

The National Estuary Program and Public Involvement

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The U.S. Environmental Protection Agency is using collaborative problem solving and consensus building to address environmental problems in the nation's estuaries. The National Estuary Program establishes management conferences to develop and implement a comprehensive conservation and management plan for estuaries of national significance. Representatives of federal, state, and local governments, the academic and scientific communities, and the public and private sectors are tasked to agree on the most important problems and the corrective actions needed. The comprehensive plan recommends priority corrective actions and compliance schedules addressing point and nonpoint sources of pollution to restore and maintain the chemical, physical, and biological integrity of the estuary.

An important component of public involvement in the National Estuary Program is citizens volunteer monitoring. Volunteer monitoring data is collected and used to meet a number of different water quality management objectives. Enforcement and compliance monitoring programs require quality assured and quality controlled data. Citizen monitoring can provide data to meet these objectives, but it also plays a key role in building public support for action, and ultimately the will to accomplish water quality and other environmental goals. Citizen volunteers can augment monitoring programs already in existence at federal, state, and local levels. And, mobilization of citizen volunteers permits the collection of data that would not be available through conventional methods.

1. Background

In the 1987 amendments to the Clean Water Act, the United States' Congress recognized that increases in coastal population, demands for development, and other direct and indirect uses of the nation's estuaries threatened their ecological integrity. The need for long-term management and planning of the nation's estuaries is addressed by section 320, the National Estuary Program. The program goals are protection and improvement of water quality and enhancement of living resources. To achieve these goals the program seeks to:

- Establish working partnerships among federal, state, and local governments;
- Transfer scientific and management information, experience, and expertise to program participants;
- Increase public awareness of pollution problems and ensure participation in consensus building;
- Promote basin-wide planning to control pollution and manage living resources; and
- Ensure development and implementation of pollution abatement and control activities.

Under section 320, the Administrator of the Environmental Protection Agency (EPA) convenes management conferences for estuaries of national significance; conference participants are tasked to develop a comprehensive conservation and management plan (CCMP) for the estuary. The CCMP seeks to balance conflicting uses of the estuary while restoring and maintaining its natural character.

2. The Management Conference

Participants of the Management Conference are defined by the statute to be representatives of EPA, state and foreign governments, appropriate interstate or regional agencies and other appropriate federal agencies, local governments, affected industries, public and private educational institutions, and the general public.

Together these participants:

- Examine the changes in water quality and natural resources that have occurred over time;
- Evaluate the sources of point and nonpoint pollution to the estuary;
- Determine the relationships between pollutant loadings and pollution problems; and
- Develop a plan to address the problems.

Emphasis is placed on the use of a collaborative problem solving process that involves all concerned parties in each phase of the program. Collaboration allows participants to take ownership of the problems as well as the solutions and aids in securing commitments to carry out the actions to be recommended in the CCMP. Finally, the Conference is given responsibility under the law to:

- oversee implementation of the plan;
- monitor the effectiveness of the actions taken under the plan; and
- ensure that Federal program and projects conducted in the watershed are consistent with the plan.

Each estuary program is conducted in a phased approach. During the first phase of a program, The Planning Initiative, the Conference establishes an organizational framework which generally includes a policy and/or management committee, a scientific and technical committee, and a citizen advisory committee. The Conference also develops an agreement with EPA and the state(s) called the EPA/State Conference Agreement. The agreement is a five year plan which identifies program activities, products, and milestones and schedules to develop the comprehensive plan. During the development of the agreement and the annual work plan, participants must reach a consensus on which areas and environmental problems they will address, establish priorities, and develop a statement of goals and objectives for the program. To establish priorities, goals and objectives, the following questions are addressed:

- Is the environmental problem system-wide and pervasive, or is it local, affecting small areas only?
- If the problem is local, is it nevertheless significant enough to adversely affect the entire estuary or its resources?
- Does the problem reduce the estuary's ability to support beneficial uses?
- What information is needed to identify the causes of the problem?
- What actions can be taken to abate the problem or its causes?
- Is enough known to take immediate action?

The answers to these questions are critical for several reasons. First each conference receives limited federal funds; the maximum level of funding during the peak of technical studies is one million dollars per year- clearly not enough to conduct a research program. Accordingly throughout the program, emphasis is placed on the identification and analysis of existing and historical data, not the collection of new data. Second, to the extent a problem has been identified and the needed corrective action is known, the program stresses the importance of taking that action. The "action now agenda" is critical to avoiding another "planning program" and building a public perception that the program will do something about the problems facing the estuary. An action agenda provides an opportunity to report successes- to take credit for making a difference. From the beginning, the public and politicians must be convinced that the costs of additional pollution abatement and control activities will make a difference in the estuary, if they are to support the costs of implementing a comprehensive plan.

3. Phase II: Characterization and Problem Definition

Phase II, Characterization and Problem Definition, is conducted principally by scientists and environmental resource managers. During this phase of the program, the conference "takes the pulse" of the estuary describing the quality of the estuary, defining its problems and linking problems to causes. Estuary characterization relies primarily on existing scientific information, particularly historical data. All available data is identified, screened, and selected for its bearing on the priority problem. Analyses are conducted by scientists to determine temporal trends and spatial patterns, determine possible causes, provide an integrated

description of conditions in the estuary, and identify significant, missing data that will have to be collected during the course of the program.

Generally a management conference has been convened because there are obvious problems in the estuary—closed beaches, algal blooms, fish kills, contaminated fish. These obvious problems, the public's perception of the problems in the estuary, are actually symptoms of water quality problems. The challenge to the conference is to separate the symptoms from their causes or sources. Some symptoms may be addressed in part by working with a regulatory agency or program, while scientists examine existing data and collect new data to determine the real cause.

The first step in the characterization process is identifying the most important problems of the estuary, ranking them, and deciding which problems will be addressed. Because of limited funds and time, overestimating the severity or significance of certain problems can divert attention from those that actually warrant greater attention. Problems with a system-wide impact are ranked higher than those with localized effects and problems that significantly curtail the designated uses of the estuary are ranked high.

Citizen involvement in this phase of the program is probably the most difficult for traditional research scientists and environmental resource managers to deal with. Scientists in the NEP frequently find themselves investigating a symptom of a problem, rather than the actual problem or its cause. For example, the public concern is—Why can't I catch any fish? or Why can't I eat the fish I catch? And, in response the scientist and environmental resource manager is sent scrambling to deal with fishery management issues, rather than the nature or source of the pollutant contaminating the fish. However, conducting an estuary program that does not address public concerns assures certain failure for implementing a comprehensive plan; a plan that frequently ensures funding for further research and long-range studies. Therefore, members of the CAC participate in decisions on funding levels and recipients, comment on research priorities, review technical findings and analyses, recommend ways to convey scientific information to the public, and take responsibility for educating the public about program findings and affects.

4. Phase III: The Comprehensive Conservation and Management Plan and The Citizens Advisory Committee

Because public funds will be needed to carry out the recommendations in a CCMP, the success of an estuary program will ultimately depend on citizen support. The Citizens Advisory Committee ensures that public concerns are being addressed throughout the program, that scientific studies are "translated" into plain English and understood by the public, and that the general public is educated and informed about progress in the program throughout. The CAC helps to ensure that the other program committees include the public in the decision-making process, and that they integrate public opinion and expertise into all phases. The CAC recommends the most effective way to inform the public and organizations that can help bring estuary-related issues to the public's attention and build support for program activities. Typically the CAC is responsible for all public education and outreach activities, including public meetings and workshops.

The final CCMP is a blueprint for restoring and maintaining the estuary prescribing specific actions to protect and enhance the estuary. To ensure public support for the recommended actions and the willingness to pay for the increased costs of pollution abatement and control activities, a public participation strategy is developed and implemented with the draft CCMP. The strategy presents ways to inform the public and opportunities to solicit the concerns and opinions. It is designed to mobilize public and political support for the CCMP. The Clean Water Act mandates a public review and comment on the CCMP, and approval of the CCMP by the governor(s) of the state(s) prior to approval by the Administrator of the Environmental Protection Agency. Accordingly, the draft CCMP presents to the public a range of abatement and control activities including cost estimates for comment. The actions recommended in the final CCMP should be based on public response.

5. Other Effective Tools: Citizen Volunteer Monitoring

One of the most popular and extensively used public involvement programs in the National Estuary Program is Citizens Volunteer Monitoring. Citizens monitoring involves the collection of repetitive environmental measurements or observations over time; the two most frequently collected types of data include water quality

data and data on beach or marine debris, although biological data including benthic invertebrate data is being collected by citizens in a number of areas. Establishment of citizen monitoring programs has proven to be an effective way to build public commitment towards achieving environmental quality goals and objectives. Through participation in monitoring programs, citizens learn how they contribute to pollution problems, and they develop a sense of guardianship towards the waters they are monitoring. Citizen monitoring programs also help to make citizens aware of the problems environmental resource managers and scientists face in collecting environmental data and in linking water quality changes to changes in living resources.

The data and information collected by volunteer monitors can be used to augment federal, state, and local monitoring efforts, provide the collection of types of data that cannot be collected with conventional programs, and be used to assess compliance and provide information for enforcement actions.

In the Chesapeake Bay Program, citizen monitors collect water quality data from reaches of watersheds that otherwise would have been unsampled, provide quick response teams for storm events, algal blooms, and fish kills, and cost effectively expand ambient water quality monitoring producing data that is quality controlled and assured. Specific parameters currently being collected by citizens monitors nation-wide include: dissolved oxygen, temperature, salinity, pH, rainfall, clarity, turbidity, depth, tide level, bacteria, chlorophyll a, nutrients, eelgrass disease, shoreline erosion, wetland characterization, coliform in shellfish, epibenthic fauna, bird mortality, nest sites- birds and turtles, and marine debris.

6. Resource Users and Public Advocacy Groups

Since inclusion of representatives of every organization with an interest in the estuary creates elaborate and unwieldy committees, most estuary program target organizations in their outreach programs. User groups have a vested interest in the quality of the estuary as well as any more stringent regulations on uses of the estuary that may be proposed in the CCMP. Environmental groups, boat owners associations, marina operators, fishery and shellfish associations, and industry organizations are kept informed throughout the program and in many cases are actual participants in the program, conducting public education and outreach efforts or specific projects to address pollution problems. These organizations provide opportunities for feedback from different perspectives pointing out weaknesses in regulatory and permit programs. Although some efforts by public advocacy groups are sometimes too aggressive for environmental resources managers, they serve as an important means for keeping the issues before the public. The open expression of opposing viewpoints on the environmental issues and actions needed is viewed as an important aspect of building public and political will to take action.

7. Local Governments

Another one of the most successful tools in the National Estuary Program is the involvement of local governments. In some cases representatives of local governments are involved directly in the management conference through the creation of a local governments committee. More frequently, local governments are the recipients of program grants to conduct special projects on behalf of the conference or they are the focus technical assistance projects on the behalf of the conference. For example, local governments have become actively involved in urban and rural stormwater control projects to reduce contamination of shellfish beds that have been closed to recreational and commercial fishing. Some are testing new techniques for stormwater controls including wetland restoration and the construction of stormwater retention ponds, monitoring and reporting the effectiveness of the new approaches to the conference. Effective and low costs strategies can then be provided to other local jurisdictions and be included in the CCMP for the entire watershed. In one program, "environmental report cards" have been published in local newspapers reporting on how local governments are doing in meeting their commitments to clean-up the estuary.

8. In Conclusion

The National Estuary Program places the utmost importance on not only an educated, but an involved public. If the additional pollution abatement and control activities, and in some cases even changes in individual life styles, are to be carried out the public must be willing to pay the costs. The program constantly searches for ways to educate and inform the public, but more importantly, for ways to ensure that the public is involved in the decision making process. The public must demand improved water quality in the estuary and convey their demands to elected officials if the nation's estuaries are to recover and in the future survive the increasing demands of population growth.