survival and health of living estuarine and marine resources.

EPA

- CCMPs developed under the NEP will voluntarily, as a matter of policy, be submitted for review under the Federal consistency provisions of Section 307(c)(1) of the Coastal Zone Management Act of 1972, as amended.
- NEP guidance and/or regulations will provide that CCMPs should be incorporated into approved CZMPs and will stress the use of existing CZMA tools, including the designation of areas of special concern and public participation and education programs, for implementation activities identified by the Management Conference.

- Decision criteria for the selection of new estuaries for the National Estuary Program will include the existence of Federally approved CZMPs.
- In order to facilitate the development of CCMPs such that they are consistent, to the maximum extent practicable with the state CZMPs, NEP guidance and/or regulations will require a state coastal zone management liaison to participate on the management committee of the conferences convened pursuant to the NEP and in the development of the CCMP.

#### EPA/NOAA Joint Activities

- NOAA and EPA will jointly sponsor a national workshop for estuary and coastal zone management program staff, headquarters, regional, and state participants, to further explore avenues and mechanisms for coordination between and integration of these programs at the national, regional, and state level.
- NOAA and EPA will conduct, where appropriate, joint reviews of state programs to facilitate the coordination of the Management Conference with state CZM programs, sharing of information sources, and the use of existing CZM programs, sharing of information sources, and the use of existing CZM tools to solve problems.
- EPA/OMEP and NOAA/OCRM will establish a mechanism at the national level for coordination and oversight of individual estuary programs under the NEP and to ensure continued integration of the NEP and CZMP.

#### VI. SUMMARY AND CONCLUSIONS

1. The National Estuary Program and Coastal Zone Management Program are being coordinated between NOAA and EPA.
2. The CZMA provides the broad umbrella for state management actions in the entire coastal zone; the NEP focuses on estuaries and supports the overall achievement of CZMA goals.
3. NEP is a demonstration program to show how Federal/State/local agencies can develop effective programs for dealing with environmental problems.
4. CZM/NEP program efforts are aimed at encouraging state initiative and implementation through guidance and cooperative planning--not unilateral Federal regulation or direction.

5. Mechanisms will be put in place to ensure that Management Conferences convened under the NEP will be coordinated with applicable State CZM planning processes and administration of CZM plans. Similarly, CZM program reviews and grant decisions will seek opportunities to coordinate activities where Management Conferences have been convened, or where objectives of the national demonstration program have been defined, under the NEP.



**APPENDIX C: GOVERNORS NOMINATION PACKAGE  
NATIONAL ESTUARY PROGRAM CHECKLIST**

This checklist may be used for two distinct purposes. First, it can be used to aid those preparing nominations in organizing information for use in the nomination. It also may be used to develop a listing of reference documents used in preparing the nomination. Second, EPA may use the checklist in reviewing the nomination, documenting issues for future discussions with the applicant.

The checklist is not meant to be a stand-alone document; it should be used in conjunction with the guidance. It does not list all possible measures that could be used to identify the estuary's natural significance or document the need for the conference or its likelihood of success. On the other hand, not all of the items that are listed in the checklist need to appear in a nomination. The applicant may choose to document "other" measures for any particular factor. Thus, an "other" category is provided throughout the checklist. Applicants are not required to submit completed checklists with their nomination.

NATIONAL SIGNIFICANCE

1 of 18

ESTUARY: DATE SUBMITTED: \_\_\_\_\_ SIGNED BY: \_\_\_\_\_

PRINCIPAL REVIEWER: PHONE: \_\_\_\_\_

QUESTIONS: • What is the Geographic scope of the estuary?

GEOGRAPHIC SCOPE

Required Information	Information Included? Y/N/NA	EPA Conclusions Required	Adequate Information (Y/N)	Comments (Attach Materials as Necessary)
"The nomination should address how the estuary meets the statutory definition."		<ul style="list-style-type: none"> <li>• The water body is open to the sea and measurably diluted by fresh water.</li> <li>• The boundaries of the estuary go to the historic height of anadromous fish migration or the historic height of tidal influence, whichever is greater.</li> </ul>		
"The nomination should include a <u>general</u> description of the estuary."		<ul style="list-style-type: none"> <li>• Drainage area, wetland acreage, tributaries, and land use are described.</li> <li>• A map showing the estuary's geographical features is included.</li> </ul>		

# NATIONAL SIGNIFICANCE

2 of 18

## QUESTIONS:

- Why is the estuary important to the Nation?

## ESTUARINE VALUES

Required Information	Information Included? Y/N/NA	EPA Conclusions Required	Adequate Information (Y/N)	Comments (Attach Materials as Necessary)
"The nomination should describe the recreational value of the estuary to the nation."		<ul style="list-style-type: none"><li>• Quantitative information on recreational uses is present.</li><li>• Major recreational features (scenery, water clarity) are described.</li></ul>		
The nomination should describe "the commercial value of the estuary to the nation."		<ul style="list-style-type: none"><li>• Quantitative information on commercial uses is presented for uses that rely on ecological health and those uses do not rely on ecological health.</li></ul>		
The nomination should describe habitats or living resources of national importance.		<ul style="list-style-type: none"><li>• Unique or significant species are identified.</li><li>• Nursery or spawning areas for important commercial or recreational fish are identified.</li><li>• Threatened or endangered species living in estuary are identified. Habitat of threatened or endangered species described.</li></ul>		

# NATIONAL SIGNIFICANCE

3 of 18

QUESTIONS: • How can the lessons learned from this estuary be applied to other coastal areas?

## LESSONS LEARNED

Required Information	Information Included? Y/N/NA	EPA Conclusions Required	Adequate Information (Y/N)	Comments (Attach Materials as Necessary)
C-4 "A nomination should demonstrate the value of the estuary on a national scale and the aspects of the program applicable to other coastal/estuarine waters."		<ul style="list-style-type: none"> <li>• Estuary problems, and goals and objectives and likely results of the management conference are identified. (Review 305(b) reports, PCS compliance to assess accuracy of problem identification.)</li> <li>• Applicability of likely results to other estuaries is discussed.               <ul style="list-style-type: none"> <li>- Problems and probable causes previously unaddressed in the NEP are identified.</li> <li>- Inclusion of estuary would increase comprehensive understanding of problems/causes.</li> <li>- Results can be expected in a short time frame.</li> </ul> </li> </ul>		

## QUESTIONS:

- What is the importance of the estuary on a local or regional scale?

## ECONOMIC IMPORTANCE

Required Information	Information Included? Y/N/NA	EPA Conclusions Required	Adequate Information (Y/N)	Comments (Attach Materials as Necessary)
<p>C-5 "The nomination should also include a demonstration of the estuary's value on a local or regional scale."</p> <p>This demonstration should include the value of the estuary to the local economy..."</p>		<ul style="list-style-type: none"> <li>• Nomination documented value of:               <ul style="list-style-type: none"> <li>- recreational activities</li> <li>- commercial fishery</li> <li>- ecological value of living resources</li> <li>- tourism</li> </ul> </li> <li>• The nomination documented how <u>changes</u> in estuarine quality may affect economic values.</li> </ul>		

QUESTIONS: • What is the importance of the estuary or a local or regional scale?

LIVING RESOURCES

Required Information	Information Included? Y/N/NA	EPA Conclusions Required	Adequate Information (Y/N)	Comments (Attach Materials as Necessary)
"This demonstration should include ... the value of living resources within the estuary ..."		<ul style="list-style-type: none"> <li>• The value of the estuary's living resources was demonstrated by considering species diversity, distribution, endangered species, etc.</li> <li>• The nomination documented how changes in estuarine quality may affect living resources. Trends were addressed as applicable.</li> </ul>		

QUESTIONS:      • What are the major environmental problems facing the estuary?

## LIVING RESOURCES

Required Information	Information Included? Y/N/NA	EPA Conclusions Required	Adequate Information (Y/N)	Comments (Attach Materials as Necessary)
<p>Problem statement providing listing of all value. Potential problems include:</p> <ul style="list-style-type: none"> <li>• toxicants</li> <li>• pathogens</li> <li>• eutrophication</li> <li>• habitat/modification</li> <li>• changes in living resources</li> <li>• other (including concern or antidegradation)</li> </ul>		<ul style="list-style-type: none"> <li>• All problems were sufficiently addressed and some demonstration was made to how these problems detract from the estuary's values.</li> </ul>		



QUESTIONS: • What is known about cause/effect relationships and how do you propose to better identify the causes of environmental problems?

LIVING RESOURCES

Required Information	Information Included? Y/N/NA	EPA Conclusions Required	Adequate Information (Y/N)	Comments (Attach Materials as Necessary)
<p>The nomination should address the cause/effect relationships "... to the extent they are known."</p>		<ul style="list-style-type: none"> <li>• A cause/effect relationship was identified, a probable relationship was identified, or methods to explore relationships were included for each problem facing the estuary. (Review 305(b) to assure consistency of cause/effect relationships defined.)</li> </ul>		
<p>Reasonable evidence of a cause/effect relationship must be presented. Summary of problems, observed changes and probable causes could be arranged in tabular form.</p>		<ul style="list-style-type: none"> <li>• Evidence may limit the number of potential sources and link the effects to a single or few causes. Evidence such as bioassays, relative loadings or isolated areas of contamination can be used demonstrate these relationships.</li> </ul>		
<p>A strategy for measuring the effects of control(s) is identified, in order to share this information with other estuary managers.</p>		<ul style="list-style-type: none"> <li>• Background information and a list of variables used (i.e., pollutant concentrations, species diversity) to measure success of control strategies is provided.</li> </ul>		

## QUESTIONS:

- What are the institutional arrangements for the estuary and how are they working?

## INSTITUTIONAL ARRANGEMENTS

Required Information	Information Included? Y/N/NA	EPA Conclusions Required	Adequate Information (Y/N)	Comments (Attach Materials as Necessary)
<p>C-9 "An evaluation of institutional structures, including laws, regulations, and management programs is needed."</p> <p>"The nomination should list laws, regulations, policies, and control programs at Federal, State and local levels, identify gaps and inconsistencies, and assess how well regulations are being enforced and whether programs are being coordinated."</p>		<ul style="list-style-type: none"> <li>• A listing of all institutional structures affecting the estuary, and roles of each, appeared.</li> <li>• A listing of all major laws, regs, policies, and control programs appeared along with a short description of roles and limits of each.</li> <li>• Gaps in the laws/institutions that fail to address estuarine problems were identified.</li> <li>• Where multiple organizations are involved, coordination schemes were discussed (including interstate coordination).</li> <li>• The success of the programs in place was demonstrated by compliance statistics, vigor of enforcement actions.</li> </ul>		

# LIKELIHOOD OF SUCCESS

9 of 18

## QUESTIONS:

- What goals and objectives do you propose to set for the estuary and how do you propose to meet them?

## GOALS, OBJECTIVES, ACTION PLANS

Required Information	Information Included? Y/N/NA	EPA Conclusions Required	Adequate Information (Y/N)	Comments (Attach Materials as Necessary)
<p>C-10</p> <p>"The nomination should list the overall goals the State plans to propose to a management conference."</p> <p>Objectives "... are established on the basis of preferred uses, standards, and permit activities ... sediment quality, living resources, and land and water resources."</p> <p>"Action plans should be proposed to address the environmental and institutional problems identified in the problem statement."</p>		<ul style="list-style-type: none"> <li>• A listing of goals is provided.</li> <li>• Goals are long-term/broad in scope.</li> <li>• Goals relate to desired condition of entire estuary or estuarine segments. Stated as maintenance, restoration, etc.</li> <li>• Objectives are aimed at achieving goals.</li> <li>• Objectives may be segment-specific.</li> <li>• Objectives are specific and short-term compared to goals.</li> <li>• Objectives are consistent with WQ standards or planned modifications of standards (review State Wqs and 305(b) reports).</li> </ul> <ul style="list-style-type: none"> <li>• Action plans should address sediment quality, living resources, and land/water resources.</li> <li>• Action plans indicate who, what, when, where and how plans will be carried o</li> </ul>		

QUESTIONS: ● Who will participate in the management conference and how will it be organized?

CONFERENCE PARTICIPANTS

Required Information	Information Included? Y/N/NA	EPA Conclusions Required	Adequate Information (Y/N)	Comments (Attach Materials as Necessary)
<p>"The WQA establishes conference membership as the EPA Administrator (or his designee), representatives of State, local, and foreign governments, and other appropriate interstate or regional agencies and entities; and affected industries, educational institutions, and the general public."</p>		<ul style="list-style-type: none"> <li>● The nomination establishes a conference membership which consists of all parties required by the Act.</li> <li>● An organizational chart is provided.</li> <li>● Conference structure and membership is associated with the objectives of the problem statement.</li> </ul>		
<p>The conference "must include scientific and technical and citizen advisory committees."</p>		<ul style="list-style-type: none"> <li>● The conference includes the named committees.</li> <li>● The conference is well organized and appears able to meet the seven purposes of the Management Conference.</li> </ul>		

# LIKELIHOOD OF SUCCESS

11 of 18

QUESTIONS: ● What are the State and local governments and public and private institutions already doing for the estuary?

## "TRADITIONAL" FEDERAL PROGRAMS: STATE ROLES/RESPONSIBILITIES

Required Information	Information Included? Y/N/NA	EPA Conclusions Required	Adequate Information (Y/N)	Comments (Attach Materials as Necessary)
"The nomination should address the State's effort to maintain and improve these (traditional) CWA programs."		● Explanation of past efforts that catalogued or identified estuarine values should be included (e.g., areawide, basin plans or 305(b) reports).		
Problems associated with existing Federal programs, their current status and projected improvements should be discussed.		● Status of following Federal programs should be documented:  - NPDES - Pretreatment - WQS/WQ Monitoring - 404 Dredge and Fill.		
Estuary management pursuant to other Federal statutes should be highlighted.		● Efforts to maintain or improve water quality in the estuary under the Coastal Zone Management Act, the Safe Drinking Water Act, and the Marine Protection, Resources and Sanctuaries Act are addressed. Plans for integrating these activities are included.		
New Federal water quality initiatives should also be discussed. If the State has developed a State Clean Water Strategy (SCWS), description of coordination of activities		● Nomination demonstrates how WQA activities are coordinated regarding  - toxic pollutant strategies - nonpoint source pollution		

QUESTIONS: • What are the State and local governments and public and private institutions already doing for the estuary?

"ADDITIONAL" STATE PROGRAMS

Required Information	Information Included? Y/N/NA	EPA Conclusions Required	Adequate Information (Y/N)	Comments (Attach Materials as Necessary)
<p>"EPA recognizes that ... State programs often provide more extensive authorities than the CWA to address water pollution control concerns." Any problems issued in the Problem Statement should be addressed.</p> <ul style="list-style-type: none"> <li>- Water quality</li> <li>- Sediment quality</li> <li>- Living resources management</li> <li>- Land use management</li> <li>- Water resources management (i.e., water quantity programs)</li> </ul>		<ul style="list-style-type: none"> <li>• The nomination documented additional programs directed at improved water quality, e.g., NPS control requirements.</li> <li>• The nomination documented State efforts in living resources management.</li> <li>• The nomination addressed State efforts in land use management.</li> <li>• The nomination addressed State efforts in water resources management.</li> </ul>		

# LIKELIHOOD OF SUCCESS

13 of 18

## QUESTIONS:

- What are the State and local governments and public and private institutions already doing for the estuary?

## LOCAL PROGRAMS - "TRADITIONAL" PROGRAM

Required Information	Information Included? Y/N/NA	EPA Conclusions Required	Adequate Information (Y/N)	Comments (Attach Materials as Necessary)
----------------------	---------------------------------	--------------------------	-------------------------------	--

### "Traditional" CWA programs

#### POTWs

- Operation/maintenance of existing facilities
- Pretreatment compliance

- The status of operating/maintaining existing facilities was accurately represented. Needed improvements were identified.

- The status of local pretreatment programs were accurately represented. Needed improvements were identified (check PCS reports).

# LIKELIHOOD OF SUCCESS

14 of 18

QUESTIONS: ● What are the State and local governments and public and private institutions already doing for the estuary?

## LOCAL PROGRAMS - "EXTRA EFFORTS"

Required Information	Information Included? Y/N/NA	EPA Conclusions Required	Adequate Information (Y/N)	Comments (Attach Materials as Necessary)
"Extra" efforts				
POTWs		<ul style="list-style-type: none"> <li>● Upgrades to the facility are being made to improve performance to meet w.q.s. or sludge quality objectives.</li> <li>● More stringent effluent standards for indirect dischargers are being established.</li> </ul>		
Land use planning		<ul style="list-style-type: none"> <li>● Municipal/county governments have considered/developed land use controls.</li> </ul>		
Monitoring/research programs		<ul style="list-style-type: none"> <li>● Municipality/County have worked alone, or in concert, to monitor/research the ecosystem's values, threat to those values, and potential solutions.</li> </ul>		



QUESTIONS:

- What are the State and local governments and public and private institutions already doing for the estuary?

PRIVATE INSTITUTIONS

Required Information	Information Included? Y/N/NA	EPA Conclusions Required	Adequate Information (Y/N)	Comments (Attach Materials as Necessary)
Description of efforts being made by State universities and private institutions		<ul style="list-style-type: none"> <li>• Documented efforts by these institutions to characterize:                             <ul style="list-style-type: none"> <li>- Values</li> <li>- Threat to values</li> <li>- Solution</li> </ul> </li> </ul>		

QUESTIONS: ● Is there public and political will, as well as financial capability, to support implementation of the CCMP?

POLITICAL WILL

Required Information	Information Included? Y/N/NA	EPA Conclusions Required	Adequate Information (Y/N)	Comments (Attach Materials as Necessary)
Demonstration of political commitment		<ul style="list-style-type: none"> <li>● Nomination speaks to involvement of city, county, and other jurisdictions (e.g., sewer district, harbor authority).</li> <li>● Nomination speaks to actions these jurisdictions have taken/plan to take.</li> <li>● Other, e.g., legislative activity.</li> </ul>		

# LIKELIHOOD OF SUCCESS

17 of 18

QUESTIONS: ● Is there public and political will, as well as financial capability, to support implementation of the CCMP?

## PUBLIC SUPPORT

Required Information	Information Included? Y/N/NA	EPA Conclusions Required	Adequate Information (Y/N)	Comments (Attach Materials as Necessary)
"The nomination must document the existence of, and/or potential for generating, public concern and support."		<ul style="list-style-type: none"> <li>● Evidence exists that public supports actions to protect/restore the estuary.</li> <li>● A plan is provided for developing/ maintaining public participation.</li> <li>● The nomination discusses the need to maintain public involvement in problem identification and in solution development.</li> </ul>		

# LIKELIHOOD OF SUCCESS

18 of 18

QUESTIONS: ● Is there public and political will, as well as financial capability, to support implementation of the CCMP?

## FINANCIAL CAPABILITY

C-19

Required Information	Information Included? Y/N/NA	EPA Conclusions Required	Adequate Information (Y/N)	Comments (Attach Materials as Necessary)
"Governor(s) must sign a commitment ... that the State will provide at least 25 percent toward the cost of the Conference."		● Governor's signed Commitment appears with package.		
"State should demonstrate that it will be able to meet the expense of implementing action plans."		● (Rough) Estimates of Action Plans are provided. Methods to raise dollars to meet expenditures are discussed.		
"Nomination should include a commitment to develop a strategy within two years ... to pay for implementation costs."		● Either a strategy has been developed or the nomination includes the types of alternative financing plans it will consider.		

## **APPENDIX D: AVAILABLE DATA SOURCES**

## DATA SOURCES APPLICABLE TO ASSESSMENT AND TARGETING OF WATER BODIES

### I. EPA DATA SOURCES

#### A. Computerized Data Systems

EPA maintains the following water quality-related data bases, containing state and EPA data. Most of this information is linked together for access using the reach file coding structure under STORET. Permit compliance System (PCS) data is available directly through PCS coordinators (located in regions and states) or through Reach File Systems in related pilot project regions (Regions I, II, III, IV, and V).

These data bases, individually and through linkages that have been and are being developed, can be very useful in assessing water quality. For instance, ambient water quality data in the STORET system's Water Body File can be compared with state water quality standards or EPA water quality criteria quickly to identify those water bodies where standards have been exceeded.

#### Reach File

- o Nation's major water bodies divided into some 70,000 individual segments (reaches).
- o Reaches assigned numbers/names
- o Locational data includes latitude/longitude, state and county codes
- o Associated Reach Characteristics File contains physical characteristics for segments in Reach File--slope, elevations, width, depth, velocity, etc.
- o Associated Gauge File contains annual mean and low flow and monthly mean flow estimates
- o Linked to Drinking Water Supply File, giving location of water supply sources/intakes

Contact: Office of Science and Technology  
Office of Water  
EPA Headquarters  
Phone: (FTS) 260-5400 / (202) 260-5400

#### Water Quality File

- o Water quality data from about 200,000 stations
- o Locational data for each station--ID No., reach assignment latitude/longitude, state/county
- o Data on hundreds of parameters, most common of each includes pH, temperature, DO, solids, nitrogen, metals
- o Info on use impairment from ASWIPCA State's Evaluation of Progress (STEP) and NPS reports
- o National Urban Runoff Program (NURP) study data

### Water Quality File (continued)

Contact: STORET Customer Support  
Office of Information Resources Management  
EPA Headquarters  
Phone: (FTS)883-8683 or (703)883-8683

(Note: Until recently, STORET and the Water Quality File were synonymous, but STORET is now becoming a much broader system linking a number of EPA data bases.)

### Industrial Facilities Discharge File (IFD)

- o Data on 60,000 industrial and municipal discharges
- o Industrial SIC codes, reach assignments, effluent data
- o Information on indirect discharges to POTWs

Contact: Office of Wastewater Enforcement and Compliance  
EPA Headquarters  
(FTS)260-5850 or (202)260-5850

### Permit Compliance System

- o Records on 65,000 NPDES permits
- o Locational data on permitted facilities, including link to Reach File
- o Pollutant-specific discharge limits
- o Data from Discharge Monitoring Reports (DMRs)
- o Automatic detection of violations of effluent limits
- o Special feature of link to STORET provides estimates of effluent dilution ratios (average or low stream flow)

Contact: Permits Division  
Office of Wastewater Enforcement and Compliance  
EPA Headquarters  
FTS 260-8304 or (202) 260-8304

PCS/STORET link  
-- see IFD File listing for phone number

### BIOS

- o Data on the distribution, abundance, and condition of aquatic organisms, including fish tissue analysis
- o Descriptions of habitat at sampled sites--substrata type, streambank stability, canopy type
- o Generates diversity indices/community structure analyses
- o Will incorporate CETIS (see below)

BIOS (continued)

Contact: Monitoring Branch  
Assessment and Watershed Protection Division  
Office of Wetlands, Oceans and Watersheds  
EPA Headquarters  
FTS 260-7028 or (202) 260-7028

Complex Effluent Toxicity Information System (CETIS)

- o Data from whole effluent toxicity tests

Contact: Permits Division  
Office of Wastewater Enforcement and Compliance  
EPA Headquarters  
FTS 260-9545 or (202) 260-9545

Water Body File (under development)

- o Computerized system of recording information needed to prepare 305(b) reports
- o Correlated with Reach File segments
- o To contain assessment data, including type(s) and magnitude of impairment, categories of point and nonpoint sources

Contact: Watershed Branch  
Assessment and Watershed Protection Division  
Office of Wetlands Oceans and Watersheds  
EPA Headquarters  
FTS 260-7074 or (202) 260-7040

STORET Nonpoint Source Stream Station File

- o Data on 700 stations from 22 states estimated to be primarily impacted by NPS
- o STORET number, river reach number, state, county
- o Relative contribution of NPS in wet and low flow conditions of nine general pollutant types

Contact: Nonpoint Source Control Branch  
Assessment and Watershed Protection Division  
Office of Wetlands, Oceans and Watersheds  
EPA Headquarters  
FTS 260-7085 or (202) 260-7085



### Federal Reporting Data System (FRDS)

- o Inventory of public water supply systems in the U.S.
- o Listing of exceedences of national drinking water standards in treated water (non in raw water supply)
- o Some information on location of raw water supplies for some systems

Contact: Enforcement and Program Implementation Division  
Office of Ground Water and Drinking Water  
EPA Headquarters  
FTS 260-5522 or (202) 260-5522

### Needs Survey File

- o Data from the 1986 Needs Survey covering approximately 24,000 existing and proposed POTWs in need of construction
- o Approximately 200 data elements including facility characteristics and location, construction costs, population served, effluent characteristics, and more
- o Linked to the Reach file, PCS

Contact: Municipal Support Division  
Office of Wastewater Enforcement and Compliance  
EPA Headquarters  
Phone: FTS 260-5859 or (202) 260-5859

### Grants Information Control System (GICS)

- o Data on all EPA construction grants projects for POTWs
- o Contains administrative, financial, technical, and project status information on each EPA grant
- o Linked to the Needs Survey and PCS

Contact: Municipal Support Division  
Office of Wastewater Enforcement and Compliance  
EPA Headquarters  
FTS 260-5859 or (202) 260-5859

## **B. Other EPA Data Sources**

### Regional Priority Wetlands Lists

- o Lists of most valuable (productive, unique) and vulnerable wetlands in each EPA Region
- o Prepared by EPA Regional Offices

Contact: Wetlands Division  
Office of Wetlands, Oceans and Watersheds  
EPA Headquarters  
FTS 260-1915 or (202)260-1915

(also contact Regional wetlands staff)

### Other Program-Specific Guidance (e.g., 304(1), 319, 314)

- o under 304(1), reach-by-reach listing of toxic pollutants and discharges

Contact: Monitoring Branch  
Assessment and Watershed Protection Division  
Office of Wetlands, Oceans and Watersheds  
EPA Headquarters  
FTS 260-7040 or (202)260-7040

## II. DEPARTMENT OF INTERIOR DATA SOURCES

### Water Data Storage and Retrieval System (WATSTORE)

- o Managed by USGS
- o Water quality data for 5,000 sampling stations
- o Data on peak and daily flows from some 8,000 stations
- o Incorporates data from usgs's nasqan system

(Note: all water quality data from WATSTORE included in STORET)

contact: Water Resources Division  
U.S.G.S.  
Reston, VA  
(703) 648-5684

### National Water Data Exchange (NAWDEX)

- o Managed by USGS
- o Listing of all organizations nationwide collecting water data
- o Master Water Index provides information on about 400,000 data collection sites

Contact: Water Resources Division  
U.S.G.S.  
Reston, VA  
(703) 648-5684

### National Wetlands Inventory (partially completed)

- o Managed by U.S. Fish and Wildlife Service
- o Computerized mapping scheme for entire country
- o Vegetation data--3500 wetlands species
- o Ecological community types
- o Classification according to wetlands types

Contact: Fish and Wildlife Service  
U.S. Department of Interior  
Washington, D.C. 20240  
(202) 653-8726

### Nationwide Rivers Inventory

- o Developed by National Park Service
- o List of over 1,500 river segments (around 62,000 miles) thought to have sufficient natural or cultural attributes to qualify for National Wild and Scenic Rivers System; excludes rivers in the System and official candidate rivers

### Nationwide Rivers Inventory (continued)

Contact: Division of Park and Resource Planning  
National Parks Service  
Philadelphia, PA  
(215) 597-7386

### Endangered Species Information System (ESIS)

- o Covers species listed under federal Endangered Species Act
- o Official status (endangered, threatened)
- o Factors contributing to present status
- o Habitat types with which species associated
- o Present/past location by county/state
- o Watersheds/subunits where found
- o Counties/states with designated critical habitat

Contact: Office of Endangered Species  
Department of Interior  
Washington, D.C. 209240  
(703) 235-2760

### Annual Report of Lands Under Control of the U.S. Fish and Wildlife Service

- o List of all National Wildlife Refuges and other lands under the control of the Fish and Wildlife Service

Contact: Division of Realty  
Fish and Wildlife Service  
U.S. Department of Interior  
Washington, DC 20240  
(202) 653-7650

### National Natural Landmarks Program (National Park Service)

- o A register of significant natural areas which illustrate the diversity of the natural heritage of the U.S.
- o Maps of areas
- o Info on ecological and geological characteristics
- o Info on threats

Contact: National Register Division  
National Park Service  
Washington, D.C. 20240  
(202) 343-9525

#### Land Use and Data Analysis (USGS)

- o Reports land use by 40 different land use types for entire USA
- o Most data is from middle 1970's
- o Data based on LANDSAT satellite imagery

Contact: National Cartographic Information Center  
USGS  
Reston, VA  
(703) 648-6045

#### Inventory of Private Recreation Facilities

- o Inventory of private recreation facilities
- o Data reported by state, county and town

Contact: National Park Service  
Washington, D.C. 20240

#### National Survey of Fishing, Hunting and Wildlife Associated Recreation

- o Includes fishing and hunting information on expenditures, times use, location and socio-economic characteristics
- o Covers non-consumptive wildlife recreation

Contact: U.S. Fish and Wildlife Service  
Washington, D.C. 20240  
(202) 343-4902

### III. NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION (NOAA)

#### National Estuarine Inventory

- o Covers 92 major estuaries
- o Data on estuary dimensions, drainage area, stratification classification, freshwater inflow rates, flow ratios, and tides
- o Land use information for 25 categories of land use
- o Computerized data base

Contact: NOAA  
Washington, D.C.  
(202) 443-8843

#### National Coastal Wetlands Data Base

- o Type and extent of coastal wetlands by estuary
- o Based on statistical sample of 3,000 National Wetlands

Contact: NOAA  
Washington, DC  
(202) 443-8843

#### National Shellfish Register

- o Classifies shellfish beds according to water quality and productivity
- o Historical data available for some areas

Contact: NOAA  
Washington, DC  
(202) 443-8843

#### Shoreline Characterization

- o Characterizes estuarine shoreline according to eight shoreline types, and dredging activities
- o Shoreline type is reported on color coded NOAA nautical charts

Contact: NOAA  
Washington, DC  
(202) 443-8843

#### National Coastal Pollutant Discharge Inventory

- o Comprehensive data base of pollutant discharges entering estuarine waters
- o Source categories include point sources, nonpoint sources, upstream sources, oil and gas operations, dredging operations and accidental spills
- o Computerized data base

Contact: NOAA  
Washington, DC  
(202) 443-8843

#### IV. OTHER FEDERAL DATA SOURCES

##### National Resources Inventory

- o National survey based on 160 acre units
- o Data on land use, conservation practices, soil type, erosion

Contact: Soil Conservation Service  
U.S.D.A.  
Washington, D.C. 20013  
(202) 447-4530

##### Land Areas of the National Forest System (U.S. Forest Service)

- o Organized by state and county
- o Includes info on designated wilderness areas, primitive areas, recreation areas, wildlife preserves

Contact: Forest Service  
Department of Agriculture  
Washington, D.C. 20013  
(202) 235-6105

##### Recreation Information Management System

- o Recreational facilities and areas in National Forest System
- o Data on types of recreation, visitor days, participation by activity

Contact: Recreation Management Division  
U. S. Forest Service  
Washington, D.C. 20250  
(202) 447-2311

#### IV. OTHER DATA SOURCES

##### State Natural Heritage Programs

- o Designated to identify elements essential to preservation of biological diversity
- o Inventories on existence and location of rare and endangered plants and animals
- o Inventories on unique plant communities, aquatic systems
- o Over half the states have such programs, developed in cooperation with The Nature Conservancy

Contact: State Natural Heritage Program Office in your state

Listing of state Heritage Program contacts:

The Nature Conservancy  
1800 North Kent St.  
Arlington, VA 22209  
(202) 841-5300

##### Priority Aquatic Sites For Biological Diversity Conservation

- o Listing, by state, of waters containing key elements of biological diversity
- o Developed with assistance of state heritage programs

Contact: The Nature Conservancy  
1800 North Kent St.  
Arlington, VA 22209  
(202) 841-5300

##### Breeding Bird Survey

- o Census of 200 species by country
- o Historical data available

Contact: Cornell Lab of Ornithology  
Ithaca, N.Y.  
(607) 255-4999

##### Socio-Economic Environmental Demographic Info. System

- o Collection of socio-economic, environmental, demographic and health related data bases
- o Covers geographic regions ranging from nation to minor civil divisions
- o Computerized data base updated annually

Contact: Lawrence Berkeley Lab  
Department of Energy  
Berkeley, CA  
(415) 486-5063



QH541

.S

E8

N38

1990

EPA Library Region 4



1030307

**DATE DUE**

