

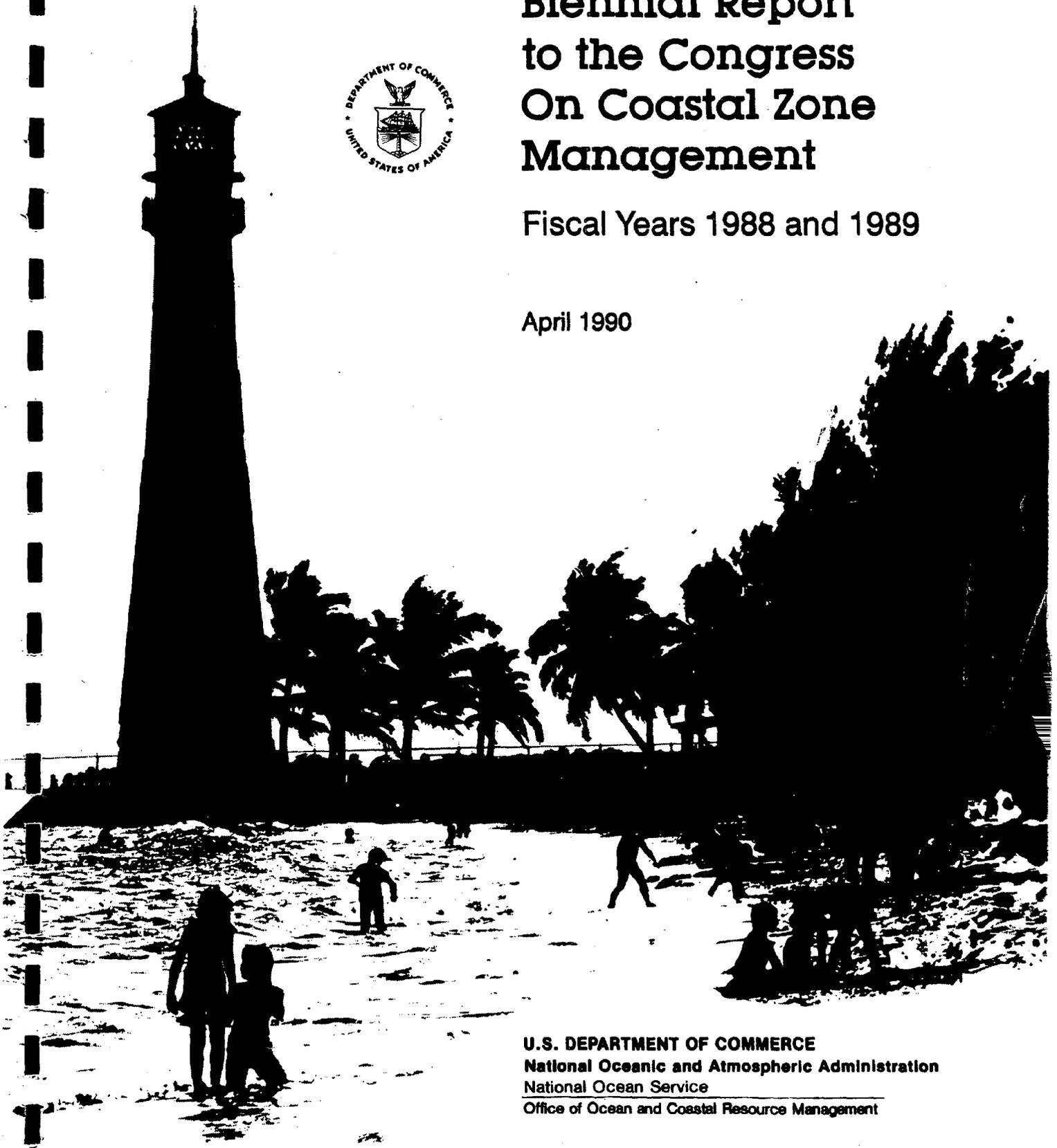
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Sea Grant Extension Service
Pacific Program

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Biennial Report to the Congress On Coastal Zone Management

Fiscal Years 1988 and 1989

April 1990



U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
National Ocean Service
Office of Ocean and Coastal Resource Management

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EXECUTIVE SUMMARY

Since its enactment in 1972, the Coastal Zone Management Act (CZMA), administered by the National Oceanic and Atmospheric Administration (NOAA), has been highly successful in assisting coastal states and U.S. island territories in working to reduce conflicts among competing land and water uses in the coastal zone, while protecting fragile coastal resources. Of the 35 eligible coastal states and territories, 29 now have federally-approved coastal management programs, covering 94 percent of the Nation's coastline, and 16 have established 18 estuarine research reserves, protecting over 300,000 acres of estuarine land and water. These state-operated programs seek a reasonable balance between the preservation and protection of coastal resources and development of those resources.

Because of CZMA assistance, substantial progress has been made in responding to threats to coastal resources, including the loss of living marine resources and wildlife habitat, decreased open space for public use, and shoreline erosion. The state programs have also been successful in promoting water dependent uses of the coast, such as energy facility siting, ports and marinas, commercial fisheries and recreation. But, coastal management problems remain and are exacerbated by rapid growth in coastal areas. Coastal water pollution and damage from natural hazards have increased, the productivity of estuarine ecosystems continues to decline, and coastal wetlands loss continues. There are many challenges ahead, which will require full intergovernmental cooperation both at the Federal and state level, as well as public support.

This report describes the accomplishments and problems of the Coastal Zone Management (CZM) program and the National Estuarine Reserve Research System (NERRS) both at the state and national levels during fiscal years 1988 and 1989, and discusses the future directions of these programs. Among the CZM highlights, California's San Francisco Bay Conservation and Development Commission (BCDC) took a major step in planning for the effects of future sea level rise. BCDC amended its program to require that new shoreline development take sea level rise into consideration. Other states, such as Washington and Maine, are beginning to consider the implications of sea level rise in their decisions that affect coastal resources.

South Carolina joined the growing list of states which have set a policy of "retreat" from the eroding shoreline. After several years of effort, South Carolina passed the Beach Management Act (BMA) in 1988 which, among other things, enlarges the beach/dune critical area, discourages "hard" erosion control structures, requires long-range comprehensive shorefront management plans at the state and local level, and designates a "dead zone" behind the primary dune in which no construction may take place. Hurricane Hugo has provided a severe test of the BMA. Since the hurricane struck in September 1989, the state has been faced with political and legal pressures regarding the implications of the BMA for reconstruction and repair of structures along the state's coast.

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Other highlights during the biennium include the move toward regional waterbody management for the Great Lakes and Gulf of Maine. During FY88, CZM funds were used to spur regional cooperation on Great Lakes management involving the States of Illinois, Indiana, Michigan, Minnesota, New York, Ohio, Pennsylvania and Wisconsin. A joint effort has also been undertaken by U.S. states and Canadian provinces that border the Gulf of Maine to develop strategies that will protect the health and productivity of Gulf resources. The FY88 and FY89 period also saw the designation of National Estuarine Reserves in Waquoit Bay, Massachusetts, and Great Bay, New Hampshire.

Despite the accomplishments made by the states, territories and Federal government to date, more needs to be done to preserve and enhance the Nation's coastal environment and to focus on the major problems facing the coast today. The ability of state CZM programs to respond to these problems also needs to be improved. Increased wetlands protection, improved coastal water quality, and increased threats to life and property from coastal erosion and flooding, are all important items on the coastal agenda for the 1990s. Coastal management needs to be revitalized to address these issues more actively and to tackle long-recognized problems that have been exacerbated by rapid development in coastal areas. These issues must be addressed through a coordinated and comprehensive approach at the local, state and Federal level.

The national CZM program needs to respond to growing concerns about coastal environmental quality and the related effects of continuing pressure for development. Accordingly, CZM policies should be more focused and place greater emphasis on wetlands protection, coastal hazards and public access. Specifically, the program should identify as high-priority national objectives: enhanced wetlands protection and restoration; aggressive response to and prevention of risks to life and property from coastal hazards, including coastal erosion and relative sea level rise; and enhanced opportunities for public access to the Nation's coastal areas.

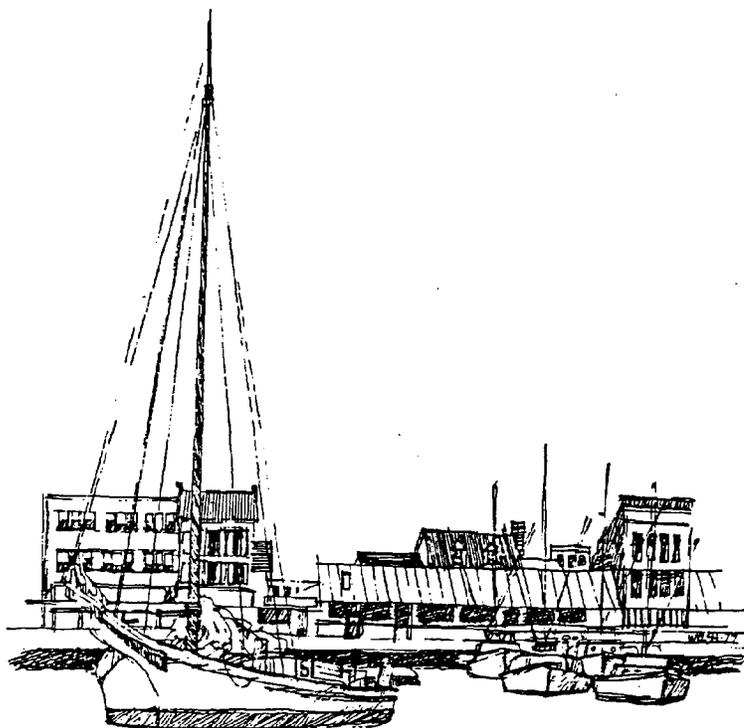
Efforts are also needed to respond to problems that were not a major focus of concern in the earlier stages of program implementation, particularly nonpoint source pollution and beach and marine debris that affect the coastal and marine environment. The state CZM programs, with their experience in land and water management, can help move the Nation forward in addressing many of the significant water quality problems in coastal areas on a more comprehensive basis. State CZM programs should place greater emphasis on the need to prevent or mitigate adverse effects of nonpoint source pollution in coastal waters, and on management, handling and disposal of beach and marine debris within their coastal environments.

NOAA recognizes the growing importance of providing Federal technical assistance to state and local governments to enhance the effectiveness of their responses to these national priority issues. Appropriate information and technology needs to be channeled to coastal decisionmakers so they can use the information to resolve use conflicts in the coastal zone and protect coastal and ocean resources. New initiatives in this area are being

coordinated through a NOAA-wide effort known as the Coastal Ocean Program, and through increasing and mutually supported education and research programs both in the National Estuarine Reserve Research System and the National Marine Sanctuary Program.

As the demand for intensive uses of the coastal zone continues to rise, and as coastal population densities continue to increase, the conflicting and competing demands for these finite resources will increase in terms of greater pressures for housing, harbors and recreational facilities. While significant progress has been made in assuring wise management of the Nation's valuable coastal resources under the CZMA, the job of good coastal management must continue to ensure these precious national resources are preserved for future generations. President Bush has expressed his commitment to address coastal and ocean environmental problems. For the first time in almost a decade, the President's Fiscal Year 1991 budget request provides funding for the CZMA to assist coastal states and territories in implementing and enhancing their federally-approved CZM programs.

NOAA will continue to act as an advocate for the states in working with other Federal agencies to ensure that all Federal programs are consistent with the goals and objectives of the CZMA. The level of concern about our oceans and beaches and wetlands has probably never been higher, and we in NOAA look forward to working with policy officials at all levels of government to advance the Nation's efforts toward better coastal resource management.



INTRODUCTION

The National Oceanic and Atmospheric Administration (NOAA) is required to submit a report to Congress not later than April 1 on the administration of the Coastal Zone Management Act (CZMA) during the preceding two fiscal years. Pursuant to Section 316 of the CZMA, as amended, this report discusses the progress made during Fiscal Years 1988 and 1989, in administering the Coastal Zone Management (CZM) Program and the National Estuarine Reserve Research System (NERRS) and the problems encountered.

The document is comprised of five chapters. In the introductory chapter, we provide an overview of the CZM and estuarine reserve programs, describe the highlights of CZMA administration during the biennium, and delineate future directions for these efforts, including emerging coastal management issues.

Chapter 2 includes a description of the accomplishments of state CZM programs in selected national interest areas -- coastal hazards, wetlands preservation, energy development, public access, urban waterfront revitalization, port and marina development, and improved government operations. This chapter also describes NOAA's activities during the biennium regarding involvement with other Federal agencies and Federal consistency actions. An update on interstate CZM activities is also provided.

Chapter 3 presents a description of the NERRS, including its mission and structure. Program accomplishments during the biennium are provided in detail, as well as reflections on future program directions.

In Chapter 4, individual state CZM programs are described, highlighting significant accomplishments made during the report period. Each state listing includes a summary of CZM grant tasks, Federal consistency activities and evaluations of the state's performance.

Chapter 5 describes each estuarine reserve. Information is provided on reserve resources and facilities, important improvements during the biennium, education, research and monitoring activities, and states' performances in managing the reserves.

The status of state CZM programs is provided in Appendix A. Appendix B itemizes state funding under Sections 306, 309 and 315 of the CZMA during fiscal years 1988 and 1989. Appendix C provides a state-by-state listing of CZMA Section 306A funding. Appendix D summarizes Federal consistency appeals. Draft NERRS regulations are published in Appendix E. Finally, Appendix F provides a list of NERR funding under Section 315, including acquisition, development, operations, research, monitoring and education.

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Appendix D - Federal Consistency Appeals

Appendix E - Draft NERRS Regulations

Appendix F - Section 315 NERR Funding Breakdown for FY88 and FY89

1. Coastal Management Overview



COASTAL MANAGEMENT: FEDERAL PROGRAM OVERVIEW

The Coastal Zone Management Act (CZMA) of 1972 establishes the only national program to plan comprehensively for and manage development of the Nation's coastal land and water resources. Culminating a period of public debate and review highlighted by the Stratton Commission Report of 1969, the Act declared "there is a national interest in the effective management, beneficial use, protection, and development of the coastal zone," and acknowledged the importance of the coastal zone in terms of its "ecological, cultural, historic and aesthetic values," and the vulnerability of the coastal zone and its living resources to the impact of man's activities. Ambitious in its goals, the CZMA promotes the wise use and protection of these sensitive coastal areas by establishing a national partnership of Federal and state government that seeks to balance the protection and development of resources in the U.S. coastal zone.

Congress declared four basic national coastal zone management (CZM) policies in the CZMA, as amended: (1) to preserve, protect, develop, and where possible, to restore or enhance the resources of the U.S. coastal zone; (2) to encourage and assist the states to develop and implement CZM programs meeting specified national standards; (3) to provide for increased specificity in protecting significant natural resources, reasonable coastal-dependent economic growth, improved protection of life and property in hazardous areas and improved predictability in governmental decisionmaking; and (4) to encourage the participation and cooperation of public, state and local governments, interstate and other regional agencies, and Federal agencies in achieving the purposes of the Act. Congress has strengthened and expanded the program twice, most recently in 1985. The Act is due to be reauthorized in 1990.

The CZMA is administered by the National Oceanic & Atmospheric Administration's (NOAA) Office of Ocean and Coastal Resource Management (OCRM), which is part of the Department of Commerce. OCRM is also responsible for carrying out other Federal laws aimed at protecting, restoring and developing the Nation's ocean and coastal resources, including Title III of the Marine Protection, Research and Sanctuaries Act (MPRSA), which established the National Marine Sanctuary Program, and the Ocean Thermal Energy Conversion Act (OTEC) and Deep Seabed Hard Minerals Resources Act (DSHMRA), which established the OTEC and ocean minerals licensing programs.

The national CZM program provides funds, policy guidance and technical assistance to coastal states and U.S. island territories to help them establish and maintain CZM programs that meet certain Federal objectives. To foster state participation, two kinds of Federal incentives are built into the CZMA: (1) Federal matching grants which help states meet the cost of implementing and enhancing their CZM programs; and (2) Federal consistency authority, which requires that Federal activities directly affecting the coastal zone

must be conducted in a manner consistent "to the maximum extent practicable" with the states' federally-approved programs. The state programs developed pursuant to the CZMA must be approved by the Secretary of Commerce to ensure that they conform with Federal guidelines and national goals. OCRM assures that state programs remain in compliance with the national standards by providing continuous oversight of the programs, with in-depth formal evaluations of state performance at least every two years. The evaluations are conducted pursuant to Section 312 of the CZMA.

In implementing their programs, the states are required to address nine national objectives, which are identified in the 1980 Amendments to the CZMA. Under Section 303, the scope and objectives of the national program are identified as:

- o Protection of natural resources,
- o Management of coastal development to avoid hazardous areas,
- o Priority consideration given to coastal dependent uses and energy facility siting,
- o Public shorefront access,
- o Assistance in redevelopment of urban waterfronts and ports,
- o Coordination and simplification of governmental procedures to ensure expedited governmental decisionmaking for management of coastal resources,
- o Consultation and coordination with Federal agencies,
- o Public participation in coastal decisionmaking, and
- o Comprehensive planning, conservation and management of living marine resources.

The CZMA also established a national system of estuarine research reserves (formerly known as the National Estuarine Sanctuary Program) under Section 315 to assist states in acquiring and managing estuarine areas as natural field laboratories. The Act provides financial assistance awards on a 50-50 matching basis to states to acquire, develop and operate the estuarine areas, which are primarily for long-term scientific and education programs. Currently, 18 sites compose the national system, preserving approximately 300,000 acres of estuarine lands and water in 16 states for research and education to assist in coastal management decisionmaking.

A complementary program for offshore areas is OCRM's system of national marine sanctuaries established under Title III of MPRSA. These are discrete marine areas of special national significance designated to promote comprehensive management of their conservation, recreational, ecological, historical, research, educational, or aesthetic values. Areas designated as national marine sanctuaries range in size from less than one square nautical mile to over 1,252 square nautical miles. Some are located near land and receive many visitors, while others, farther offshore, are primarily of interest to the scientific community and fishermen. Eight sanctuaries have been established since 1972.

Other OCRM responsibilities focus both on the deeper ocean and coastal waters. Operating under the OTEC Act and DSHMRA, OCRM issues permits and licenses to qualified U.S. citizens for commercial uses of ocean thermal energy conversion and for

exploration and commercial recovery of seabed hard minerals. In implementing these statutes, OCRM is charged with encouraging the development of viable, environmentally compatible industries. To this end, OCRM has conducted environmental studies to support regulatory decisions. The deep seabed mining activities conducted by OCRM during fiscal years 1988 and 1989 are described in detail in a biennial report to the Congress, which was submitted in December 1989.

CZMA IMPLEMENTATION

Coastal Zone Management

Extending far beyond what was envisioned 17 years ago, the national CZM program has added predictability and coordination to the complex task of managing the Nation's shoreline. All 35 coastal states and U.S. island territories have participated in the program. To date, 29 states and territories, covering 94 percent of the U.S. coastline, have received Federal program approval and are implementing their programs (see Figure 1). Of the six non-participating states, the state of Ohio is currently writing a program and looking for approval in 1990. Other states are indicating renewed interest in the national program.

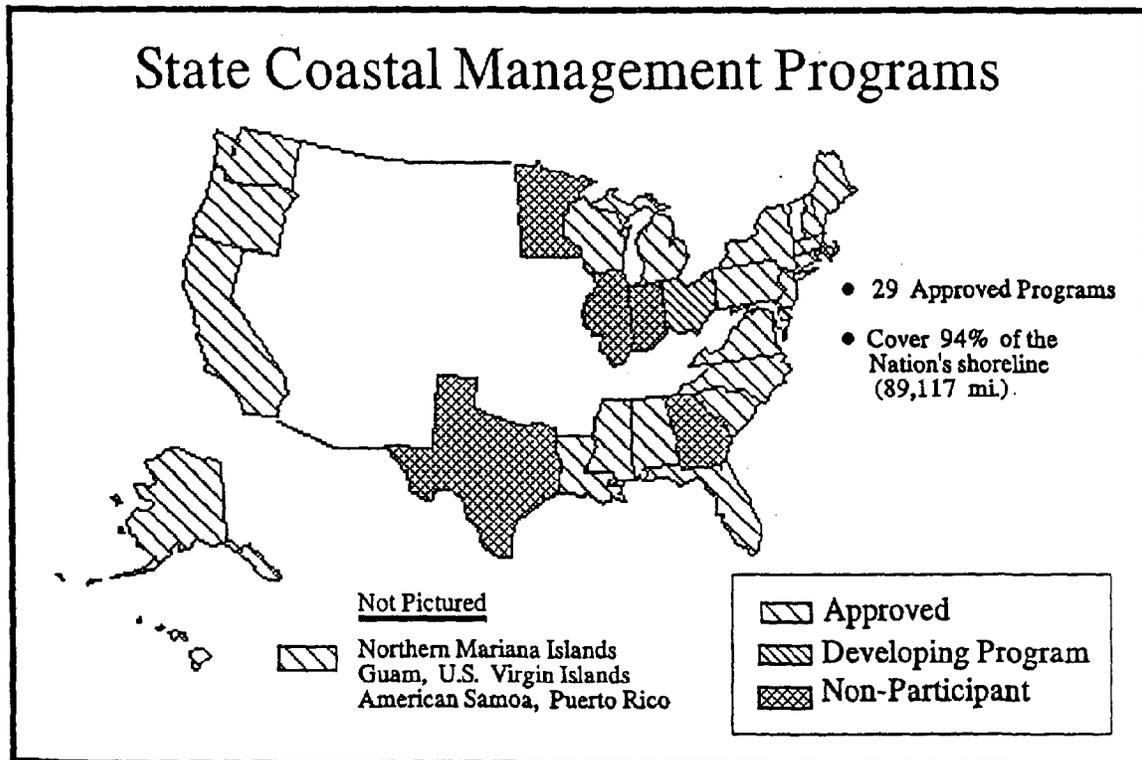


Figure 1. Map of Participating Coastal Management Programs

Since 1974, the Federal government has invested over \$600 million in the state CZM programs. These Federal funds, coupled with guidance and technical assistance from OCRM, have generated many positive returns. Significant benefits have been made in protecting life and property from natural hazards, guarding fragile coastal habitats, improving public access to the coast, preserving and encouraging water-dependent uses such as ports and marinas, revitalizing urban waterfronts, and improving intergovernmental cooperation. These successes have been achieved through planning, regulation, Federal consistency reviews, land acquisition, and public information and education.

Coastal management has played a positive role in reducing the risk to life and property from coastal storms. Under the CZMA, OCRM has funded new state efforts to deter development in highly vulnerable areas of the shoreline, including the adoption of setback regulations. Currently, 13 states have some form of setback requirement for coastal development. States also have laws to protect dunes, which are the first line of defense against storms. Other mechanisms such as construction standards, evacuation planning, and development of early warning systems have all contributed to improved coastal protection from natural hazards.

State CZM programs have been actively involved in protecting wildlife and fisheries habitats, and regulating land use impacts on water quality. With regard to wetlands preservation, all state programs regulate actions that directly affect their coastal wetlands and some use local land use regulation to enhance management by regulating land use activities in and near coastal wetlands. Also, states have acquired important wetlands for habitat protection and management. Many states have initiated techniques which have been successful in addressing the problem of nonpoint source runoff, which is a major source of coastal water pollution. Coastal programs are also dealing with pollution stemming from specific water uses, such as marinas.

The CZMA has fostered significant increases in public access to our Nation's coastal resources. In 1980, Section 306A was added to the CZMA to allow states to acquire land and fund low-cost construction projects to provide public access to the coasts for recreational purposes. Since 1985, when Section 306A funds were first allocated, states have used some \$17.5 million (in 1988 dollars adjusted for inflation) in 306A funds to plan, acquire and build public access sites, protect environmentally sensitive areas, and revitalize deteriorating urban waterfronts. These Federal funds were matched with \$18.2 million in state and local government funds.

All of these Section 306A activities have enhanced the public's recreational use of coastal areas. For example, states have used 306A funds to acquire small parcels which can make a major difference in the public's ability to use the public shoreland, as in the purchase of a small lot to be used as a parking area adjacent to the coast. Section 306A funds have also been used by the states and territories to inventory rights-of-way along the coast and designate them for public access, and to improve public access ways through the design and construction of dune walkovers, boardwalks, and boat launching facilities.

New life has been given to urban waterfronts in cities like Baltimore, Seattle, Detroit and Philadelphia. CZM has played an important role by providing funds to cities to study underutilized waterfront areas and prepare plans for their redevelopment. Additionally, coastal management programs have often assumed leadership to address conflicts among waterfront uses. In some urban areas, the waterfront has become such a desirable place to develop that adequate space may no longer be available for those land uses which must be located at the water, such as ports, marinas, commercial fish landings and boat repair yards. These land uses may not be able to pay as much for waterfront land as condominiums and restaurants, but have no alternative in an inland location. Coastal management programs have worked to resolve these conflicts.

Many state CZM programs have also assisted port authorities in assuring that adequate land is available for port operations, and in obtaining and identifying dredged material disposal sites in an environmentally acceptable manner. The demand for boat launching ramps and marinas has been increasing, as America's leisure time has increased. Coastal programs have been active in locating suitable sites for recreational boating facilities and assuring that areas desirable for marinas are not preempted by land uses that do not require a waterfront location.

The state CZM programs have also resolved complex interagency conflicts that can arise in land use decisionmaking. The state programs have been able to provide substantial leadership in resolving these problems through their authority under the Federal consistency provisions of the CZMA. In addition, the state CZM programs have established a variety of techniques to reduce the number of required permits and to jointly process permits with other agencies to minimize review times.

Estuarine Research Reserves

The states and territories have also made great strides in addressing threats to the Nation's estuaries, those valuable, yet fragile areas where rivers meet the sea. The National Estuarine Reserve Research System (NERRS) is providing critical protection to safeguard these irreplaceable natural resources. Education and research are the primary objectives of the NERRS. Since 1974, the system has grown from one 4,400 acre site in Oregon to an 18 site system managing nearly 300,000 acres in 16 states (see Figure 2). Each site offers opportunities for monitoring changes within the estuarine system and the effects of human activity on these resources, while protecting the integrity of the site for long-term research projects. The reserves also provide opportunities for the general public to learn to appreciate coastal and estuarine ecology in an outdoor setting.

The newest reserves are Waquoit Bay, Massachusetts, which was designated in 1988, and Great Bay, New Hampshire, which was designated in 1989. The System is expected to grow in the coming years, with six additional reserves being developed in Delaware, Virginia, South Carolina, New York and California. OCRM is also considering the expansion of three existing reserves in North Carolina, Maryland, and Florida. When the network is complete,

it should represent all 11 of the Nation's biological and geographical coastal regions, selected by OCRM to reflect regional variations in the coastal zone. The biogeographical classification scheme, which is used to ensure that the system includes at least one site from each region, has 27 subregions. Eleven of those biogeographic subregions are not yet represented in the system.

Since its inception, the NERRS Program has continued to evolve and develop a programmatic structure. An applied research program, begun in 1985, continues to mature. The Program is very conscious of its role in conducting quality research to produce information that is useful for coastal resource management decisionmaking. One aspect that substantially strengthens this effort was the establishment of national guidelines for baseline characterizations and the implementation of long-term monitoring programs at reserves. These guidelines, which were issued in 1989, identify elements that will be essential for site-specific management, as well as for use in regional, national and global predictions of the impacts of global warming. The research program supports about 20 grants annually. Research priorities include sediment management, water management, chemical and other inputs, coupling of primary and secondary productivity, and fisheries habitat requirements.

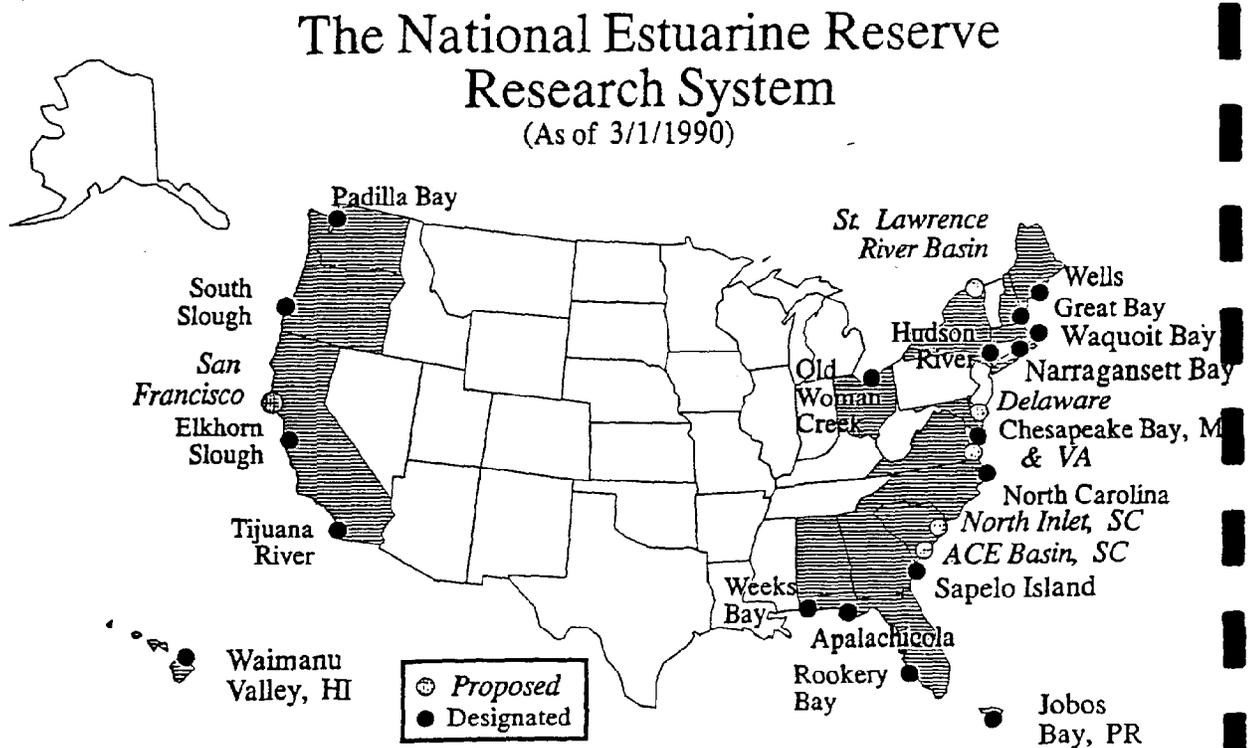


Figure 2. Map of National Estuarine Research Reserves

To better understand the resources of the Nation's reserves, OCRM began funding a three-phased baseline characterization and monitoring program in FY89. To date, grants have been awarded to six reserves. Key elements of the program include: development of baseline information about the sites; preparation of uniform site profiles; and continuation of long-term resource monitoring at the sites. During the biennium, OCRM also began an education grants program for the reserves. Projects funded included designing, testing and implementing curricula/lessons on river and bay estuarine systems for public school students. Training programs and workshops were conducted for public school teachers and reserve volunteers. Videos were produced to provide information on the local ecosystems and impacts of human activity on them. OCRM funding is also used to develop and construct displays/exhibits for visitor centers and community education projects.

The relationship between OCRM and the states with respect to specific reserves has improved considerably over the past two years. This cooperative relationship is illustrated by the reinstatement of annual workshops between OCRM headquarters and reserve and marine sanctuary managers to work on solutions to common problems. The joint meetings were held at the Padilla Bay (Washington) Reserve in 1988 and at the Wells (Maine) Reserve in 1989. During the 1989 meeting, OCRM staff and state managers jointly developed five-year plans for site administration, resource protection, research, monitoring and education. In 1990, a joint meeting will be held at the Tijuana River (California) Reserve. OCRM is also working with states to improve on-site operations in the reserves. This includes the provision of adequate staff and facilities in each reserve.

NEW DIRECTIONS

CZMA Administration

With the growing public awareness of coastal issues and the commitment of the new Administration to address the environmental problems of our oceans and coasts, the national CZM program has begun to make the transition toward more effective management in a number of areas. During the biennium, OCRM renewed efforts to coordinate and integrate the national CZM program with other Federal agency programs that have compatible goals with the CZMA. In 1988, for example, OCRM negotiated an agreement with the Environmental Protection Agency (EPA) on ways to better coordinate the national CZM program with EPA's National Estuary Program (NEP). As part of this effort, OCRM and EPA agreed to establish a mechanism at the national level for coordination and oversight of individual NEP programs and to ensure continued integration of the NEP and CZMA.

Over the past two years, OCRM has also been working with the Department of the Interior's Minerals Management Service to help resolve conflicts that arise over offshore oil and gas development. Ongoing interaction has focused on state program change reviews and CZMA Section 312 evaluations. Also during the biennium, OCRM met with the Federal

Emergency Management Agency (FEMA) to coordinate technical programs to improve state emergency preparedness in the event of natural hazards, such as hurricanes. As part of this effort, OCRM staff participated in FEMA's post-disaster mitigation team visits to South Carolina, Puerto Rico and the Virgin Islands in 1989 to inspect the damage caused by Hurricane Hugo. The purpose of the visits was to recommend actions to reduce damage from future such events.

Within NOAA, the National Marine Fisheries Service (NMFS) and OCRM have been coordinating efforts to develop an agency-wide policy on marine wetlands to achieve the Administration's goal of no-net-loss. Efforts are also underway to coordinate habitat conservation issues between state CZM programs and NMFS' regional fisheries offices.

OCRM has also renewed its efforts to assist states in resolving any differences between them and Federal agencies over the implementation of the Federal consistency provisions, such as those that may occur over Federal flood insurance policies, offshore energy development, and ocean dumping. The Federal consistency provisions -- Section 307 -- require, in general, that Federal activities and actions directly affecting the coastal zone must be consistent to the maximum extent practicable with the state's coastal management programs. Actions such as Federal projects and the issuance of licenses and permits fall within the consistency requirements.

Federal consistency has proven to be a powerful and effective tool in eliminating or mitigating the adverse environmental effects of coastal development. It has also eliminated some of the confusion that existed before the passage of the CZMA by bringing together Federal and state permitting activities. However, applying the Federal consistency principle to certain activities, particularly those on the outer continental shelf (OCS), has turned out to be very controversial. To help alleviate problems, OCRM provides policy guidance and technical assistance to states and other Federal agencies on the administration of the Federal consistency provisions and on the application of Federal consistency to specific actions. Recent examples include discussions with the Army Corps of Engineers (COE) over a national policy regarding implementation of Federal consistency in maintenance dredging operations, and negotiations with EPA regarding its consistency responsibilities for designation of dredged material disposal sites.

Efforts by OCRM and NOAA's Office of General Counsel are also intensifying in response to the increasing number of appeals to the Secretary of Commerce to override state consistency objections and requests for Secretarial mediation as provided under Section 307(g). The Secretary received 64 requests for Secretarial overrides during the past two years. NOAA's Office of General Counsel was instructed to provide recommended findings to the Secretary in each of these appeals, which mostly involve a few highly controversial OCS oil and gas development projects and a large number of shoreline development projects. NOAA also recently instituted administrative improvements to the Federal consistency appeals process which has markedly reduced the time for processing the appeals.

OCRM is making efforts to expand its role as mediator under Section 307(g), in order to foster state/Federal relations and minimize litigation. During the biennium, OCRM was involved in mediation of a serious disagreement between the state of South Carolina and the Army Corps of Engineers (COE), which involved a proposed \$600 million project on Hutchinson Island, Georgia. The COE had asked NOAA to provide guidance on the legitimacy of South Carolina's consistency objection, since the proposed project was on Georgia's side of the Savannah River.

In objecting to the project, South Carolina argued that dredging for a marina and access channels within 300 feet of its border would have a significant adverse effect on the state's coastal zone. In May 1989, the NOAA General Counsel issued a legal opinion supporting the right of state CZM programs to review activities in adjacent states, if there are spillover effects on the reviewing state's coastal zone. Although the COE did not accept this position, the COE's permit for the project included a condition which deferred the portion of the project that South Carolina was most concerned about for a year, pending completion of an ongoing water quality study.

During the biennium, OCRM began working to improve procedures for reviewing and evaluating the coastal management and estuarine reserve programs. Two of OCRM's objectives are a more open evaluation process and more timely evaluation findings. Under the terms of the OCRM/EPA agreement mentioned above, the evaluation process pursuant to Section 312 of the CZMA is also being used to evaluate state coastal management agency related efforts to develop Comprehensive Conservation Management Programs under the EPA National Estuary Program. OCRM recognizes the importance of the evaluation process and will be implementing additional improvements in the near future.

OCRM also recognizes the growing need for technical assistance and information transfer to state and local governments. Through the NOAA Coastal Ocean Program and other efforts, large data bases are being developed on a diversity of coastal and marine issues and problems, such as coastal pollution, wetland/habitat destruction, shellfish contamination, coastal storms and flooding, and shoreline erosion and sea level rise. Since these data are intended to serve coastal decisionmakers like state CZM program managers, OCRM has begun to serve an information transfer role. During the biennium, several technical assistance bulletins were prepared by OCRM staff on natural hazards issues, including hurricane evacuation planning, pre-disaster land use planning, shoreline erosion, state construction setback laws, and sea level rise.

In the future, we foresee a much expanded technical assistance role related to information exchange. OCRM's efforts will take many shapes. We will keep coastal states informed of what is available from NOAA and will facilitate dialogue between scientists and managers on user requirements and needs. OCRM's Coastal Zone Information Center will continue to provide answers to questions concerning the coastal zone, and provide guidance to those who wish to research a topic in detail. The center contains a collection of over 25,000 books, documents, periodicals, maps and atlases which is available for specialized

research into the field of coastal zone management. Other OCRM activities will include producing technical bulletins on issues of concern to coastal managers, sponsoring workshops on information and technology transfer, and assessing the vast array of digital maps and products available from NOAA and providing practical guidance on the appropriate use of these products by the states. As part of this effort, OCRM is sponsoring a one-day "information technology transfer" workshop on Geographical Information Systems as part of the 1990 Coastal Program Managers' Meeting in Washington, DC.

A move toward regional waterbody management is also envisioned. During FY89, OCRM provided CZM funds to the states of Maine, Massachusetts, and New Hampshire to coordinate with the Canadian Provinces of New Brunswick and Nova Scotia for establishment of a plan to improve coastal resource management around the Gulf of Maine. CZM funds were also provided in FY89 to the Great Lakes Commission to develop a framework for interstate CZM planning in the Great Lakes. All of the Great Lakes states are participating in this effort. In the future, we will encourage states to form interstate compacts to help solve larger-scale ecosystem problems.

OCRM also expects that the CZM program will play an increasing role in the protection of historic and cultural resources located within the national estuarine reserves and state waters within marine sanctuaries. OCRM has been working with the National Park Service (NPS) to coordinate CZMA activities with the Abandoned Shipwreck Act. The two offices have met and discussed ways in which both the state shipwreck program, developed under NPS guidance, and the CZM program can benefit from this coordination. States will be encouraged to utilize their CZM programs to help develop the shipwreck management programs. Several benefits from coordinating these programs have been identified, including utilizing CZMA Section 306 and 306A funds, and possibly Section 309 interstate grant funds, for development of the state shipwreck programs.

In addition to working more closely with states and other Federal agencies to strengthen the core elements of the CZM program, OCRM has recognized the growing need to inform the public about emerging coastal issues and provide opportunities for the public to participate in the CZM programs. During 1988 and 1989, the agency participated in the annual "Coastweeks" celebration and "National Estuaries Day", which ran from September 16 through October 9. In celebration of this annual nationwide observance, OCRM and the states sponsored a wide range of bay and coastal activities for the public at estuarine reserves around the country. OCRM-sponsored activities included beach and shoreline clean-ups, guided boat tours, nature hikes, and symposiums. OCRM plans to participate in future such celebrations, as well as produce publications and brochures to enhance public awareness of coastal issues.

EMERGING COASTAL MANAGEMENT ISSUES

Over the past 16 years, we have learned a great deal more about the area we call the coastal zone. But, the Nation's stewardship of the coast has not kept pace with the problems facing the coasts today. Coastal populations are growing at three to four times the national average, and the increasing demand for second home and other coastal development has put tremendous pressure on the Nation's coastal zone and its resources. More than half of the U.S. population now resides in the coastal counties, on less than 10 percent of the Nation's land. Projections indicate that by the year 2000, more than 75 percent of our national population will live within one hour's drive of the coast.

This burgeoning population affects a range of environmental quality issues. Life and property are continually placed in jeopardy from coastal natural hazards, as was underscored recently by the devastation from Hurricane Hugo. The conflicts among coastal uses also remain, as seen in the disputes surrounding offshore energy development. Furthermore, our Nation's coastal waters are in jeopardy. Large amounts of toxic contaminants continue to degrade our coastal waters, and nonpoint sources of pollution are contributing heavily to the overall problem. In some coastal areas, nonpoint source pollution accounts for 45 percent of water pollution. And while significant progress has been made by the states in reducing the loss of wetlands from man-induced causes, direct and indirect pressures on coastal habitats continue to be a large problem.

Clearly, we are at an important juncture in the life of the national CZM program. As the state CZM programs continue to evolve and mature, the Federal government needs to provide the leadership and support necessary to improve the national program's ability to address the critical coastal issues of today and plan for the issues of tomorrow. The basic infrastructure is in place at the state and Federal level. Now is the time to renew and expand our efforts under the CZMA to respond more completely to long-recognized problems and to place specific emphasis on problems not covered in the original enactment. Specifically, there are five important issues of national concern which the CZMA could be more actively addressing. These are wetlands and habitat protection, coastal water quality, coastal hazards and sea level rise, public access to coasts and minimization of beach and marine debris.

Wetlands and Habitat Protection

Coastal wetlands are important to both the environmental and economic health of the U.S. Nationally, 60 to 70 percent of the U.S. commercial and recreational fisheries harvest is composed of species dependent on coastal wetlands. In addition to providing critical habitat for fish and wildlife, coastal wetlands help reduce flood damages and abate water pollution, and support many valued recreational opportunities. Due to the efforts of coastal states under the CZMA, the rate of wetlands loss from man-made causes has declined. However, the U.S. continues to lose 40,000 acres of coastal emergent wetlands

annually. Most of these are eroding in the State of Louisiana, which is experiencing the loss of 50 square miles (approximately 32,000 acres) each year.

All federally-approved state CZM programs currently address the protection of wetlands by requiring state or local approval for direct and significant alteration of wetlands. Most states also require some form of mitigation for wetland loss. The State of New Jersey, for example, used a wetlands mitigation agreement with a major utility to obtain funds to acquire critical wetland habitat along the Delaware Bay, which serves as a landing place for over 1,000,000 migrating shorebirds each spring. Many states have also undertaken public education efforts to increase awareness of the value of these areas.

New efforts are needed to manage the direct and indirect (e.g., contamination by toxic substances) impacts on coastal wetlands. Specifically, the states should be encouraged to eliminate adverse impacts to pristine wetlands, restore the quality of impacted wetlands, and establish acquisition programs for wetlands.

Coastal Water Quality

The continuing problems of closed shellfish beds and restricted recreational areas have forced recognition of the increasing efforts needed to improve water quality. Nonpoint sources of pollution are a major cause of degradation in coastal areas. While the CZMA requires that state water quality standards be incorporated into the state CZM program, coastal pollution was not a major focus of concern in the earlier stages of CZM program implementation. However, as the causes of nonpoint source pollution have become better understood, it is clear that the CZMA can play a more important role in dealing with this national problem.

Many states already have made significant contributions to water quality improvement through programs developed as part of their coastal management efforts. In Rhode Island and Wisconsin, for example, setback requirements have been established for development adjacent to coastal waters. Stormwater management programs have been adopted in Maryland, Washington, North Carolina and South Carolina. Several states have also initiated creative efforts to protect coastal waters through special area management programs or land management requirements for adjacent lands.

While many states are addressing the problem of nonpoint source pollution, the approach largely remains fragmented and needs national emphasis. The deterioration of coastal waters indicates that a stronger effort by state coastal management and water quality agencies is needed to address the problem. Improvement could be made by coordinating, and where appropriate, integrating the efforts under CZMA with those being undertaken as part of the nonpoint source management provision which was recently added to the Clean Water Act (Section 319). The Nation needs to take full advantage of the expertise and institutional structures of the coastal management programs in dealing with coastal water quality problems.

Coastal states and territories should also be encouraged to manage land and water uses and activities to eliminate the adverse impact on coastal waters from nonpoint source pollution by promoting stronger land and water use permit programs, Best Management Practices for agriculture and silviculture, watershed management programs, and stormwater management programs. In addition, states should be encouraged to review their existing coastal zone boundaries to determine whether they can adequately address nonpoint sources of pollution. OCRM firmly believes that the CZM programs, with their experience in land and water use management, can help move the Nation forward in addressing many of the significant nonpoint source pollution problems.

Coastal Hazards and Sea Level Rise

As the havoc wreaked by Hurricane Hugo in the Caribbean and South Carolina so vividly demonstrated, coastal developments can be fragile, and utilizing natural buffers makes not only good ecological, but excellent economic, sense. Under the CZMA, OCRM has funded new state efforts to deter development in the most highly vulnerable areas of the shoreline through adoption of such measures as setbacks. Currently, 13 states have some form of setback requirement for coastal development. Many states also have laws to protect dunes which are the first line of defense from storms. For example, the State of Michigan recently expanded its protection of dunes by granting authority to the state Department of Natural Resources to regulate activities within newly defined "Critical Dune Areas."

The State of North Carolina, through its coastal program, has adopted a strong program to protect lives and property from coastal hazards. The state has developed a four-stage approach which augments and extends National Flood Insurance Program (NFIP) standards to protect coastal development. Setback lines have been established in ocean hazard areas designated as areas of environmental concern to provide protection from coastal storms and insure at least 60 years of protection from coastal erosion. Permitting occurs behind the setback line to the 100-year-storm-recession line. Infrastructure growth that would serve ocean-hazard areas, such as roads, bridges, water and sewer lines, and erosion-control structures, are allowed only if they will be reasonably safe from coastal hazards and will not promote additional development in hazardous areas. Finally, the state provides hazard notices to all permit applicants, which gives the erosion rate in the area, notes that bulkheads and seawalls are not allowed, and notes that the area is hazardous and that the property owner is at risk.

Improved land use measures, as are being undertaken by state CZM programs, are one of the more effective long-term solutions to reducing the risk from erosion and coastal storms. However, the ever-increasing population growth in coastal areas necessitates stronger policies in the CZMA to manage the increasing risk to life and property. A comprehensive approach to coastal hazard mitigation is needed. States should be encouraged to reduce the threat to life and the destruction of property by curtailing development and redevelopment in coastal high hazard areas. Such a comprehensive management approach would also include evacuation planning, enhanced building code

standards and enforcement, protection of dunes and other physical features and planning for rational development in areas vulnerable to natural hazards, and planning for appropriate redevelopment after a disaster. At the Federal level, NOAA needs to work with the Federal Emergency Management Agency to encourage prudent land use management in the NFIP, which represents the second largest liability to the Federal government, second only to Social Security.

Public Access

Increased coastal population and leisure time have led to an increased demand for coastal recreational opportunities. However, rapid coastal development and competing private and public uses have reduced the amount of coastal land that is open to the public. This has placed pressure on public officials to provide improved public access opportunities. The CZMA has fostered significant increases in public access to our Nation's coasts.

Coastal states have used four methods to enhance public access: land acquisition, inventory and information dissemination, accessway design and development, and regulation. In California, for example, only four miles of the 1,000 miles of shoreline around San Francisco Bay were open for public access when the San Francisco Bay Conservation and Development Commission began operations in 1977. Since then, over 96 miles of shoreline around the bay have been opened for public access. This was achieved through a combination of permit conditions and public acquisition. In Connecticut, the review of over 100 major waterfront permits has provided a total of nearly seven miles of new public access through walkways, waterfront parks, easements or other agreements.

The states have faced severe problems in addressing access needs, however. Public access expenditures and regulatory mechanisms are hindered by escalating coastal property values, competition with other resource conservation efforts, limited budgets and personnel, and recent court cases concerning state regulations and private property rights. In some parts of Connecticut, for example, shorefront land sells for up to \$3 million per acre. The state estimates that the value of its new public accessways is \$20-\$25 million.

Despite individual and collective efforts, there is a continued need to use existing authorities to improve access to coastal areas of recreation, historical, aesthetic, ecological or cultural value, based on current and future coastal public access needs. Improvements can be made through state regulatory means, such as new enforceable policies, state permits or local zoning, and through state programs to obtain public ownership of access sites through donation, dedication or acquisition.

Beach and Marine Debris

The summer of 1988 focused public attention and outrage on medical, plastics and other solid waste appearing on America's beaches. While waste minimization is not a current goal of the CZMA, NOAA, EPA and the Coast Guard have responsibility for

reducing or eliminating plastic pollution at sea under the Marine Protection, Research and Sanctuaries Act. As a Nation, we now generate nearly 160 million tons of garbage every year. Estimates are that this will increase to over 190 million tons by the year 2000. While the generation of beach and marine debris increases, 40 percent of the Nation's landfills will close in the next five to seven years. Because our coastal areas are particularly sensitive to pollution, a special effort is required to ensure that America's wastes don't become part of America's coasts. The CZMA may be another tool to encourage waste minimization as a cost-effective means to help solve the problem pervading our country. Coastal states need to develop and implement programs for management of beach and marine debris to reduce this pollution source.

State Performance Reviews

Most of the states have strong, effective programs, but some need strengthening in certain areas. We need more effective and efficient Federal oversight of states' performance in administration of their approved CZM programs and operation of NERRs to ensure that they are carrying out the objectives of the CZMA. Right now, it is all or nothing; the only real penalty for states not adhering to their program is withdrawal of Federal program approval. This approach can undermine the state's ability to achieve the goals of the Federal-state partnership. If it is determined that a state is not effectively implementing its program, OCRM believes that the states should be placed on probation while deficiencies in the program are being corrected. Evaluations should be viewed as a positive, rather than punitive, tool designed to assist coastal states in making needed improvements.

Estuarine Research Reserves

During the 1985 reauthorization of the CZMA, Congress made several changes to Section 315, formerly known as the National Estuarine Sanctuary Program. In addition to renaming the sanctuaries as national estuarine research reserves, Congress provided guidance to NOAA and the coastal states regarding the research purposes of the reserves. The 1985 CZMA Amendments also clarified the education and interpretation responsibilities of the program to increase public awareness of the importance of estuarine areas. Since 1985, some minor problems have surfaced. To improve the operation and management of the NERRs, there is a need to expand OCRM's ability to undertake cooperative or joint research and education activities incorporating multiple sources of funding; clarify the range of types of states agencies or organizations that are eligible to manage reserves and receive education grant funding; and clarify and strengthen cooperative efforts between the NERRs and the National Marine Sanctuary Program.

2. Coastal Zone Management Program



COASTAL ZONE MANAGEMENT PROGRAM

There is great diversity among the 29 states and territories taking part in the Coastal Zone Management (CZM) Program. Beyond obvious differences in size, region and extent of present development along the coasts, there are major differences in political systems within the states and territories and differences in levels of public support for CZM activity. As a result, the nature and structure of CZM programs vary widely from state to state. Some states passed comprehensive legislation as a framework for coastal management, while others used existing land-use legislation as the foundation for their federally-approved programs or networked existing, single-purpose laws into a comprehensive umbrella for coastal management. These programs continue to evolve as priorities change and as better information and technical capabilities become available.

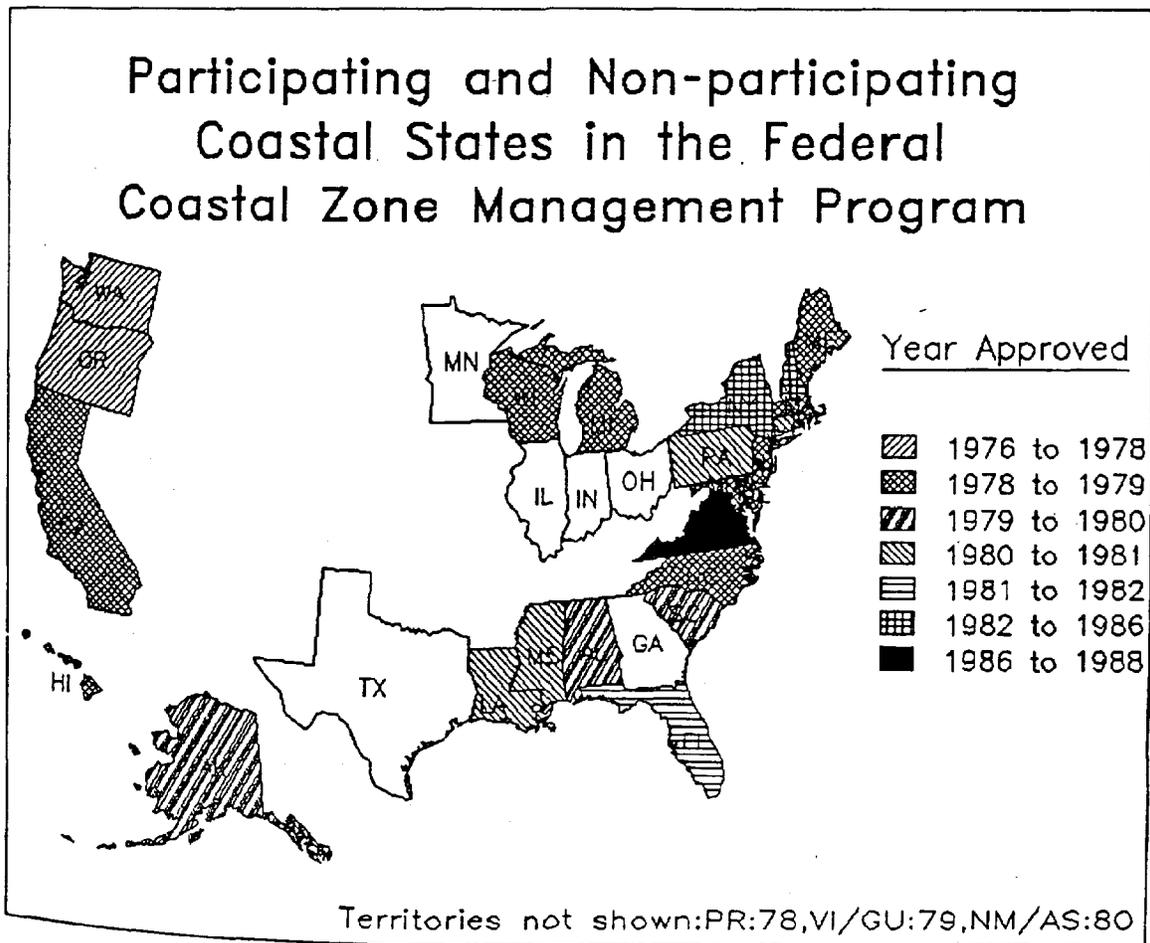


Figure 3. Map of State Program Approval

CZMA Implementation Funds

Upon Federal approval, the states and territories are eligible for program administration grants under Section 306 of the CZMA. Funds are allocated by a formula of shoreline mileage and coastal population, with minimum and maximum shares for the smallest and largest states. Section 306 requires that an increasing proportion of Federal funds (up to 30 percent) be used for activities supporting the nine national coastal management objectives identified in Section 303 of the CZMA. In addition, Section 306 requires a 50 percent state cost sharing and sets minimum and maximum amounts for the allocation of appropriated funds. During FY88, OCRM allocated \$33.413 million for states and territories under Section 306. In FY89, some \$33.9 million was allocated. The state-by-state summaries in Chapter 4 explain in detail how the states used these funds during the biennium and what they accomplished.

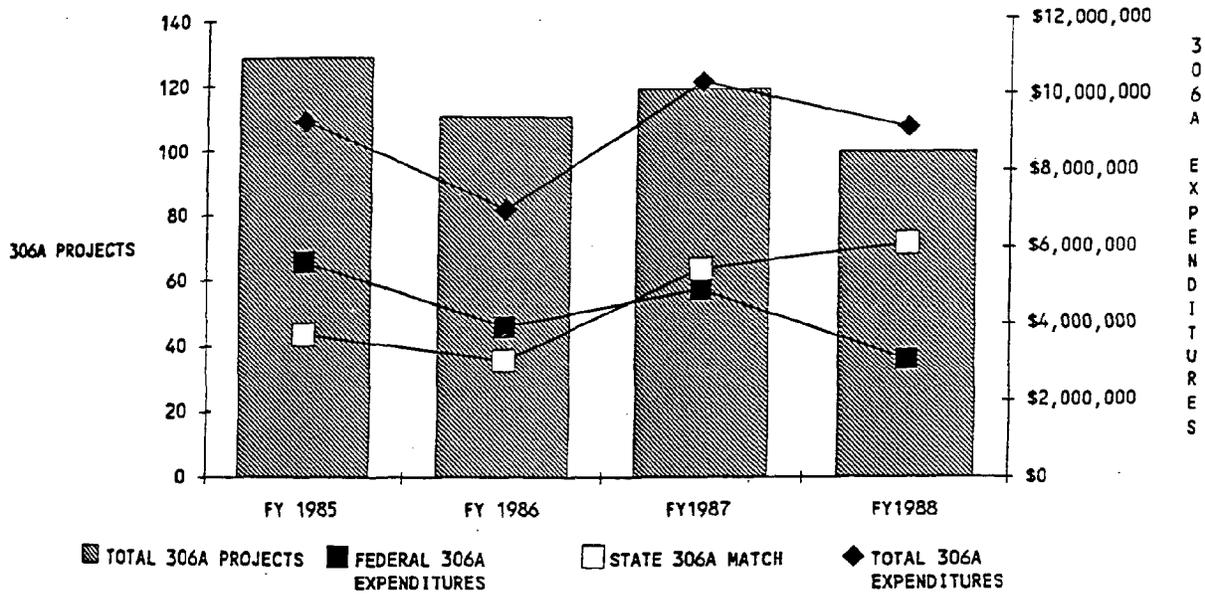
Low-cost Public Access Projects

In 1980, Section 306A was added to the CZMA to allow states to acquire land and fund low-cost construction projects to provide public access to the coasts for recreational purposes. Since 1985, when Section 306A funds were first allocated, these funds have been used by states to plan, acquire and build public access sites, protect environmentally sensitive areas, and revitalize deteriorating urban waterfronts (see Figure 4). All of these Section 306A activities have enhanced recreational use of coastal areas at relatively little cost to the U.S. taxpayer.

From FY85 to FY88 (through September 1989), states spent 12 percent (approximately \$17.5 million in 1988 dollars) of their CZMA awards on 455 public access projects (see Appendix B). The Federal 306A funds were matched with some \$18.3 million in state and local government funds, representing 30 percent of the state match provided for the annual CZMA state implementation awards. In many instances, states over-matched their implementation awards through the use of state 306A matching funds.

Sixty-seven percent of the 306A projects were for low-cost construction projects to provide public access such as boat ramps, dune walkovers, wetland walks, fishing piers and small coastal parks. Nine percent of the projects were used to improve public access to state areas of particular concern. Seven percent of the projects were acquisitions to protect environmentally significant areas and for access construction activities. Another seven percent of the projects were for revitalizing deteriorating urban waterfronts. The remainder of the projects and funds were for various engineering designs for access projects and for educational and interpretive initiatives. Non-306A CZM funds have also been used by the states and the territories to inventory public rights-of-way along the coast and designate them for public access.

CZMA SECTION 306A PROJECTS AND EXPENDITURES (1988 \$)



Source: OCRM Files

Figure 4. CZMA Section 306A Projects and Expenditures

Interstate Programs

The 1976 amendments to the CZMA authorized section 309 entitled, "Coastal Zone Management Interstate Grants." Recognizing that an individual state decision could impact the planning and management of an adjoining state, Congress intended Section 309 to provide the incentive and the mechanism to improve interstate planning efforts and to reduce the likelihood of conflict between Federal and state managers of the Nation's coastal area. The Section 309 Interstate Program is administered by the Coastal Programs Division of OCRM, which awards grants for these projects on a competitive basis (see Figure 5 for breakdown of Section 309 awards by region).

In FY88, OCRM awarded a total of \$986,433 in section 309 funds for 16 projects. A few of the larger projects included:

- a cooperative effort between Connecticut and New York to develop a Dredged Materials Management Plan for Long Island Sound;

- an effort to spur regional cooperation on Great Lakes management involving the States of Illinois, Indiana, Michigan, Minnesota, New York, Ohio, Pennsylvania, and Wisconsin;
- an effort by the Rhode Island Coastal Resources Management Council to develop a Special Area Management Plan for the Pawcatuck River Estuary and Little Narragansett Bay;
- a joint effort by the states of California, Oregon, Washington and Alaska for comprehensive regional ocean and coastal resource management and planning; and
- an expanded study by the states of North Carolina, South Carolina and Florida of principles of property damage mitigation on the southeast U.S. Atlantic Barrier.

In FY89, OCRM awarded a total of \$890,198 in section 309 funds for 15 projects. These projects encompassed a wide variety of subjects and locations and included:

- a water use management planning project undertaken by New York and New Jersey for New York Harbor;
- a national evaluation of the role of coastal management programs in improving coastal water quality;
- a joint effort involving Alaska, Washington, Oregon, and California to evaluate the effectiveness of mitigation measures used to resolve conflicts between offshore industrial development and commercial fishing;
- a study undertaken by Pennsylvania, Maryland, and Virginia to determine habitat requirements for Chesapeake Bay living resources;
- a project aimed at addressing Great Lakes nonpoint pollution involving Illinois, Indiana, Michigan, Minnesota, Ohio, New York, Pennsylvania, and Wisconsin.
- a joint study involving the states of Massachusetts, Maine and New Hampshire and the Canadian Provinces of New Brunswick and Nova Scotia to prepare an action plan to improve coastal resources management along the Gulf of Maine and to analyze and address environmental and institutional conditions affecting the Gulf's coastal and marine resources; and
- a project focused on building the institutional capacity of Hawaii, Guam, American Samoa and the Northern Mariana Islands to address management issues in the U.S. Exclusive Economic Zone (EEZ) and in building a regional EEZ forum.

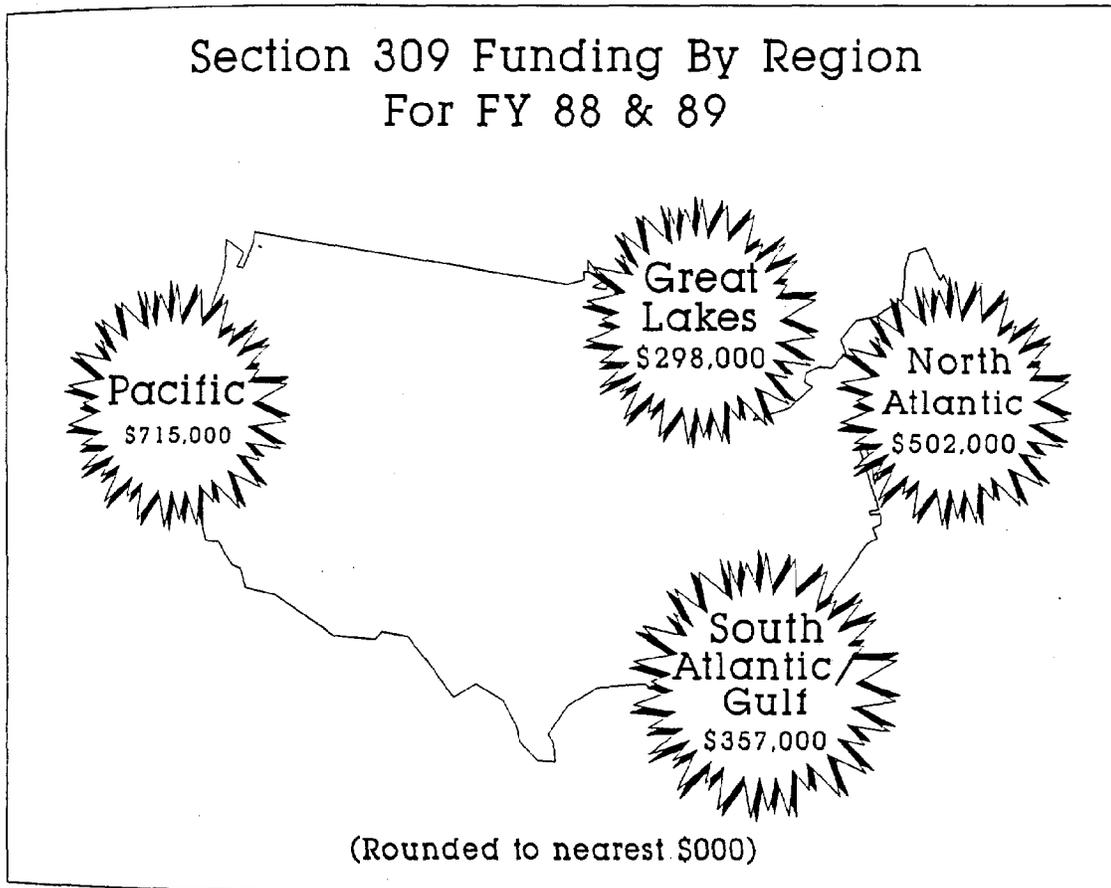


Figure 5. Regional breakdown of 309 awards in FY88 and FY89

State Performance Reviews

Section 312 of the CZMA provides for a "continuing review of the performance of coastal states with respect to coastal management." The scope of an evaluation, as established in the CZMA, includes the "extent to which the state has implemented and enforced the program approved by the Secretary of Commerce, addressed the coastal management needs identified in Section 303(2)(A), and adhered to the terms of any grant, loan or cooperative agreement funded" under the CZMA. OCRM uses the evaluation recommendations in reviewing states' future financial assistance applications, in defining significant improvement activities in accordance with the 1980 Amendments to the CZMA, and in identifying areas of state program implementation that need continuing scrutiny. Program evaluations are a joint effort between the Federal office and the coastal state. A summary of the evaluation findings issued during the biennium are included in the detailed descriptions of each state CZM program in Chapter 4.

FEDERAL CONSISTENCY

Federal consistency is an issue of growing significance to states and the Federal government as a result of maturing state programs and increasing competition for coastal and ocean resources. It has proven to be a powerful and effective tool in eliminating or mitigating the adverse environmental effects of coastal development. The consistency provisions have also eliminated some of the confusion that existed before the passage of CZMA by bringing together Federal and state permitting.

OCRM is responsible for administering Section 307 of the CZMA, which requires that Federal agency activities affecting the coastal zone be conducted in a manner consistent with the states' federally-approved CZM programs. There are four basic types of activities within the scope of Section 307: direct Federal agency activities; federally licensed and permitted activities; Outer Continental Shelf (OCS) exploration, development and production plans; and Federal financial assistance to state and local governments.

In 1985, NOAA published a Draft Federal Consistency Study which concluded that the Federal consistency process has generally worked well. The statistical results of the study were as follows: states concurred with the consistency determinations for about 93 percent of the approximately 400 direct Federal activities reviewed under Section 307(c)(1), including OCS lease sales, which were reviewed during FY83 only; states concurred with the consistency certifications for about 82 percent of the approximately 5,500 federally licensed or permitted activities reviewed under Section 307(c)(3)(A), almost all of which were Corps of Engineers' dredge and fill permits; states concurred with the consistency certifications for about 99 percent of the nearly 435 plans for OCS exploration, development and production reviewed under Section 307(c)(3)(B); and states concurred with the consistency of over 99.9 percent of the nearly 2,000 Federal assistance proposals reviewed under Section 307(d). Where states objected, the study concluded that many of the objections were resolved by further negotiation to develop conditions or mitigating measures.

While we have not updated the statistical data contained in the study, NOAA continues to monitor Federal actions for consistency. We provide policy guidance and technical assistance to states and other Federal agencies on the administration of the Federal consistency provisions and on the application of Federal consistency to specific actions. Recent examples of our efforts in this area are listed below.

EPA's Policy for Designating Ocean Dump Sites

During the report period, EPA's regional offices raised the question of whether or not the designation of ocean dumping sites by EPA pursuant to Section 102(c) of the Ocean Dumping Act was subject to the CZMA consistency provisions. Some of EPA's regions had proposed not to require consistency certifications for the site designations. In 1989, EPA

headquarters drafted a legal advisory opinion stating that designation of these sites need not comply with Section 307 of the CZMA. OCRM objected to this opinion and began to work with EPA's Office of Water to develop an acceptable solution.

Through considerable coordination and negotiations between OCRM and EPA, EPA decided as a matter of policy that it will determine whether proposed site designations are consistent, to the maximum extent practicable, with affected state CZM programs "when dumping at the site may reasonably be expected to result in impacts on the state's coastal zone." However, as a matter of law, EPA still questions the applicability of Section 307(c)(1) of the CZMA to EPA site designations.

Corps of Engineers' Maintenance Dredging Operations

On December 15, 1989, OCRM expressed its disagreement with several issues related to the September 1989 Corps of Engineers' (COE) Guidance Letter outlining its responsibilities to address requirements of the Clean Water Act and the CZMA during the Corps' operations and maintenance dredging activities. OCRM raised several major points of disagreement which centered on: (1) the COE's basis for its "voluntary compliance" with the CZMA; (2) the COE's use of "Federal Standard" when attempting to determine project viability; and (3) the COE's basis for its interpretation that the Ocean Dumping Act preempts the consistency requirements of the CZMA.

As the basis for its "voluntary compliance" with the CZMA for activities within and beyond the three-mile state limit, the Corps relied on the language from the Supreme Court's decision in Secretary of Interior v. California, 464 U.S. 310 (1984). OCRM pointed out that the issue of geographic scope was not an issue decided by this case and therefore should not be used to support the COE's position in this regard. Secretary of Interior v. California primarily addressed the OCS Lands Act and the question of direct impacts of oil and gas lease sales. OCRM's interpretation of this case is also supported by a statement issued by the Justice Department shortly after the case was decided in 1984.

In that statement, the Justice Department stated "we do, indeed, interpret the Supreme Court's decision that what the Supreme Court addressed was Outer Continental Shelf [OCS] lease sale activities. Other OCS activities, exploration, development, and production, would be found in section 307(c)(3). So the Supreme Court decision affects only the lease sale activities and section 307(c)(1)." (CZM Federal Consistency: Hearings on HR 4589 before the Subcommittee on Oceanography of the House Committee on Merchant Marine and Fisheries, 98th Cong., 2d Sess. 608, 1984) (statement of Carol Dinkins, U.S. Deputy Attorney General, U.S. Department of Justice, dated February 28, 1984).

The COE contends that the Ocean Dumping Act (ODA) preempts the consistency provisions of CZMA. OCRM believes that the issue of preemption was resolved by Congress in 1986 during reauthorization of the "Superfund," with language in section 127(d) of Pub. Law No. 99-499, amending and reauthorizing the Comprehensive Environmental Response, Com-

pensation and Liability Act, by adding a new savings clause to Section 106(g) of the ODA: "Nothing in this Act shall restrict, affect or modify the rights of any person (1) to seek damages or enforcement of any standard or limitation under state law, including state common law, or (2) to seek damages under other Federal law, including maritime tort law, resulting from noncompliance with any requirement of this Act or any permit under this Act."

This amendment was intended by one of its sponsors to overturn a series of cases which had held that the ODA and Clean Water Act preempted state regulation. In a floor statement, Representative Studds stated the proposed amendment,

"establishes the general rule that State laws, standards or limitations are not preempted by the [Ocean Dumping] Act... This presumption against preemption requires a correspondingly strict, narrow construction of the reach of Section 106(d), which prohibits States from regulating ocean dumping. Where there is a potential conflict between a State authority governing environmental quality, public health or welfare and the prohibitions in Section 106(d), the presumption favors the continuing validity of State law. Similarly, enactment of the [ODA] is not to be interpreted as revoking by implication other Federal statutes... Similarly, where the [CZMA] requires Federal activities, permits and licenses to be consistent with approved State coastal programs, the CZMA applies with full force to the [ODA]." Floor statement of Representative Studds, Congressional Record, October 8, 1986, H 9596, of House passage of H.R. 2005, the Superfund Amendments of 1985.

Further, OCRM strongly believes that the use of consistency by the states is implementation of a Federal statute and not state regulation. Therefore, unless the legal requirements of another act cannot be complied with, consistency under Section 307 is mandated.

The COE has defined the "Federal Standard" as the "least costly alternative, consistent with sound engineering practices," and will use this standard as a negotiating tool with state and Federal resource agencies to resolve disagreements between the COE and the states regarding the COE's compliance with the Clean Water Act or the CZMA. OCRM believes that the COE's use of this standard may be incompatible with its obligation to make its actions consistent to the "maximum extent practicable" with a state's federally-approved coastal management program.

Department of the Interior's Marine Mining Regulations

In January 1989, the Department of the Interior's Minerals Management Service issued final regulations on leasing of minerals other than oil, gas, and sulphur in the outer continental shelf (OCS) of the U.S. Several commentators on the proposed rule recommended that Section 281.13 of the DOI's regulations be changed to require that activities included under

these regulations conform to the relevant provisions of the CZMA. The final regulations issued by the DOI stated that the CZMA does not apply to activities on the OCS other than those originally covered by the CZMA or specifically added by amendment to the CZMA such as certain oil and gas related activities. Further, the DOI has taken the position that the decision in Secretary of the Interior v. California, 464 U.S. 310 (1984), which found that OCS oil and gas lease sales were not subject to Federal consistency under the CZMA, also pertains to lease sales of other OCS minerals. This position is not in accordance with NOAA rulemaking on this subject, Fed. Reg. 35213 (August 30, 1985).

Mediation

In 1988, the LJ Hooker Development Corporation applied for a COE permit for a waterfront development project on Hutchinson Island, Georgia. The project, which consisted of commercial, retail, residential and hotel facilities, and an extensive marina complex on the island, is located on the Georgia side of the Savannah River, but within 100 yards of the South Carolina state line. The permit would authorize the dredging and filling of over 37 acres of coastal wetlands. The South Carolina Coastal Council (SCCC) issued a consistency objection for the COE permit, even though the project is located entirely within Georgia's border. The SCCC based its objection on the grounds that dredging for the marina slips and access channels within 300 feet of the South Carolina border would have a significant adverse effect on water quality and fish habitat of the Back River.

Following the SCCC's objections, Hooker filed a Federal consistency appeal with the Secretary of Commerce. The developer argued that states may not use Federal consistency to review activities in adjacent states. Hooker withdrew its appeal, however. At the request of the COE, NOAA provided guidance on the legitimacy of South Carolina's objection. In May 1989, the NOAA General Counsel issued a legal opinion supporting the right of state CZM programs to review activities in adjacent states. The Department of Commerce General Counsel supported this position. However, the COE disagreed with this position and concluded that the SCCC comments should not be regarded as effective non-concurrence under Section 307(c)(3)(A) of the CZMA.

During the course of the dispute, OCRM provided informal facilitation services to the parties by encouraging the SCCC and Hooker to hold discussions, visiting the site, tracking the results of the meetings, and talking with both parties. OCRM also consulted with NOAA's National Marine Fisheries Service (NMFS) to address their concerns. NMFS eventually requested that the Corps elevate the Hooker proposal for review in Washington DC, but this request was denied by the Assistant Secretary of the Army for Civil Works.

The COE issued the permit to Hooker in August 1989, with the condition that the portion of the project relating to diversion channels to the Back River be delayed for one year. This would allow for the completion of an ongoing study to determine the effect of the operation of a tide gate in the river.

SECRETARIAL DECISIONS ON CONSISTENCY APPEALS

The Federal consistency provisions provide an administrative appeal to the Secretary of Commerce (Secretary) from a consistency objection by a coastal state. In the case of a Federal license or permit, an OCS exploration or development plan and an application for Federal financial assistance, the applicant has the right to file an appeal to the Secretary. The Secretary may set aside the state's consistency objection if it is found that the activity is consistent with the objectives of the CZMA or is otherwise necessary in the interest of national security [Section 307(c)(3)(A), (B), and (d)].

There are four elements that an appellant has to meet in order to satisfy the test "consistent with the objectives of the CZMA": (1) the activity furthers one or more of the competing national objectives or purposes contained in Sections 302 or 303 of the CZMA; (2) when performed separately or when its cumulative effects are considered, it will not cause adverse effects on the natural resources of the coastal zone substantial enough to outweigh its contribution to the national interest; (3) the activity will not violate any requirements of the Clean Air Act, as amended, or the Federal Water Pollution Control Act, as amended; and (4) there is no reasonable alternative available (e.g., location design, etc.), which would permit the activity to be conducted in a manner consistent with the management program.

Federal consistency regulations contain the following requirement for satisfying the second test -- "necessary in the national interest": The term "necessary in the interest of national security" describes a Federal license or permit activity, or a Federal assistance activity which, although inconsistent with a state's management program, is found by the Secretary to be permissible because of national defense or other national security interest which would be significantly impaired if the activity were not permitted to go forward as proposed."

During the past two years, the Secretary received 64 requests for Secretarial overrides. The appeals mostly involved a few highly controversial Outer Continental Shelf (OCS) oil and gas development projects and a large number of shoreline development projects (see Appendix C). The Secretary issued decisions on six consistency appeals. A summary of these decisions follows.

John K. DeLyser/New York Department of State

John K. DeLyser (Appellant) owns waterfront property on LeRoy Island in Sodus Bay, Lake Ontario, Huron, New York. In 1986, Mr. DeLyser was discovered to be constructing living quarters as part of a boathouse in violation of a condition in his U.S. Army Corps of Engineers (COE) permit. The COE ordered him to stop all construction, and then allowed him to submit an application for an after-the-fact permit that would authorize inclusion of the residential unit in the dock and boathouse project approved earlier.

On August 18, 1986, Mr. DeLyser submitted to the COE a consistency certification for the proposed activity. On December 8, 1986, the state objected to Mr. DeLyser's consistency certification on the ground that the inclusion of the residence in the project violated the New York Coastal Management Program's policy of giving priority in the coastal zone to water dependent uses. As an alternative, the state suggested that Mr. DeLyser construct the residence on the upland portion of his property.

On January 8, 1987, the Appellant filed with the Secretary a notice of appeal from the state's objection to his consistency certification for the residential portion of the project. He pleaded that his project should be approved because it was consistent with the objectives of the CZMA. An Appellant must satisfy all four elements of 15 C.F.R. § 930.121 to prevail on the ground that the project is consistent with the objectives or purposes of the CZMA. The Secretary found that the residential component of Mr. DeLyser's project did not satisfy the first element because it did not further the objectives or purposes of the CZMA.

Long Island Lighting Company/New York Department of State

In conjunction with the construction of the Shoreham Nuclear Power Station (SNPS) located at Shoreham, Long Island, New York, and pursuant to a series of permits issued by the U.S. Army Corps of Engineers (COE), Long Island Lighting Company (LILCO) performed periodic maintenance dredging of Wading River Creek and the power plant's intake canal, and maintenance of the intake canal's two stone jetties between 1968 and 1985. The COE permit for these activities expired in June, 1985. On March 20, 1986, LILCO applied to the COE for a permit to perform the same dredging and jetty maintenance activities that had been carried out since 1968.

On April 16, 1986, LILCO submitted to the New York Department of State (New York) a consistency certification for the proposed dredging and jetty maintenance project. On October 20, 1986, New York objected to LILCO's consistency certification on the ground that LILCO had supplied the state with insufficient information upon which a consistency determination could be made. The state, arguing that the plant was an "associated facility" for the proposed jetty maintenance and dredging project, requested information that pertained to: the licensing of SNPS; detailed descriptions of the project and of SNPS; public safety reports for SNPS; environmental impact statements and plans for SNPS; and the construction permit for SNPS.

On November 19, 1986, LILCO filed a notice of appeal from New York's objection to its consistency determination for the proposed dredging and jetty maintenance project. LILCO contended that the proposed project satisfied both of the statutory grounds for approval. The Secretary determined the proposed activity could be approved because it was consistent with the objectives of the CZMA. Because the Secretary found that LILCO satisfied the first of the two alternative grounds set forth in the CZMA, he did not address the issue of whether the activity was otherwise necessary in the interest of national security.

Korea Drilling Company Ltd/California Coastal Commission

The Korea Drilling Company, Ltd. (KDC), a Korean corporation authorized to do business in the United States, proposed to conduct exploratory drilling for oil and gas on certain Outer Continental Shelf (OCS) tracts off the California coast pursuant to contracts with companies possessing leases to those tracts. In April 1986, KDC filed an application with the Environmental Protection Agency (EPA) for an individual National Pollutant Discharge Elimination System (NPDES) permit under the Federal Water Pollution Control Act. The permit was needed to allow KDC to discharge drilling muds, cuttings and washwater; well completion and treatment fluids; and associated waste materials from its semi-submersible exploratory drilling vessel, the Doo Sung.

KDC certified in its application to EPA that its proposed discharge activity was consistent with the federally approved California Coastal Management Program (CCMP). On August 4, 1986, EPA issued the NPDES permit, to become effective on September 11, 1986, provided that KDC had obtained the concurrence of the California Coastal Commission (Commission) with its consistency certification. The Commission voted to object to the consistency certification at a hearing held November 14, 1986. On December 10, 1986, the Commission adopted findings setting forth the basis for its action. The Commission found that the project as proposed would result in safety concerns endangering marine resources in the coastal zone, would cause adverse socio-economic effects on local workers in the coastal zone, and that it did not implement the national interest as required by the CCMP and sections 302 and 303 of the Coastal Zone Management Act (CZMA).

By letter dated December 12, 1986, and received December 15, 1986, KDC submitted to the Secretary a notice of appeal from the Commission's objection to its consistency certification. An Appellant must satisfy all four elements of 15 C.F.R. § 930.121 to prevail on the statutory ground that the project is consistent with the objectives or purposes of the CZMA. The Secretary found all elements of 15 C.F.R. § 930.121 were satisfied and concluded that the proposed activity could be permitted.

John Bianchi/New York Department of State

John Bianchi (Appellant) owns a restaurant on the Reynolds Channel in Hempstead, New York. On March 10, 1986, Mr. Bianchi applied to the U.S. Army Corps of Engineers (Corps) for a permit to construct a pier behind the restaurant. The proposed facility was to serve as both a temporary dock for the boats of restaurant patrons and an "alternate" waiting area for the patrons. At about this time the Appellant began construction of the facility, although he had not yet obtained the required permit. The Appellant completed construction about June 1986.

The State of New York objected to the Appellant's consistency certification on August 4, on the grounds that the project was inconsistent with New York Coastal Management Program (NYCMP) policy for the siting of water dependent uses and facilities on or adjacent

to coastal waters. The state determined that the proposed use of the deck as an alternate waiting area was not water dependent and preempted the use of this area for water dependent uses. In addition, the state found no valid justification for such an extensive deck for boat docking. As an alternative, the state recommended an open-pile dock in a "T"- or "L"-shape.

On September 5, 1986, the Appellant appealed the state's consistency objection and sought advice on the appeal procedure, specifically the issue of the timeliness of the appeal. The Secretary found the alternative identified by the state to be reasonable and available. Because the fourth element was not satisfied, it was unnecessary to examine the other three elements and the state's objection was upheld.

Texaco/California Coastal Commission

In 1986, Texaco applied to the Environmental Protection Agency (EPA) for an individual National Pollutant Discharge Elimination System (NPDES) permit to discharge drill muds, cuttings and other associated discharges for activities on Lease 0512 of Lease Sale 80, located offshore of Santa Barbara County, California, and adjacent to State waters. EPA issued an individual NPDES permit to Texaco subject to consistency concurrence by the California Coastal Commission (Commission). Texaco next submitted its proposed Plan of Exploration (POE) to the Minerals Management Service of the Department of the Interior. The POE proposed drilling up to eight exploratory oil and gas wells.

The Commission received the consistency certifications for the proposed POE and the individual NPDES permit in September, 1987. On February 23, 1988, the Commission objected to Texaco's consistency certifications for the proposed POE and the individual NPDES permit. The Commission found the proposed POE inconsistent with the California Coastal Management Program (CCMP). Although the Commission found the individual NPDES permit consistent with the CCMP policies, it objected because that permit was "inextricably linked" to the proposed POE.

Texaco appealed under both statutory grounds: 1) that the objected-to activity may be federally approved because it is consistent with the objectives and purposes of the CZMA; and 2) that it is necessary in the interest of national security. During the course of the appeal, Texaco raised the threshold issue of whether the Commission could object to the individual NPDES permit on the ground that it is "inextricably linked" to the objected-to Plan of Exploration.

For the threshold issue, it was determined that the objection to the individual NPDES permit was not valid because the objection did not describe how that permit was inconsistent with the policies of the CCMP.

Texaco was successful in satisfying all four elements of 15 C.F.R. § 930.121 and prevailed on the statutory ground that the project was consistent with the objectives or purposes of

the CZMA. Because the Appellant prevailed on the first of the two alternative statutory grounds, it was not necessary to address the question whether the proposed project was necessary in the interest of national security.

Exxon Company U.S.A./New Jersey Department of Environmental Protection

Exxon Company, U.S.A. (Appellant) purchased a 1.068 acre parcel of land located near Barnegat Bay in Dover Township, Ocean County, New Jersey. The parcel contains 7,600 square feet of wetlands. The Appellant proposed to construct an automobile service station. To provide traffic circulation within and around the site, the Appellant contended it was necessary to provide two one-way access drives from the adjacent primary road. Construction of the service station according to that design necessitated the filling of approximately 5,660 square feet of wetlands on the lot.

In 1986, the Appellant applied to the U.S. Army Corps of Engineers (Corps) for a permit to fill the wetlands with sand. On December 16, 1986, the State of New Jersey objected to the Appellant's consistency certification for the proposed project on the ground that it violated the state CZM program's prohibition of the filling of wetlands. On January 13, 1987, counsel for the Appellant filed a notice of appeal from the state's objection.

The Under Secretary for Oceans and Atmosphere [to whom the authority to decide the appeal had been delegated] found that the proposed filling of wetlands would have an adverse effect on the natural resources of the coastal zone that outweighed the proposed activity's minimal contribution to the national interest. Because that element was not satisfied, it was unnecessary to examine the other three elements and the State's objection to Appellant's consistency certification was upheld.

HIGHLIGHTS OF OTHER STATE CONSISTENCY ACTIONS

- o The Alaska Coastal Management Program (ACMP) and the U.S. Forest Service disagreed on two issues related to timber harvesting: (1) determining which ACMP standards apply to logging activities; and (2) judging when a separate consistency determination is required for each major decision in a five-year development plan. The ACMP has requested Secretarial mediation under Section 307(h) of the CZMA to assist in resolving these two issues.
- o The Connecticut Coastal Management Program (CCMP) was involved in negotiating a conflict over the security of a Navy submarine base. Security measures would have restricted portions of the lower Thames River to Navy uses, thus preventing development of water-dependent uses in the Town of Waterford and prohibiting recreational activities. The CCMP, through the Federal consistency process, resolved this issue by negotiating the size of the restricted area and devising a registration and identification system for boat traffic.

- o The Delaware Department of Natural Resources and Environmental Control successfully resolved a dispute regarding wetlands protection and highway development between the Delaware Department of Transportation and the U.S. EPA. At issue were the EPA requirements for mitigation of wetlands lost due to bridge construction.
- o Many CZM programs, including Guam, Northern Mariana Islands, Maryland and Wisconsin, developed Federal consistency handbooks for state and Federal agency use during the biennium.
- o Both California and Florida objected to OCS plans of exploration off the southern California coast and the southwestern Florida coast, respectively. The consistency objections led to major controversies surrounding future OCS lease sales in these areas.
- o A permit application to the Corps of Engineers from the New York Department of Corrections to moor the first of a proposed series of prison barges along the New York City coast received critical modifications as a result of the New York CZM program consistency review process. Conditions incorporated into the permit limit the duration of the mooring arrangement to one year and required the City to submit a comprehensive application to the Corps which takes into consideration the future need for floating detention facilities.
- o The New York CZM program (NYCZMP) received OCRM's approval to review a request by three New York-based jurisdictions to continue the interim dumping of sewage sludge at a site 106 miles from shore, using a consistency provision which allows a CZM program to review a permitted activity not anticipated and thus, not listed in a state's approved program. As the regulations required, the NYCZMP program demonstrated that the loading and transport of the sludge may affect the coastal zone and therefore, be subject to review. The permit, ultimately approved by the EPA under the Marine Protection, Research and Sanctuaries Act, recognized concerns raised by the NYCZMP during the consistency review process.

NATIONAL INTEREST ISSUES

Hazards Protection

Coastal areas of the United States are affected by a wide range of natural hazards which threaten lives and property. Those hazards include hurricanes and severe storms, floods, erosion, landslides, earthquakes, tsunamis, and subsidence. Hurricanes, severe storms, and flooding pose the greatest risk to coastal populations, with hurricanes and the accompanying flooding having the greatest potential for the loss of lives and destruction of property in a single occurrence. Even though shoreline erosion and coastal land subsidence are rarely responsible for loss of life, they are destructive to property.

One of the major goals of state coastal management programs is to minimize the injury to people, loss of life, and damage to personal and public property, from coastal natural hazards. The ever increasing coastal population gives increasing urgency for the states to establish effective programs to meet this goal.

To improve coastal protection from natural hazards, coastal management programs have been extensively involved in addressing the many hazards issues through such efforts as the development and/or refinement of hurricane warning systems and evacuation planning, flood hazard mitigation and shorefront management (e.g., building setbacks and construction standards). A few of these efforts are summarized below.

- California's San Francisco Bay Conservation and Development Commission (BCDC) has taken a major step in planning for the effects of future sea level rise by amending its program to require that new shoreline development take sea level rise into consideration. The amendment requires that new projects requiring fill be above the highest estimated tide level for the design life of the development.
- Washington's Department of Ecology has established a sea level rise program that includes the formation of an Interagency Task Force, the first Northwest Sea Level Rise Conference, several studies examining sea level rise, vertical land movement, and erosion, and public education.
- Maine's Department of Environmental Protection revised its Sand Dune Rules to include the recognition of sea level rise. The rules also prohibit reconstruction of buildings, seawalls and bulkheads severely damaged by storms.
- Rhode Island's Coastal Resources Management Council adopted regulations that establish post-hurricane and storm permitting procedures. The regulations include the authority to impose a 30-day moratorium after a storm to provide time to assess damages, determine changes in natural features, and identify mitigation opportunities.

- Puerto Rico's Department of Natural Resources (DNR) is involved in the development of an early warning system for flash flooding and basin-wide planning for relocation proposals for high hazard areas. DNR has also funded storm surge modeling using the SLOSH model.
- Wisconsin's Coastal Regional Planning Commissions assembled Coastal Hazards Information Databases which contain bibliographies on various aspects of coastal hazards management. Also, the Wisconsin Department of Natural Resources (DNR) developed a "Floodplain and Shoreline Management Guidebook" to provide an overview of state mandated zoning requirements and to assist local zoning officials and the DNR staff concerning zoning programs.

Natural Resource Protection

Wetlands, estuaries, beaches, and dunes are complex natural systems which are an integral part of the value of the coastal zone. Wetlands function as spawning, nursery and feeding areas for 70 percent of the Nation's \$30 billion commercial and recreational fisheries, as well as natural filtering systems which protect water quality. Wetlands, beaches and dunes also serve as critical habitat for threatened and endangered species, and as protection for upland areas from coastal storms and erosion. Unfortunately, these areas have been, and continue to be, destroyed or their valuable functions impaired by other coastal activities, either directly (e.g. construction) or indirectly (e.g. water quality deterioration by runoff from land disturbing activities).

A major goal of coastal management is to preserve these areas through acquisition or dedication, or to protect them by avoiding or minimizing adverse impacts through planning, legislation and regulation, and technical assistance. A few examples of successful state natural resource protection projects are included below.

- In 1988, South Carolina adopted the Beach Management Act (BMA) which provides enhanced protection for coastal beach and dune systems. The BMA sets a policy of a 40-year retreat from the beach/primary dune system, expands the beach/primary dune critical area, establishes a setback line based on local annual erosion rates, designates a "dead zone" behind the primary dune in which no construction may take place, provides for improved local beach management, and requires more stringent state permit regulations.
- California combined \$277,000 in CZM funds with \$1,230,000 in state funding to acquire the Rush Ranch in Suisun Marsh, one of the few remaining wetlands in the San Francisco Bay area. This acquisition protects 2,070 acres of open tidal marsh and associated upland which provides important habitat for waterfowl and at least 17 candidate and endangered species.

- The North Carolina Coastal Resources Commission expanded the protection of the Buxton Woods/Hatteras Island wellfield Area of Environmental Concern. The wellfields contain the aquifers that are the island's only natural fresh water supply.
- Michigan enacted the Sand Dunes Protection and Management Act which designates Critical Dune Areas, establishes a model zoning plan for sand dunes protection, and encourages local governments to adopt zoning ordinances. The Act establishes setbacks and identifies uses that are prohibited in the Critical Dune Areas.
- The Connecticut Coastal Management Program has successfully brought about the restoration of approximately 514 acres of emergent intertidal wetlands degraded as a result of historic activities. State legislation and funds are now in place to allow coastal communities to pursue embayment restoration activities.
- The New Jersey Coastal Management Program has gained the authority under new state legislation -- the Freshwater Wetlands Protection Act -- to regulate construction in freshwater wetlands statewide and provide in each case for a transitional buffer zone. This is one of a number of steps being taken to allow the State to assume authority of the Clean Water Act Section 404 Program from the Federal Government.
- Storm water runoff constitutes a significant source of coastal pollution in the Commonwealth of the Northern Mariana Islands. To address this problem, the Coastal Resource Management Office and the Soil Conservation Service completed a Storm Water Control Handbook to help developers and farmers identify, plan, and implement storm water control systems.

Natural Resource Development

The natural resources of the coastal zone include both non-renewable resources such as oil and gas, sand and gravel, and other hard minerals, and renewable resources such as finfish and shellfish. These resources generate significant economic benefits to the nation. Development of these resources, however, presents a myriad of challenges. Large scale development projects generally require authorizations and permits from local, state, and Federal agencies. Proper coordination and scheduling of the review and approval process is an essential ingredient for avoiding unnecessary delays which can exponentially increase project costs. Maintenance and expansion of renewable resource industries, such as coastal fisheries, can be hindered by deteriorating waterfront facilities, loss of mooring and waterfront space to competing uses, and lack of capitalization.

Many coastal programs have taken steps to enhance traditional coastal resource based industries and ease the regulatory burden facing major new resource development projects. These include the funding of local planning studies and industry needs assessments, the

development of unified procedures for reviewing large projects, and the simplification of permit review procedures. Some of these successful projects are highlighted briefly below.

- o The Louisiana Coastal Resources Management Program developed two general permits that expedite oil and gas activities while minimizing coastal wetland losses. These permits have saved the oil companies more than \$5.3 million annually, as well as reducing the average wetland area altered per permit.
- o The Maine Coastal Program provided support for the Portland Fish Pier which attracted the Portland Fish Exchange. The Portland Fish Exchange has greatly enhanced the quality of fish available to consumers and improved prices for fishermen.
- o Through the Alaska Coastal Management Program, state review of all required project permits within the state's coastal boundary is coordinated and streamlined. In FY 1989, state review of 86 oil and gas projects was completed in an average of just 23 days under the coordinated review process. This short review time and the predictability of prompt permit decisions provides cost savings to the industry and allows them to more effectively plan and schedule field construction activities.
- o The Washington Coastal Management Program (WCMP) has the responsibility for implementing the shellfish protection and wetlands activities contained in the Puget Sound Water Quality Plan. As part of these efforts, the WCMP is developing a non-point pollution control strategy to protect critical commercial and recreational shellfish beds.

Public Access

Over half of U.S. citizens live in a coastal county. Increased leisure time has led to higher demand for public coastal areas for recreation. However, rapid development and competing uses have reduced the amount of shoreline that is open to the public. Improvement of public access to the shoreline is an important goal of the coastal management program. Coastal property values are appreciating considerably faster than non-waterfront properties, thus making acquisition more expensive. Hence, coastal programs must look at various ways for assuring access for the public.

Coastal states use several mechanisms to provide coastal public access. These include direct acquisition with state and Federal funds, improving undeveloped public properties, requiring public access as part of development projects, increasing public awareness of access sites, accepting conservation easements, developing coastal recreation management plans, and increasing access acquisition funds through bond referendums and revenue from various taxes. Many of these activities are either funded through, or administered by, state coastal zone management programs. Some examples are provided below.

- The states of California, Connecticut, New York, Rhode Island, Washington, Hawaii, Massachusetts and the Northern Mariana Islands acquire coastal access along the waterfront through their permit review process. The Connecticut Coastal Management Program's water dependent use standards have required public access as part of more than 100 major waterfront development proposals. In the Northern Marianas Islands, all hotels permitted during 1989 were required to provide coastal access through their property. New York City requires public access be provided for all new waterfront projects.
- California, Hawaii, Massachusetts, New Jersey, Connecticut and Rhode Island review coastal development projects for access opportunities. The State of Washington has just completed a Shoreline Public Access Handbook to be used by local permit administrators when preparing public access permit conditions for development projects.
- Both Alaska and the Territory of Guam are developing coastal recreation management plans to solve public use conflicts. In Alaska, the plan for the Nushagak and Mulchatna Rivers will resolve conflicts among the sport salmon fishing industry and subsistence users. The Guam plan for Agana and Piti Bays seeks to resolve conflicts among mechanized water craft and fishermen, snorklers, and windsurfers.
- The Maine Coastal Management Program completed a "right of way (ROW) discovery program," which involved nine coastal communities. As a result of this effort, a total of 37 rediscovered ROWs were recorded and an instructional handbook for communities to undertake future ROW projects was completed and distributed. Several communities are now in various stages of the ROW program and additional sites are under investigation.
- Several states and territories created or updated coastal public access guides. Of particular note, Maryland, Virginia and Pennsylvania and the District of Columbia published a guide to public access areas on the Chesapeake Bay and its tributaries and along the Susquehanna River. The federally funded Chesapeake Bay and Susquehanna River and its Tidal Tributaries - Public Access Guide, has a wide array of information for each access site, including maps, type of access, fees, and site descriptions.
- North Carolina has used over \$2 million in Federal CZM funds to acquire and protect the 50 acre Permuda Island, in Stump Sound, and 337 acres of Buxton Woods on Cape Hatteras Island. Both of these ecologically significant areas will be accessible to the public for passive recreation.
- Federal CZM 306A funds have been used by the states for many different types of access. These low-cost construction projects include a series of dune walkovers along the North Carolina coast; over 100 wetland walks, boat launches and accessways in

Michigan; and similar projects mostly in Maryland, Maine, Oregon, Wisconsin, Mississippi, Washington, and Pennsylvania. States have used close to \$20 million in Federal CZM funds for these construction projects.

Urban Waterfronts

Many U.S. cities are confronted with deteriorating waterfronts due to poor water quality and the economic decline of the shipping industry. However, in the last decade, efforts have focused on redeveloping and revitalizing the nation's waterfronts. In some urban areas, the high demand for waterfront space has resulted in conflicts among waterfront uses, i.e., ports, marinas, commercial fish landings, condominiums, restaurants, and shopping areas. Coastal management has played an important role in providing funds to cities to study these areas and to prepare plans for their redevelopment. Some of these efforts are described below:

- With a \$16,000 grant from the Connecticut Coastal Management Program, the City of Norwalk made an assessment of its seaport in the late 1970s with an eye toward attracting private development and creating new employment opportunities. This effort catalyzed the \$26 million Maritime Center, which opened in 1988. The center includes an aquarium which exhibits marsh and marine habitats, park and retail space, a movie theater, a weather station, and two public fishing piers.
- The Wisconsin Coastal Management Program set up the Waterfront Action Group, a forum for state agencies to share information and ideas concerning waterfront redevelopment. The objectives of the group are to increase statewide awareness of waterfront redevelopment needs and programs and to coordinate funding for these programs.
- The Oregon Coastal Management Program is partially funding the publication of a Waterfront Revitalization Guide for small communities. The guide provides detailed, step-by-step instructions for small communities and interested citizens who are planning a waterfront revitalization project. One part of the guide is targeted for Oregon communities, while the other part is written for waterfront communities throughout the Nation.
- The Massachusetts Coastal Zone Management Program has administered approximately \$12 million in commonwealth funds for 43 communities to develop facilities that either create a water-dependent use or support an existing water-dependent use.
- With the use of 306 funds to develop the Erie Waterfront Comprehensive Plan and 306A funds for low-cost construction projects, the Pennsylvania Coastal Management Program has made significant progress in redeveloping and improving the Erie waterfront. Low-cost construction projects have included the renovation of a pier

area for public use, construction of boardwalks, and installation of lighting. As a result of these projects, the Erie waterfront has transitioned from a commercial port environment to an area that provides recreational opportunities.

- The Connecticut Coastal Management Program utilizes waterfront zoning in the management of urban waterfront development. Most of Connecticut's municipal coastal programs include zoning requirements (i.e., setbacks of structures, reductions in density, and the provision of discrete waterfront zones) to protect sensitive coastal resources. The zoning provisions assure that waterfront redevelopment is conducted in an environmentally sensitive manner.

Ports and Marinas

Active ports are vital to the health of foreign and U.S. domestic trade. Marinas are an integral component of our recreational coastal resources, and can revitalize a community by increasing public access, enhancing public recreation and enjoyment, stimulating housing and economic opportunities, and creating an aesthetically pleasing environment.

Many state coastal management programs have assisted port authorities in assuring that adequate land is available for port operations, and in identifying and maintaining dredged material disposal sites in an environmentally acceptable manner. State coastal programs have also been active in meeting the growing demand for marinas by encouraging responsible marina development through locating suitable sites for recreational boating facilities, aiding in the development and implementation of harbor and marina management plans, and assuring that areas desirable for marinas are not preempted by land uses that do not require a waterfront location. Some successful state efforts are highlighted briefly below.

- The Connecticut Coastal Management Program fostered the Harbor Management Act that provided coastal communities with the opportunity to establish harbor management commissions and prepare comprehensive harbor management plans. This has reduced user conflicts and provided a mechanism for striking a balance between conservation and development in ports and harbors.
- The Massachusetts Coastal Zone Management Program prepared a handbook entitled Primer for Dredging in the Coastal Zone of Massachusetts. The handbook addresses topics such as dredging technologies, disposal alternatives, environmental impacts, regulatory framework, and environmental testing. The handbook is a management tool used by the commonwealth in making decisions on the best management practices related to dredging. The Massachusetts program has also assisted coastal communities with the development of comprehensive harbor-waterfront management plans.

- o To address the increased pressure on coastal communities to develop the shores along tidal rivers, the New Hampshire Coastal Program funded a harbor management plan for the Lamprey River in New Market. The plan combines the interests of the affected local communities with the concerns of the state, which regulates both the water and the submerged land.
- o With support of the Rhode Island Coastal Management Program, one-third of the coastal towns have developed harbor management plans to address the problem of displacement of water dependent land uses, the need for public access, the placing of moorings, and water quality uses. Another one-third of the coastal towns have harbor plans underway.
- o The Wisconsin Coastal Management Program used CZM funds to plan and construct a 150-slip marina and waterfront park on abandoned land in the City of Kewaunee. Also, CZM funds were used to construct a boat launch facility and transient docks in Racine. This project has led to a large waterfront redevelopment project that included a 900-slip marina that opened in 1988.
- o During the past year, the Oregon Economic Development Department, a complementary networked Oregon Coastal Management Program agency, aided in the development of a "deep draft dredging account." The purpose of the account is to help pay a portion of the costs of dredging when the Federal government requires a portion to be paid by local interests.

Improved Government Operations

Effective coastal management can be hampered when government agencies responsible for decisionmaking have conflicting responsibilities. In these cases, coastal management programs have been able to provide substantial leadership in resolving problems using their authority under the Federal consistency provisions of the CZMA. Most decisions with an outcome affecting the balance of resource protection and local coastal development are regulated through the state and Federal permit process. Coastal management programs have instituted many improvements to this process, making it more predictable and timely. These steps have been taken with the intention of making the regulatory process more efficient without sacrificing the essential safeguards of environmental protection.

Coastal management programs with permitting authority have worked to clarify and streamline their permit programs. In some cases, a single application is now required for projects requiring multiple permits. Permit applications have been simplified and, if necessary, expanded to gather needed information. Permit files have been placed on computers for rapid tracking and reporting.

Improved governmental coordination has been another major achievement. For example, a number of states operate a joint permit process with the Corps of Engineers (Corps), for meeting regulations under Section 404 of the Clean Water Act and Section 10 of the River and Harbors Act. The procedure entails a single point of application, joint public notices and hearings, and coordinated project review and field inspection. The end result is improved communication, elimination of redundant effort, and a forum for conflict resolution. A common mechanism which is used is the preapplication meeting, where applicants can obtain early feedback from regulatory/resource agencies on permit requirements for complex projects before taking any costly steps. Although a number of states have a time limit for making permit decisions, most have adopted a more rapid mechanism for approving small-scale projects, often in conjunction with the Corps' general and regional permit system.

Most coastal programs are committed to educating the public and such groups as builders and planners on the requirements of the permit process through the use of guides, brochures, and periodic workshops. Finally, states have used intergovernmental task forces to evaluate permitting programs that are not working efficiently or meeting public goals. This often leads to agency reorganization, legislative action, or assumption of Federal responsibilities.

Coastal programs without direct permitting authority have placed emphasis on improving the consistency review process. For example, Federal consistency guidelines have been prepared for cooperating agencies, and agreements have been developed to streamline the handling of simple and mutually acceptable projects. Some significant coastal program efforts are summarized below.

- The Pennsylvania coastal program has an early signoff procedure for Federal consistency with the Corps of Engineers for projects that are acceptable to both;
- The American Samoa Coastal Program developed a revised Project Notification and Review System (PNRS) which establishes a one-stop permitting process and provides for substantially greater coordination and timely review by the regulatory agencies.
- New Jersey has streamlined its permitting program by first consolidating the overlapping portions of a number of state statutes, thereby reducing the process to a single application.
- The Massachusetts coastal program established a 34-member Environmental Crime Strike Force. Composed of prosecutors, police officers and scientists, the goal of the strike force is improved detection and enforcement of coastal resource violations.

INTERAGENCY COORDINATION

Department of the Interior Minerals Management Service

During the last two years, the Minerals Management Service (MMS) and OCRM have had ongoing interaction on program change reviews and Section 312 evaluations; however, in 1989, special efforts were made to improve communication. In February 1989, OCRM staff attended a two-day MMS workshop on the Outer Continental Shelf (OCS) leasing program and made presentations on the CZM program and federal consistency. In June 1989, OCRM staff attended a MMS-sponsored training course on environmental dispute resolution along with representatives of California State agencies, several Federal agencies, California local governments, and the oil and gas industry. In November 1989, OCRM staff attended a two-day workshop on the effects of offshore oil and gas exploration operations on hard substrate benthic communities. A technical committee was formed at the workshop, which will develop recommendations for the MMS Pacific Outer OCS Office on how to address issues raised at the workshop. Although not formally a member of the technical committee, OCRM will be kept informed of the committee's recommendations.

Environmental Protection Agency National Estuary Program

During 1988, OCRM initiated efforts to coordinate the Coastal Zone Management (CZM) Program and the National Estuary Program (NEP). These efforts included presentations on the CZM and Estuarine Research Reserve Programs to the NOAA/EPA Interagency Workgroup and a CZM presentation at the EPA Annual Technology Transfer Meeting in June 1988. NOAA coordination with EPA during 1988 culminated in a Memorandum of Agreement signed by the Administrators of both agencies.

Overall, the MOA recognizes that the CZM program and the NEP program have many similarities. The major difference is that the CZM program is the umbrella program both geographically and substantively, while the NEP is narrowly focused on one estuary and primary water quality. Also, the NEP is intended only to be a demonstration program with no independent implementation provisions. As such, it was agreed under the MOA that Comprehensive Conservation and Management Plans (CCMPs) developed for the NEP would be incorporated into the state CZM programs. The MOU also calls for: OCRM to look at the activities of the NEP Management Conferences as part of the Section 312 Evaluation process; OCRM to develop guidance for CZMA Section 309 grants that considers opportunities for coordination in NEP estuaries; and NOAA to provide scientific

and technical support to EPA for the development of national guidance on pollution abatement programs to better address living marine resource issues.

Further, the agreement states that, as matter of policy, EPA will submit the CCMPs for federal consistency review; that NEP guidance will provide that CCMPs will be incorporated into CZM Programs and will stress the use of existing CZMA tools; that the selection criteria for new NEPs will include the existence of federally-approved CZMPs; and that NEP guidance will require a state CZM liaison to participate in the NEP Management Conference. Joint activities included in the agreement were the sponsorship of a national workshop for both program staffs; conduct of joint reviews to facilitate program coordination; and establishment of a national mechanism for coordination and oversight of individual NEPs.

To implement the agreement, OCRM has conducted several 312 evaluations in 1988 and 1989 that look at CZM/NEP coordination issues, has issued Section 309 grant guidance giving priority consideration to projects in NEP estuaries, and in October 1989, jointly sponsored a Northeast regional workshop with EPA to foster communication and coordination between the two programs.

Federal Emergency Management Agency

Staff of OCRM have met regularly with representatives of the Federal Emergency Management Agency (FEMA) through established committees and working groups, as well as informally. The two principle interagency coordination mechanisms are the Interagency Floodplain Management Task Force and the Interagency Coordinating Committee on Hurricanes. The latter is composed of FEMA, the Corps of Engineers, the American Red Cross, the Weather Service and OCRM. The Committee meets quarterly to coordinate funding and technical programs to improve state emergency preparedness in the event of a hurricane. All the agencies have contributed to efforts particularly in the area of emergency evacuation.

During this biennial period, OCRM, FEMA and the Corps of Engineers funded Phase II of the Tri-State Hurricane Evacuation Plan, which focused on property protection in coastal areas of Florida, Alabama and Mississippi coastal areas. OCRM also funded a legal study on liability issues associated with vertical refuge in the event of a hurricane. A study of erosion problems along the Southeast Atlantic coast was also supported by OCRM and FEMA. Informal coordination has included regular contact at the staff level as well as a briefing for the Administrator of the Flood Insurance Program and his senior staff on the operation of the coastal management program and opportunities for cooperation between the two agencies.

National Park Service
Abandoned Shipwreck Act

Efforts have been made to coordinate the Abandoned Shipwreck Act (ASA) with the CZMA. The ASA calls upon the National Park Service (NPS) to develop guidelines that states should use in developing shipwreck management programs. During the biennium, OCRM has met with the NPS to discuss ways in which both the state shipwreck and coastal zone management (CZM) programs can benefit from this coordination. As part of this effort, states will be encouraged to utilize the state CZM programs to help develop the shipwreck management programs. Projects that support these efforts and the incorporation of the shipwreck programs into state CZM programs may qualify as significant improvement tasks for state CZM programs.

Several benefits from coordinating these programs have been identified, including utilizing CZMA Section 306, 306A and possibly 309 funds for development of the shipwreck programs. Following incorporation of the shipwreck programs into the federally approved state CZM programs, these funds could be used to help implement the programs. The CZMA Federal consistency provision was also cited as a mechanism that would allow a state more effective control over Federal activities affecting historic shipwrecks. In addition, the CZMA Section 312 evaluation process would allow for increased monitoring of state shipwreck programs by the NPS.

National Oceanic & Atmospheric Administration
National Marine Fisheries Service

Coordination between OCRM and NMFS has increased over the past two years. Representatives of the two agencies have worked closely together with other elements of NOAA to develop agency policy on wetlands. They have also consulted extensively to resolve specific permitting issues involving both agencies. In 1989, staff from OCRM and the Habitat Policy and Coordination Division undertook a survey of the state coastal management programs and the regional fisheries offices to identify any coordination problems in the field and to identify opportunities for joint action. The results of this survey will be the basis for specific activities in the coming year.

TECHNICAL ASSISTANCE

Conferences

The National Coastal and Estuarine Program Manager's Meeting was held in Bethesda, Maryland on March 20-22, 1989. The meeting was cosponsored by the Coastal States Organization (CSO) and OCRM. The meeting participants represented the program manager's of the Federal Coastal Management Program and the National Estuarine Research Reserve System (NERRS). Joint sessions included a Congressional panel on CZMA reauthorization and a panel which focused on wetlands and coastal pollution. The Coastal Management Program portion of the conference addressed a wide variety of topics, including Federal consistency; new initiatives in coastal pollution and wetlands; ocean management; sea level rise and coastal hazards; innovative financial techniques for providing public access; and the Section 312 evaluation process. The NERRS portion of the conference covered many issues, including improving the NERRS program's ability to transfer applied research information to coastal management decisionmakers; developing a comprehensive public education program using the estuarine reserves for outreach; new regulatory requirements; and expansion of the reserve system. In addition to the panel discussions, the National Ocean Service provided exhibits related to information transfer for improved decisionmaking.

NOAA, in cooperation with the American Society of Civil Engineers and several other government and private groups, sponsored a four-day national symposium in Charleston, South Carolina on July 11-14, 1989. Coastal Zone 89 was a multi-disciplinary conference that provided nearly 500 experts in the coastal and ocean management field a forum for productive discussion and interaction on major coastal management and ocean resource issues. The Sixth Symposium on Coastal and Ocean Management brought together more than 1,500 individuals (scientists, government officials, environmentalists, Congressional staffers, industrialists, engineers and planners) to discuss and exchange information and views. Some of the major topics discussed were: coastal and marine policy and institutional relations; global environment, including global climate change and sea level rise; public participation, information and access; environment and information; ocean resources management; site-specific natural areas management; and international CZM issues.

During FY88 and FY89, NOAA participated in the annual "Coastweeks" celebration and "National Estuaries Day," which ran from September 16 through October 9. In celebration of this annual nationwide observance, which focuses on the beauty, diversity and value of the coasts, NOAA and the states sponsored a wide range of bay and coastal activities for the public at National Estuarine Reserves around the country. NOAA sponsored activities included beach and shoreline clean-ups, guided boat tours, nature hikes, open houses, walking tours, films, videos, symposiums and panel discussions. In Washington DC, OCRM and CSO jointly sponsored a beach clean-up at West Potomac Park in 1989.

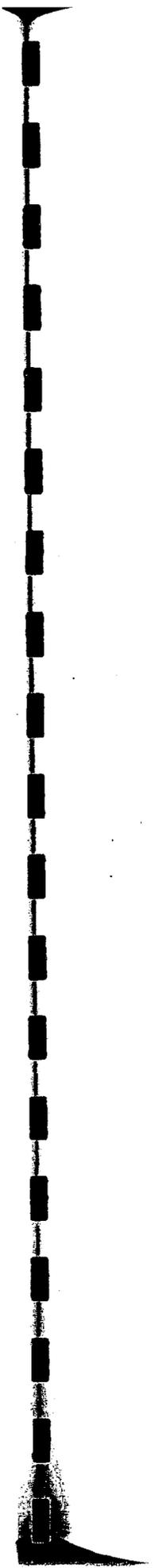
Technical Assistance

OCRM produced several technical assistance bulletins during the report period which addressed natural hazards issues. Issues covered were hurricane evacuation planning, pre-disaster land use planning, shoreline erosion, construction setback laws in coastal states, and sea level rise. Other technical assistance bulletins were produced. "Coastal Management: Solutions to Our Nation's Coastal Problems" provided examples of how state coastal management programs have successfully addressed such issues as coastal hazards, public access, wetlands protection, and improved government operations. Another bulletin provided an overview of interstate grant projects funded under Section 309 of the CZMA.

Coastal Zone Information Center

CZIC provides a variety of information services to NOAA staff, state coastal management programs and the general public. The center provides answers to questions concerning the coastal zone, and provides guidance to those who wish to research a topic in detail. Services including compiling selected bibliographies of source documents, directories of applicable information sources, and providing information about the history and current status of the coastal zone management program. CZIC contains a collection of 25,000 books, documents, periodicals, maps and atlases. The collection is available for specialized research into the field of coastal zone management.

3. National Estuarine Reserve System



NATIONAL ESTUARINE RESERVE RESEARCH SYSTEM

Authorized by Section 315 of the CZMA, the National Estuarine Reserve Research System (NERRS) consists of reserves owned and managed by states with OCRM providing oversight and national program guidance and support. The reserves focus on the protection and management of estuarine land and water resources, including wetlands and watersheds, and environmental education and interpretation, monitoring and research. Presently, there are 18 designated reserves in 16 states. These reserves protect more than 300,000 acres of estuarine lands and waters. The newest reserves are Waquoit Bay, Massachusetts, which was designated in 1988, and Great Bay, New Hampshire, which was designated in 1989.

During the biennium, there was a major increase in state interest in the reserve program. Six additional reserves in five states are in development, encompassing approximately 50,000 acres. These sites include:

- * **Chesapeake Bay, Virginia** -- The Virginia Institute of Marine Science (VIMS) is the lead agency for the development of the Chesapeake Bay reserve in Virginia. VIMS has recently prepared a draft environmental impact statement (EIS) describing the resources and management strategies proposed for four reserve sites along the York River tributary of the bay. The four sites, which include the Goodwin Islands, Catlett Islands, Taskinas Creek and Sweethall Marsh, comprise nearly 3,000 acres of wetland and upland habitat. Designation of these sites is planned for September 1990. Future expansion under consideration by the Commonwealth includes as many as 13 additional components along three other river systems.
- * **St. Lawrence River, New York** -- The St. Lawrence River-Eastern Ontario Commission was awarded a \$10,000 site selection grant to examine areas along the St. Lawrence River for possible inclusion in the NERRS. A site selection task force was formed with representatives of various New York state agencies. Base maps for the area have been completed and resource overlay maps are in preparation. By March 1990, it is expected that the data collection phase will be complete and the analysis of resource information will commence. The final report must be reviewed and approved by OCRM before the state can proceed with development of a draft EIS.
- * **Delaware Bay, Delaware** -- The state's Department of Natural Resources and Environmental Control (DNREC) is the lead agency for the proposed reserve. Site selection committees have been developed. Sixteen sites were initially nominated and visited. The list has been narrowed down to three sites. DNREC is currently meeting with local interests and landowners in the areas

that are being considered. A site nomination package will be submitted to OCRM by Governor Castle sometime in March 1990.

- * **A.C.E. Basin, South Carolina** -- On January 24, 1990, Governor Campbell submitted for the Ashepoo-Comahee-Edisto (A.C.E.) Basin for consideration for designation as a NERR. The A.C.E. Basin site is located in Colleton County approximately 45 miles southeast of Charleston. It encompasses a total of 159,802 acres of upland area, open water, marshlands and islands. A core area of about 16,000 acres has been proposed for designation. Once the site is approved by OCRM, a management plan will be developed and information will be gathered for development of an EIS. The South Carolina Coastal Council has engaged the assistance of the South Carolina Wildlife and Marine Resources Department in the development of the management plan for the proposed reserve. Site designation is planned for 1991.
- * **North Inlet-Winyah Bay, South Carolina** -- On January 24, 1990, Governor Campbell submitted for proposed designation a 15,000 acre site in the North Inlet-Winyah Bay. Located in Georgetown County, the site is composed of uplands, open water, marshlands and islands. The land is owned by the Belle W. Baruch Foundation and is managed by the Belle W. Baruch Institute for Marine Biology and Coastal Research, University of South Carolina, for research and education purposes. A management plan/EIS will be prepared once the site is approved by NOAA. Site designation is planned for 1991.
- * **San Francisco Bay, California** -- In January 1990, the Tiburon Center and the Center for Marine Studies, both part of San Francisco State University, applied for a site selection grant to determine the feasibility of designating a reserve in San Francisco Bay. The Center is focusing on the San Pablo and Suisun components Suisun components of the North Bay.

OCRM is also reviewing proposals to expand three existing reserves. If approved, these expansions would place another 50,000 acres in the NERRS. The site expansions under review are: the addition of the Masonboro Island component to the North Carolina Reserve; the addition of Jug Bay and Otter Point sites to the Chesapeake Bay Reserve in Maryland; and a proposed southward boundary expansion of the Rookery Bay, Florida, reserve to incorporate approximately 46,000 acres of wetlands and coastal waters into the existing 8,400 acre Reserve.

The goal of the NERRS Program is to have all 11 of the Nation's biological and geographical coastal regions represented, including all five of the Great Lakes. Selected by OCRM to reflect regional variations in the coastal zone, the biogeographic classification scheme, which is used to ensure that the NERRS includes at least one site from each region, has 27 subregions. Currently, 11 biogeographic subregions are not yet represented in the System. These include: Acadian (Northern Gulf of Maine); Carolinian (East Florida);

Louisianian (Mississippi Delta); Louisianian (Western Gulf); Columbian (Washington Coast); Great Lakes (Lake Superior, Lake Michigan, Lake Huron and Lake Ontario); Fjord (Southern Alaska); Sub-Arctic (Aleutian Islands); Sub-Arctic (Northern Alaska); Insular (Western Pacific Islands); and Insular (South Pacific Islands).

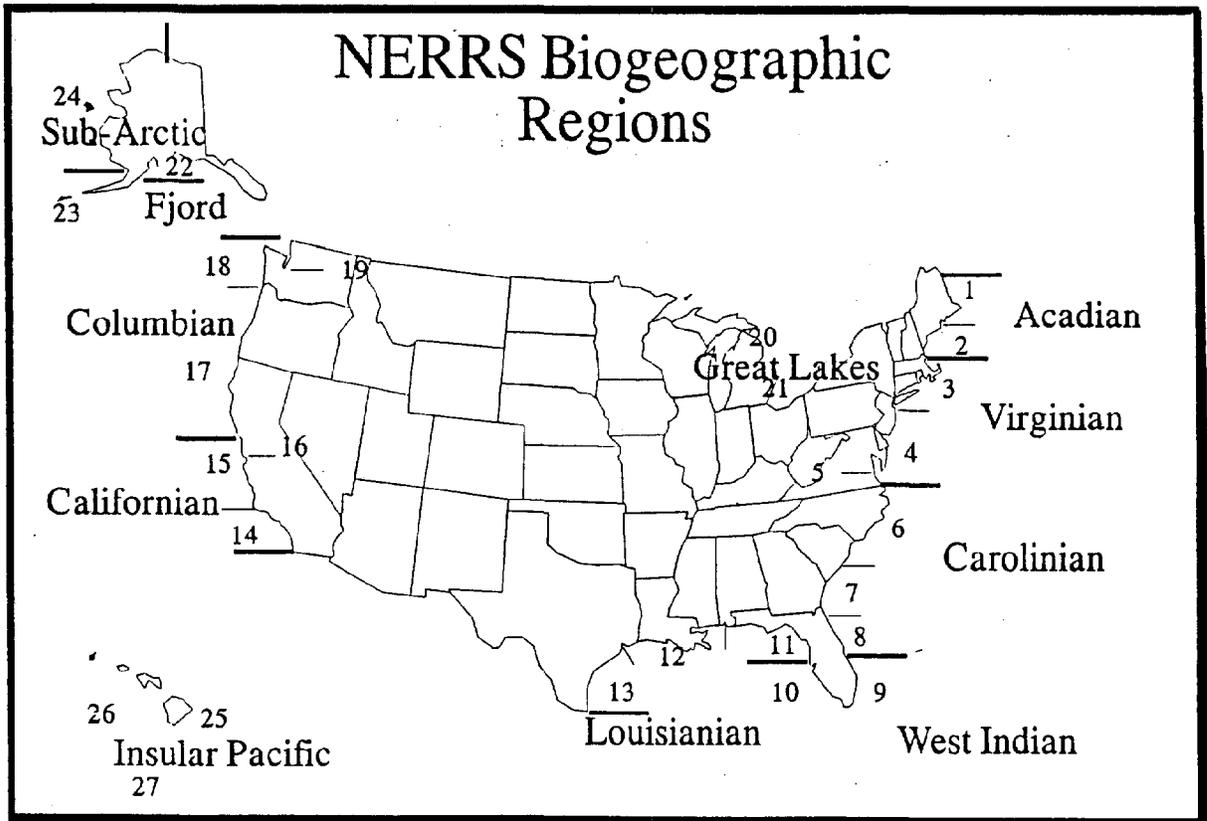


Figure 6. Map of NERRS Biogeographical Regions and Subregions

Improvements in State-Federal Cooperation

The relationship between OCRM and the states with regard to site operations and management has improved considerably over the past two years. This cooperative relationship is illustrated by the reinstatement of the annual joint workshop between OCRM headquarters and estuarine reserve managers. In 1989, OCRM's national marine sanctuary site managers also began to attend the meetings to further coordination between the NERRS and the National Marine Sanctuary Program. Meetings were held in 1988 and 1989 and a third one is planned for this year at the Tijuana River Reserve in California. The 1989 meeting resulted in the drafting of the first system-wide plans for site administration,

resource protection, research, monitoring, and education. The plans cover a five-year period. Once completed, they will be the basis for program funding and operations.

Daily interaction with the reserves is also being improved. OCRM began working with the states in 1989 to develop an electronic communications system which will link OCRM headquarters staff with the estuarine reserves and marine sanctuaries. Development of this system will continue during the next report period. As new sites become active in the program, they will also be linked into this system. Once completed, the PC-based system will allow for nearly instantaneous national program communication and information sharing. It should save considerable time, effort and cost in information transfer.

Improved NOAA Operations

Since 1988, OCRM more than doubled its headquarters staff to perform work necessary to carry out the large number of proposed site designations for estuarine reserves, as well as marine sanctuaries, and to administer existing sites. OCRM's administrative goal during the next review period is to develop and begin implementation of a framework for national and regional program management. Over time, regional field offices will be established to implement a variety of functions currently handled by OCRM headquarters staff. This will place OCRM management closer to the resources they are responsible for managing. Efforts will focus on three major areas: (1) OCRM headquarters staff will continue to focus on new designations for reserves and sanctuaries; (2) OCRM will increase its efforts to improve and increase the agency's presence and effectiveness in the field; and (3) OCRM will improve its ability to protect and manage historic cultural resources.

Improvements in Site Management

OCRM is working with the states to improve on-site operations in the reserves. This includes the provision of adequate staff and facilities in each reserve, or in selected components of reserves which have more than one component, to support management, research, education and visitation activities and programs at the reserves. Currently, on-site reserve staff and state reserve employees total approximately 80 people. The variety of staff now being hired reflects the increasing maturity of sites in the reserve system. As of the end of the biennium, five reserves (Padilla Bay, South Slough, Elkhorn Slough, Jobos Bay and Old Woman Creek) have hired fulltime research coordinators, and 11 reserves have on-site education coordinators. These include Padilla Bay, South Slough, Elkhorn Slough, Tijuana River, Apalachicola, Rookery Bay, Jobos Bay, Old Woman Creek, Wells, Waquoit Bay and Hudson River.

In the future, we would like each reserve to have a manager, education coordinator and research coordinator. OCRM is also moving to increase staffing at marine sanctuary sites. In the long-term, the staffing increase will result in coordinated education and research programs in "sister" reserves and sanctuaries, such as Sapelo Island NERR and

Gray's Reef National Marine Sanctuary (NMFS); Elkhorn Slough NERR and the proposed Monterey Bay NMS; and Padilla Bay NERR and the proposed Puget Sound NMS.

Expanded on-site facilities to support management, enforcement, education and research and monitoring activities are another sign of site maturity. Currently, all but five of the reserves maintain on-site offices, and four of these have offices in the planning stage. Six reserves have on-site visitor centers, which include educational exhibit areas. Some also have laboratory facilities and dormitory space to support the on-site efforts of visiting researchers and educators. A facility for the Tijuana River reserve is currently under construction, with completion scheduled for May 1990. Also, construction is scheduled to begin in 1990 for a facility at Jobos Bay and expanded facilities at Elkhorn Slough. Eight reserves are currently in the planning and design stages for facilities and three reserves with existing facilities are planning for expansions.

Research

The NERRS research program currently supports an average of 20 applied research projects per year. Implemented in 1985, the program focuses on management-related research that will enhance the understanding of estuarine environments, provide information necessary to enhance coastal and estuarine resource management decisionmaking, and improve public awareness of estuaries and estuarine management issues. Based on the most current developments in scientific protocol and the recommendations of some of the Nation's leading estuarine scientists, the NERRS research program has focused on five main categories to address some of the most important problematic needs in estuarine resource management: water management, sediment management, toxics and nutrient enrichment, coupling of primary and secondary productivity, and fishery habitat requirements.

During the biennium, research funded through the NERRS has addressed a variety of specific topics of regional and national importance: barrier island sediment dynamics; eelgrass mapping, distribution, and population genetic studies; wetland modeling and enhancement; diked wetlands and their effect on wetland ecology; linkages among estuarine habitats and watersheds; fishery habitat studies; and estuarine ecosystem modeling.

Much of the information generated by the above and other projects have already been used by various planning and management entities. For example, the information from the eelgrass projects are being used to reexamine and change the current methodologies employed in eelgrass transplantation and mitigation projects. Water quality and habitat studies conducted in the Tijuana River NERR are being used by local planning and regulatory agencies to assess future transportation, development, and drainage plans affecting the area. Watershed and habitat studies conducted in the Waquoit Bay NERR have been used by local planners to support further studies on a broader scale funded through a multi-agency, intergovernmental effort by NOAA, the National Science Foundation, and the U.S. Environmental Protection Agency, the State of Massachusetts, and the Cape Cod Planning and Economic Development Commission.

Monitoring

In FY89, OCRM implemented a Phased Monitoring Program to address the need to understand long-term trends in estuarine resources and to provide additional baseline data for the various sites. The key elements of this program are: basic ecological characterizations to build an accurate baseline of information on the sites' most important resources; preparation of site profiles that describe the resources, management issues, and long-term plans for monitoring; and the implementation of a monitoring program that will provide long-term information on key resources, regularly analyze and publish the findings, and provide a mechanism to evaluate the effectiveness of the program in addressing the long-term needs of estuarine resource management. This first year program is currently funding six projects.

Education

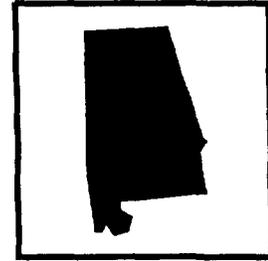
OCRM is expanding and refining its education programs both at the headquarters level and at individual reserves. The goals of the education programs are to promote an awareness of estuarine resources and to provide opportunities for public understanding of the need to preserve, protect and utilize these significant natural resources. OCRM's efforts will include working closely with established reserves to review and expand current education programs. OCRM will establish a clearinghouse of educational materials related to marine and estuarine resources, and will produce educational materials related to the NERRS. In addition, OCRM will continue its competitive process of funding education programs and projects for designated reserves.

Technical Assistance

Three times each year, OCRM's Marine and Estuarine Management Division (MEMD) publishes status reports both on the NERRS and the NMS. These reports provide updates on the activities and accomplishments of individual sites. MEMD also publishes an annual NERRS Site Catalog, which describes the location and description of each site as well as significant plant and animal species, on-site and off-site public education and interpretation programs, research programs, volunteer offerings, and facilities available to the public. Technical memoranda facilitating rapid distribution of material on research is also published by MEMD. Several brochures are available from MEMD describing the NERRS and NMS programs.

4. State Coastal Management Programs

ALABAMA



Federal Approval Date: September 25, 1979
Federal Funding FY88: \$561,000
Federal Funding FY89: \$593,000

I. Background

The Alabama Coastal Area Management Program (ACAMP) is based in large part on Act 534, the Alabama Coastal Area Act of 1976, which mandated a comprehensive coastal management program and established the coastal zone boundary. The boundary described by the Act encompasses all lands seaward of the 10-foot inland contour to the limit of the state's territorial water, including coastal barrier islands. In 1982, the state legislature passed legislation which dissolved the Coastal Area Board and transferred its coastal management authorities to a new Department of Environmental Management (DEM) and the Department of Economic and Community Affairs (DECA). This 1982 law also consolidated state environmental permitting functions within DEM.

The DECA is the lead agency for the program and is responsible for the administrative and planning functions of the program. The DEM has permitting authority for activities that directly affect the state's coastal zone and is responsible for determining whether those state and Federal actions that are not directly regulated are consistent with the ACAMP.

II. Program Accomplishments

Hazards Protection: On August 1, 1989, the Dauphin Island Town Council adopted a zoning ordinance that had in large part been developed through a coastal zone management (CZM) grant to the South Alabama Regional Planning Commission. The ordinance has increased monitoring and enforcement of the Coastal Control Line (CCL) for Dauphin Island and has prohibited development in several areas prone to coastal flood hazards. In 1988, the DEM was successful in negotiating with the town of Gulf Shores to adopt a zoning ordinance consistent with the ACAMP, so that the DEM could redelegate permitting authority for the CCL back to the town.

Water Quality Protection: The presence of unpermitted solid waste sites in the coastal zone and their accompanying effect on wetlands and water quality had been a problem in the Alabama coastal zone. For the FY88 and FY89 period, the ACAMP used CZM funds to inventory and map 79 unpermitted sites, and evaluate and prioritize each site based on the size and type of solid waste. The state determined ownership of the sites and mailed notices of violations to 88% of the property owners of these sites. The state has negotiated with

several of the owners to clean-up the sites and has initiated several administrative and enforcement procedures against owners to resolve the unpermitted waste sites.

Wetlands Protection: The loss of valuable submerged grassbeds in Mobile Bay was also identified as a significant problem for the state. During FY88 and FY89, the ACAMP established a submerged grassbeds reintroduction program and contracted for research to identify and establish successful techniques reintroducing submerged aquatic vegetation into Mobile Bay. Work continues at monitoring sites in the Bay.

III. Major Grant Tasks

Water Quality Monitoring Program: The DEM began a program to monitor water quality in Mobile Bay during 1988 and is enhancing this effort by adding monitoring stations in the intracoastal waterway in FY89. In addition to gathering water quality data in FY88, the DEM is monitoring benthic resources at selected sites in the Bay. This monitoring will provide necessary baseline and trend water quality data and allow ACAMP to detect the increase in toxics and the effects on benthic resources.

Wetlands Protection: In response to Federal calls for no-net-loss of wetlands, the ACAMP is focusing on ways to implement a policy of no-net-loss in Alabama. One aspect of implementing this policy is the practice of wetlands mitigation, restoration and creation. In 1989, the DEM is putting together a wetlands mitigation manual that will identify proven mitigation and restoration methods, establish on- and off-site standards and identify recommended construction procedures for wetlands mitigation.

Shoreline Erosion Studies: Many areas of the Alabama shoreline are experiencing shoreline erosion, in some places as much as 100 feet per year. In 1988, the State contracted with the Geologic Survey of Alabama to conduct a shoreline survey of beach profiles to update erosion rates around Baldwin and Mobile Counties. This information will be used to target areas for further study and mitigation, and to update the Construction Control Line in those areas. The study is being expanded in 1989 to include the shoreline in Bon Secure Bay.

IV. Significant Program Changes

Completion of the Dauphin Island CCL: On August 28, 1989, the Environmental Management Commission adopted rules to implement the Dauphin Island CCL. The rules include a prohibition of construction on the west end of the island, an area included in the Federal Coastal Barrier Resources System. The owners of the undeveloped western portion have appealed the adopted rules stating that they represented a taking of property. An administrative hearing is underway. At present, the state is preparing to submit two unchallenged sections of the CCL to OCRM as a program change.

Revision of Public Notice Procedures: Alabama submitted and OCRM approved the incorporation of DEM Policy Memorandum No. 300 into the ACAMP. The memorandum,

which revises public notice procedures, was approved as a routine program implementation on May 30, 1989.

V. Federal Consistency

Federal consistency reviews are conducted through the DEM. There were no major Federal consistency issues during the biennium.

VI. Evaluation Findings

The final evaluation findings issued August 11, 1988 indicate that the state made improvements to ACAMP public education through the development of an environmental education program in public schools. Other notable improvements were the completion of a coastal development guide for permit simplification and improved public participation in the ACAMP through the Coastal Resources Advisory Commission meeting process.

Areas identified for improvement include: bringing the Gulf Shores zoning ordinance into compliance with the ACAMP; completing the Dauphin Island Coastal Construction Line; reaching agreement with the Army Corps of Engineers to improve monitoring of wetlands activities and permit conditions; addressing water quality problems related to sewage; providing more adequate signs for public access; improving the application of Federal consistency provisions; and closer adherence to the terms of financial assistance awards.

ALASKA



Federal Approval Date: July 1979
Federal Funding FY88: \$1,883,000
Federal Funding FY89: \$1,934,000

I. Background

The Alaska Coastal Management Program (ACMP) is based on the Alaska Coastal Management Act (ACMA) of 1977. The ACMA created the Alaska Coastal Policy Council (CPC), which is composed of six state agency heads, the director of the Division of Governmental Coordination (DGC), and nine local government representatives. Staff assistance to the CPC is provided by DGC, a unit of the Office of the Governor. Under the ACMP, local governments and specially organized coastal resource service areas (CRSA) develop locally specific district coastal management programs. The inland coastal zone boundary is based on biophysical relationships, and generally follows the 1,000 foot elevation contour. During district program development, more specific boundaries are set.

The ACMP is a networked program that relies on seven state agencies: the Departments of Commerce and Economic Development (DCED), Community and Regional Affairs (DCRA), Environmental Conservation (DEC), Fish and Game (DFG), Natural Resources (DNR), Transportation and Public Facilities (DTPF), and the DGC. To insure consistency with coastal policies, the ACMP provides for coordinated review of projects within the coastal zone through the coordinated consistency review process.

II. Program Accomplishments

Improved Government Operations - Through the Alaska Coastal Management Program (ACMP), the state review of all required project permits within the state's coastal boundary is coordinated and streamlined. This coordinated process means that all state permits for a project are reviewed at the same time, permits are issued quickly, and that project applicants and Federal agencies have a single process to go through in obtaining the necessary permits. In FY88, over 600 coastal development projects were reviewed under the coordinated review system; under the new process, each review was completed in an average of 36 days.

North Slope Monitoring - The North Slope Project was established by the ACMP to provide coordinated monitoring and enforcement of coastal oil and gas development on the North Slope by the three state resource agencies: the Departments of Fish and Game (DFG), Environmental Conservation (DEC), and Natural Resources (DNR). Previously, these

agencies conducted independent monitoring and enforcement activities. Establishment of the North Slope Project has increased the degree of monitoring (continuous field presence of one or more resource agency representatives), reduced duplication, and coordinated efforts to create a much more effective monitoring and enforcement program. These efforts are especially important in light of the current debate over oil and gas development in the Arctic National Wildlife Refuge (ANWR) and the release of the report "Oil in the Arctic," which is extremely critical of environmental protection efforts on the North Slope.

Permit Simplification - In FY89, DGC coordinated the review of 86 oil and gas projects. These reviews were completed in an average of just 23 days, under the consistency review process. This short review time and the predictability of prompt permit decisions results in a cost savings to the oil industry and allows them to more effectively plan and schedule summer field construction activities.

Oil Spill Response - Following the Exxon Valdez oil spill in Prince William Sound, DGC played an important role in the state's response effort. At the Governor's request, DGC established a temporary office in Cordova, one of the communities most affected by the spill. This office performed many crucial tasks such as facilitating emergency permit reviews, expediting spill response funding to the City of Cordova, and coordinating workshops to enhance cooperation between state and local government, and concerned interest groups.

Public Access - The increasing popularity of sport fishing for salmon is creating conflicts between sport and subsistence users. These conflicts are particularly evident along some of the major salmon rivers along Alaska's west coast. In order to resolve and avoid major conflicts, the Bristol Bay CRSA has been working on the development of a Recreation Management Plan for the Nushagak and Mulchatna Rivers. The final plan will be completed in 1990 and should serve as a model for similar efforts along other rivers.

III. Major Grant Tasks

Major FY88 grant tasks included: implementation of district programs; establishment of the North Slope monitoring and compliance program; creation of district task forces to address forest practices, marine debris, and special area management; rehabilitation of abandoned gravel mine sites; and development of a recreation management plan for the Nushagak and Mulchatna Rivers. During FY89, major grant tasks include: implementation of district programs, wetlands mapping in Kodiak Island borough, development of a special area management plan for the Colville River delta, and monitoring and enforcement efforts.

IV. Significant Program Changes

During the biennium, the North Slope Borough, Aleutians East Borough, Northwest Arctic Borough, and Bering Straits Coastal Management Programs gained Federal approval as amendments to the ACMP. In addition, the City of Saint Paul local coastal program was

approved as routine program implementation. To date, 28 of 33 district programs have been federally-approved.

V. Federal Consistency

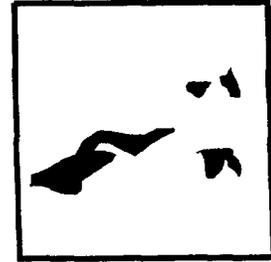
Federal consistency reviews are coordinated by DGC through the state coordinated review process. There has been one Secretarial appeal during the report period: Amoco's appeal of the state's denial of the Galahad Outer Continental Shelf exploratory drilling project. This appeal is still pending.

The major Federal consistency issue raised during the report period involves the application of Federal consistency to timber harvesting related activities undertaken by the U.S. Forest Service (USFS). DGC and the USFS disagree over two basic issues: which ACMP standards apply to logging activities and whether a separate consistency determination is required for each major decision in a five year development plan. Specifically, these issues were raised regarding USFS issuance of the Ketchikan Pulp Company Five Year Plan for logging within the Tongass National Forest; however, both of these issues represent longstanding disagreements between DGC and the USFS. In an effort to resolve these issues, DGC has requested Secretarial mediation under section 307(h) of the CZMA.

VI. Evaluation Findings

A 312 site visit was conducted in September 1989. The findings are currently in draft form and should be finalized by April 1990.

AMERICAN SAMOA



Federal Approval Date: September 1980
Federal Funding FY88: \$448,000
Federal Funding FY89: \$458,000

I. Background

The American Samoa Coastal Management Program (ASCMP) relies on a Governor's Executive Order which designates the Development Planning Office (DPO) as the lead agency, and directs all territorial agencies to act consistently with the ASCMP policies. The coastal zone boundary encompasses all of the territory's land and water areas. There are two Special Management Areas: Pala Lagoon and Pago Pago Harbor. The villages retain control of 92 percent of the land and are governed by chiefs and councils. The DPO works with the villages to develop land use plans and is also responsible for coordinating permitting actions through the Project Notification and Review System (PNRS).

II. Program Accomplishments

Pago Pago Harbor Cleanup - 1988 marked the fourth year of ASCMP leadership in an interagency effort to clean up and patrol Pago Pago Harbor. Refuse from tuna cannery operations and boats combined with stream runoff had severely deteriorated the harbor's water quality. The ASCMP, in cooperation with the Environmental Quality Commission, created and supported a harbor patrol and cleanup effort. The harbor patrol has the power to issue citations to polluters and assess fines up to \$1,000. As a result of the program, the harbor is routinely patrolled for violations; complaints from the USCG have been reduced to zero over the past year. Public awareness and support for a cleaner harbor is another direct result of the harbor patrol, which has resulted in the reduction of non-point pollution.

Wetlands Protection - Nu'uuli pala, the territory's largest remaining area of mangrove forest, is threatened by non-point pollution and encroachment by filling. The ASCMP commissioned a resource management study of Nu'uuli pala. Based on these efforts, the American Samoa Government recently constructed a main sewer line around the lagoon to serve 400 homes and significantly reduce water quality threats to the lagoon. The ASCMP has also supported a public education effort which relates the protection of wetlands and other natural resources with the preservation of Samoan culture and has resulted in encouragement and support from the local village council for continued regulatory and enforcement efforts to protect the lagoon. This represents a significant resource management landmark in working within American Samoa's traditional land tenure system.

Permit Simplification - The ASCMP took the lead in developing the revised PNRS which went into effect in November 1988. The PNRS establishes a one stop permitting process which provides for substantially greater coordination and timely review by the regulatory agencies. To further streamline the permitting process, the application form was updated and simplified. As a result of the reduction in permitting time under the revised PNRS, significant reductions are evident for the land use review portion of the review. Average review time is currently two-to-five working days for minor projects and 15-21 working days for major projects.

III. Major Grant Tasks

In FY88, ASCMP continued to direct its attention to implementing the revised PNRS, including revising forms, educating the public, designing an informational brochure and training staff. The ASCMP also developed a hazard mitigation plan, and created a video to improve public understanding of the ASCMP.

Under its FY89 award, the ASCMP is participating in multi-agency efforts to complete aerial orthomaps of the territory and conduct water toxicity studies in the Pago Pago Harbor.

IV. Significant Program Changes

One major change to the ASCMP over the report period was the adoption of a strengthened Executive Order which included the revised PNRS which is discussed above. The ASCMP is currently working on legislation that will establish coastal management under statutory authority and replace the existing Executive Order.

V. Federal Consistency

Federal consistency reviews are conducted through the PNRS. No major Federal consistency issues were reported during the biennium.

VI. Evaluation Findings

The final evaluation findings issued June 21, 1989, indicate that DPO is implementing and enforcing the essential elements of the approved ASCMP. A noteworthy improvement is the Interagency Review Committee: a conference between the project applicant and the review agencies is held to determine what permits are necessary and to explain permit requirements. Also, improvements in the overall operations of the ASCMP were made, and an appeals process for land use decisions was drafted. Areas identified for improvement include: enforcement of land use permits, issuance of stop work orders, and coordination and education efforts geared toward the village chiefs.

CALIFORNIA



Federal Approval Date: BCDC - February 1977
CCC - November 1977
Federal Funding FY88: \$1,883,000
Federal Funding FY89: \$1,934,000

I. Background

The California Coastal Management Program (CCMP) is comprised of two segments: the San Francisco Bay segment, which is administered by the San Francisco Bay Conservation and Development Commission (BCDC), and the remainder of the coast, which is administered by the California Coastal Commission (CCC). The CCC is the lead agency for program implementation under Section 306 of the CZMA.

The CCC administers the California Coastal Act of 1976, as amended, which established a coastal permit program and required that all coastal cities and counties prepare local coastal programs. The coastal zone area governed by the Act is approximately 1,000 yards inland from the mean high tide line, or in areas of significant coastal resources inland up to five miles, and seaward to the limit of the territorial sea. The Act sets forth policies on public access, recreation, marine environment, land resources, development, and industrial development, and created a Coastal Commission responsible for ensuring that the coastal policies are met in the planning and regulatory processes.

The BCDC operates under the McAteer-Petris Act and is also responsible for implementing the Suisun Marsh Preservation Act. Proposed development involving placement of fill, dredging, or substantial changes in shoreline use within the designated San Francisco Bay shoreline area require a BCDC permit. BCDC's jurisdiction extends inland generally 100 feet from marshes and tidal waters. In addition to the permit program, BCDC implements the San Francisco Bay Plan through special area plans developed in cooperation with local governments. The special area plans are adopted by BCDC as amendments to the bay plan and by local governments as amendments to their general plans.

II. Program Accomplishments

Improved Government Operations - In the last two years, the CCC has developed a Compendium of Past Commission Policy Applications and Mitigation Practices for Federal Consistency Review of Outer Continental Shelf (OCS) Projects. The compendium describes the CCC's Federal consistency decisions on all OCS projects and related onshore facilities

for the past five years. The information is also compiled into a computer database. The information will be useful to applicants and CCC staff for future reviews of OCS projects.

Wetlands Protection - The Suisun Marsh is one of the few remaining wetlands in the San Francisco Bay area. In 1988, the California Coastal Conservancy combined \$277,000 in CZM funds with \$1,230,000 in state funding to complete acquisition of the Rush Ranch in Suisun Marsh. This acquisition protects 2,070 acres of open tidal marsh and associated upland, which provides important habitat for waterfowl and at least 17 candidate and endangered species. A private foundation will provide additional funds to develop public access on the upland area for non-consumptive recreational uses.

Hazards Protection - BCDC has taken a leadership role in planning for the effects of future sea level rise. Based on extensive study of the implications of sea level rise for San Francisco Bay, BCDC amended its program in 1989 to require that new shoreline development take sea level rise into consideration. The new policies generally require that any new project requiring fill should be above the highest estimated tide level for the design life of the development. BCDC has also been working with bay area local governments to assist them in addressing future sea level rise.

BCDC's Engineering Criteria Review Board (ECRB) reviews all major applications for Bay fills to ensure that seismic safety concerns are adequately addressed. Over the past 20 years, an independent engineering review provided by the ECRB has been instrumental in improving the seismic safety of structures built on new Bay fill. Following the October 17, 1989 Loma Prieta earthquake, BCDC evaluated a number of projects that had been reviewed by the ECRB and found that they sustained very little damage.

Public Access - The CCC uses a wide variety of techniques to improve public access to the coast. These include requiring access easements or in-lieu fees in conjunction with coastal development permits for projects that affect coastal access, and working with the state Coastal Conservancy to acquire and open new accessways. For example, in 1989 the state Coastal Conservancy used Federal CZM and state matching funds to acquire a 2.9 acre beachfront parcel for public access to a beach six miles north of Bodega Bay in Sonoma County. While most of the Sonoma Coast has steep bluffs making handicapped access impossible, this particular parcel is gently sloping and well suited for handicapped access. Addition of this handicapped accessway represents a unique access opportunity for the Sonoma coast.

Permit Simplification - To simplify its review of small projects, the CCC has increased the use of de minimus waivers. To further reduce unnecessary paperwork, the CCC staff now advises applicants with projects that appear to qualify for a waiver not to submit a permit fee with the application. Thus, if the project qualifies for a waiver, the CCC avoids the step of refunding the permit fee.

III. Major Grant Tasks

In FY88, the CCC worked on the development of the compendium and the development of regulations governing information requirements for Federal consistency reviews of OCS plans. BCDC used FY88 funds to update the San Francisco Bay Area Seaport Plan and consolidate its permit process. Funds were also passed through to the California Coastal Conservancy for access acquisition projects.

In FY89, the CCC is completing the compendium for non-OCS projects; undertaking a major coastal education program and establishing a year-round Adopt-A-Beach program; conducting a Federal consistency workshop for Federal and local representatives; enhancing the regulatory enforcement program; and conducting a pilot project to survey mean high tide along an eroding section of developed shoreline. BCDC is finalizing recent revisions to its Seaport Plan, completing consolidation of its permit forms, updating its dredging policies, and participating in the San Francisco Estuary Project. The State Coastal Conservancy will complete some new public access acquisition projects.

IV. Significant Program Changes

During the reporting period, OCRM approved minor changes to the California Coastal Act, the local coastal programs (LCP) for Humboldt County, the City and County of Santa Barbara, and the City of San Buenaventura, and numerous LCP amendments. OCRM also approved: amendments to the McAteer-Petris Act resulting from the passage of Assembly Bill 2450; a revised memorandum of understanding between BCDC and the California Water Resources Control Board; changes to the Bay Plan concerning sea level rise, shoreline protection, seaport planning and transportation; and regulatory changes to BCDC's permitting and enforcement procedures.

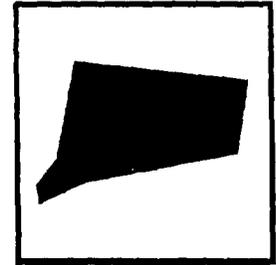
V. Federal Consistency

The CCC and BCDC each exercise Federal consistency responsibilities within their respective jurisdictions. During the biennium, four CCC consistency objections to OCS projects were appealed to the Secretary of Commerce. The appeals for Korea Drilling Company and Texaco were decided in favor of the applicants, while the appeals by Chevron and Conoco are pending.

VI. Evaluation Findings

The last evaluation site visit was held in August 1989. Draft findings were issued in December 1989, with issuance of the final findings projected for early 1990.

CONNECTICUT



Federal Approval Date: September 1980
Federal Funding FY88: \$735,000
Federal Funding FY89: \$767,000

I. Background

The Department of Environmental Protection is the lead agency for the Connecticut Coastal Management Program (CCMP), which is based on the state's Coastal Area Management Act of 1979. Within the Department's Water Management Bureau, the Coastal Resources Management Division administers the coastal regulatory and management program. At the state level, the policies and standards of the CCMP are embodied in the permitting process for projects and activities subject to the Tidal Wetlands and Structures, Dredging and Filling Regulations. At the local level, coastal resource policies and standards are incorporated into the municipal coastal site plan review process on a project-by-project basis. The CCMP staff provide technical assistance and oversight, and maintain the right (though rarely needed) to intervene. Of 36 coastal towns, 29 have completed a voluntary municipal coastal program, which places project review decisions in a long-term planning context consistent with state coastal management goals. The CCMP applies landward to a 1,000-foot setback from the mean high water, the inland boundary of tidal wetlands, or the inland limit of the 100-year coastal flood zone, whichever is farthest inland. On the seaward side, the boundary overlays the state's jurisdiction in Long Island Sound.

II. Program Accomplishments

Wetlands Protection - Under the CCMP, 14 coastal resource categories have been created, with policies and standards for each which are restrictive of allowable uses, depending upon the fragility of the natural resource. Special emphasis has been placed on protective efforts for tidal wetlands, which comprise one of the categories. Under the stringent regulations, an average of no more than 0.5 acres of tidal wetlands are being lost to permitted activities in the state annually. Prior to the adoption of the Tidal Wetlands Act in 1969, the state was experiencing significant losses or impacts to tidal wetlands--15,000 acres over a 30-year period, or 50 percent of the state's tidal wetlands. Alterations are allowed only for water-dependent uses and public benefit projects where there are no alternatives to wetland loss and losses have been minimized to the fullest extent possible.

The CCMP has pursued aggressively the restoration of emergent intertidal wetlands, which had been degraded as a result of historic activities. Since 1982, the state has restored approximately 514 acres of marsh habitat. This effort has consisted first of the systematic

identification of potential sites for restoration. The CCMP staff have then worked with other state agency and municipal staff to plan and implement restoration projects. The process often entails the restoration of tidal flow by the replacement and manipulation of culverts, tide gates, weirs, and dams. Under the Coves and Embayments Act of 1986, a funding mechanism has been created to provide matching funds to coastal municipalities for the design, construction and monitoring of embayment restoration projects. The state appropriated \$2 million in 1989 to implement this program.

Harbor Management - In order to address and resolve issues unique to the state's navigable harbor areas, the CCMP adopted the Harbor Management Act of 1984, whereby coastal municipalities get the opportunity to establish harbor management commissions and prepare harbor management plans. By extending the planning process seaward of the traditional zoning jurisdiction, user conflicts can be reduced and a balance struck between conservation and development in ports and harbors.

The Town of Milford has used its plan to solve a long-standing problem of encroachment into the Federal navigation channel, to provide for wetland and shellfish preservation, and to maintain publicly accessible moorings. Norwalk's harbor management plan will balance the diverse uses of the city's waters, while encouraging new water-dependent uses. Stonington has designed a plan to preserve one of its major assets, the offshore commercial fishing fleet. Twenty coastal communities (out of 41 authorities) have established commissions by ordinance and are in various stages of plan development or adoption.

Urban Waterfront Restoration - Throughout the 1980s, the revitalization of the state's urban waterfront areas has continued to escalate. Redevelopment projects have in many cases been initiated following coastal management-supported planning, and have occurred in a manner that is consistent with CCMP policies and standards. The ensuing benefits have been measurable tangibly with public and private capital invested and jobs gained. More importantly, there has also been an increase of the public's awareness of the importance of the waterfront. For example, the City of Norwalk used \$16,000 in CZM funds to conduct an assessment of its seaport in the late 1970s with an eye toward attracting private development and creating new employment opportunities. A cornerstone in this effort was the construction of a \$26 million Maritime Center, which opened in 1988. The center includes an aquarium to exhibit marsh and marine habitats, park and retail space, a movie theater, a weather station and two public fishing piers. The Maritime Center is expected to attract a half million visitors annually. Similar examples can be cited for urban locations in New Haven, Bridgeport, and New London. Here, as elsewhere, coastal management spurs and guides these revitalization efforts, encouraging major harbor improvements while supporting, for example, marina facilities and commercial and recreational fisheries.

Public Access - Public access is a water-dependent use in Connecticut by statutory definition. Through the aggressive enforcement of the CCMP's water-dependent use standards, public access opportunities have been increased significantly. Since 1980, a total of more than 43,000 linear feet, or more than 8.2 miles, of new public access has been made available

(almost 6,000 feet since FY88) by means other than land acquisition. This has occurred through the review of more than 100 major waterfront development proposals, leading to the construction of walkways, waterfront parks, easements or other agreements. This is significant given that as much as 80 percent of the coast is steep, rocky shorefront or bulkheaded urban waterfront, making the Long Island Sound physically difficult to reach.

III. Major Grant Tasks

During FY88 and FY89, the CCMP has continued to undergo changes resulting from a departmental reorganization. In July 1988, the program office assumed primary responsibility for coastal permitting and enforcement functions. In anticipation of this step, the state conducted an evaluation of the existing regulatory program. A number of administrative changes have been made using existing authorities to streamline the permitting process.

IV. Significant Program Changes

There were no significant changes to the program during the biennium.

V. Federal Consistency

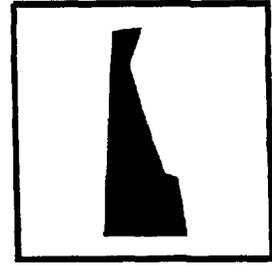
Due to budget cuts and associated staff reductions, the U.S. Coast Guard was forced to reduce its security patrols around a Navy submarine base in Groton, Connecticut. As a result in 1986, the Navy proposed to handle their own security through imposition of a restricted use zone covering a significant portion of the lower Thames River. Such a step would have prevented the development of water-dependent uses by the Town of Waterford on the opposite side of the river from the base and restricted the lower river from recreational activities and commercial fishing. Local opposition by the public, the press, and elected officials suggested that litigation over the zone was a certainty.

The Federal consistency review process was employed to resolve this issue without delay or further cost to meet the needs of all parties. The size of the restricted area was ultimately reduced and a registration and identification system was devised for boat traffic to meet the Navy's need for security without significantly interrupting recreational and commercial use of the river.

VI. Evaluation Findings

The final evaluation findings issued in March 1987 recognized CCMP's leadership in addressing coastal issues through: technical assistance to municipalities and state agencies, development of harbor management plans, administration of the Coves and Embayments Program, and public access. The only recommendation dealt with a suggestion that the state evaluate the need to incorporate certain laws into its coastal program.

DELAWARE



Federal Approval Date: August 1979
Federal Funding FY88: \$540,000
Federal Funding FY89: \$548,000

I. Background

The Delaware Department of Natural Resources and Environmental Control (DNREC) implements the Delaware Coastal Management Program (DCMP) under networked authorities, including the Coastal Zone Act, the Beach Preservation Act, the Land Use Planning Act (LUPA) and various water quality and tidal wetlands protection legislation. The Office of the Secretary of Natural Resources and Environmental Control coordinates the DCMP. The entire state has been designated as the coastal zone; the Delaware Bay and ocean coasts, however, receive special zoning protections from industrial development. Programs to address issues in the Delaware Bay and the Delaware Inland Bays are being developed pursuant to EPA's National Estuary Program.

II. Program Accomplishments

Natural Resource Protection - In 1988, DNREC submitted to the Governor a comprehensive, long-range report which looks at the prospects for Delaware's environment and resource base. The report, entitled "Delaware's Environmental Legacy," contained numerous recommendations, many of which are incorporated in a substantial DNREC legislative package currently before the Delaware General Assembly. Among other things, the legislation would implement the Governor's Freshwater Wetlands Roundtable recommendations, create an independent water/wastewater authority to develop a statewide treatment plan, and develop a statewide stormwater management plan.

Wetlands Protection - DNREC, through its coastal program, has acted to improve protection of the state's freshwater wetlands. Programs to evaluate, map, and restore existing freshwater wetlands, as well as efforts to create new non-tidal wetlands, are underway. The Freshwater Wetlands Roundtable has formulated a regulatory strategy for privately-owned freshwater wetlands based on a "no-net-loss" policy; its recommendations have been incorporated into a 1990 legislative package for DNREC.

Delaware's CMP has also funded two innovative research and management programs focused on tidal wetlands. The Open Water Marsh Management Program has restored degraded tidal wetlands and continues to yield important practical information on management techniques for restoring habitat and productivity values. Additionally, the Wildlife Impoundment Management program is an effort to restore state-owned impoundments constructed 20 to 30 years ago for wildlife management purposes. Delaware

has achieved notable success in returning habitat values to these impoundments. The Delaware CMP has also actively funded efforts to protect and restore Delaware's fragile -- and heavily stressed -- Inland Bays. In 1989, DNREC imposed a moratorium on marina construction in the bays. New marina permitting regulations are in the final stages of development. The Delaware Inland Bays were designated a NEP in 1988.

III. Major Grant Tasks

In FY88, DNREC studied the effects of dredge spoil disposal on open marsh water systems, developed water management plans for freshwater impoundments, inventoried impoundments and ponds, and began collecting and digitizing historic shoreline data for Delaware bay and ocean shores to revise the state's regulatory program for beaches. In FY89, the DNREC is continuing its tidal wetlands efforts with the Open Water Marsh Management and wildlife impoundment programs. The freshwater wetlands program will expand its activities in mapping and restoration studies, and the state will improve programmatic and permit coordination among DNREC divisions through increased staff and new procedures. A CZM study committee is also exploring means of strengthening the state's program.

IV. Significant Program Changes

Delaware submitted several routine program implementation packages, but made no major program changes. DNREC, however, is pursuing a package of legislation improvements to improve freshwater wetlands protection, beach management, stormwater management, and establish a Water and Wastewater Authority.

V. Federal Consistency

DNREC has initiated useful Federal/state consultation procedures with the Delaware Department of Transportation (DOT) to minimize wetlands loss. DNREC successfully mediated a dispute between the DOT and the U.S. EPA over mitigation requirements for a new highway that preserved wetlands values while saving the state several million dollars. Delaware objected to few Federal actions during the report period, largely because of these consultation procedures and a cooperative working relationship with the Army Corps of Engineers and other Federal agencies.

VI. Evaluation Findings

The final evaluation findings issued September 8, 1989, show DNREC is implementing the essential elements of the DCMP. Notable achievements were the state's freshwater wetlands protection efforts, the Delaware Environmental Legacy report, the proposed storm water management program, and the Inland Bays marina moratorium and regulation development. Recommendations included improved enforcement of the state's erosion and sedimentation law, better internal coordination, and more clearly defined Coastal Zone Act regulations.

FLORIDA



Federal Approval Date: September 1981

Federal Funding FY88: \$1,883,000

Federal Funding FY89: \$1,934,000

I. Background

The entire state is included in Florida's coastal zone. The Florida Coastal Management Program (FCMP) is based on 27 state laws and their implementing regulations which are administered by 16 agencies. The Department of Environmental Regulation's Office of Coastal Management (OCM) is responsible for FCMP administration. The Governor's Office of Planning and Budget (OPB) assists the DER with Federal consistency reviews.

Day-to-day program administration rests primarily with three agencies which administer key state coastal management programs: DER, the Department of Natural Resources (DNR), and the Department of Community Affairs (DCA). These three agencies operate under a procedural memorandum of understanding, which was signed in 1981 and recently updated, to formalize their working relationship and to ensure a coordinated state approach to coastal management. The Interagency Management Committee (IMC), which is comprised of the heads of all major FCMP agencies, and the Governor's Citizen Advisory Committee coordinate state CZM efforts.

II. Program Accomplishments

Ocean Management - In December 1988, the Executive Office of the Governor released a draft report, entitled Florida's Ocean Future: Towards a State Ocean Policy. The report touches on most of the major ocean policy areas facing Florida and contains many recommendations. This coastal program-funded study represents a major effort by the state to encourage discussion about ocean problems, policies and management, and provides a first step toward development of a comprehensive approach to ocean management.

Improved Government Operations - A revised resolution approved by the IMC in January 1989, reaffirms its establishment as the vehicle for coordinating state efforts, addressing problems, and resolving conflicts in FCMP implementation. It continues the IMC charge to develop a priority list of work tasks, assign staff to priority work items, and rely on the DER for staff support. The plan targeted several issues, including statewide beach management and island development. Also, 1989 legislation institutionalized the IMC, reaffirming Florida's commitment to coastal management. The Governor also signed a 1989 Executive Order affirming the duties and support for the Citizens Advisory Committee.

III. Major Grant Tasks

During FY88 and FY89, the state continued to support the estuarine program -- a DER initiative -- which provides a technical and scientific information base for improved estuarine management. Four estuarine areas (Indian River, Charlotte Harbor, Perdido Bay and Apalachicola) will continue to be the focus of the basin-wide pollution studies conducted through the initiative.

Several major projects will be conducted during FY89, including a study on the cumulative impacts of land use planning for the East Central Florida Regional Planning Council and a post-disaster plan for the South Florida Regional Planning Council.

IV. Significant Program Changes

During the biennium, OCRM approved several FCMP program changes. These included an amendment to the FCMP, which consisted of legislative changes to three Chapters of Florida Statutes: (1) Creation of the Marine Fisheries Commission, Chapter 370 F.S.; (2) measures to protect surface and ground water, Chapter 376 F.S.; and (3) the Warren S. Henderson Wetlands Protection Act of 1984, and related changes to Chapter 403 F.S. These amendments provide new policy for, and a new entity to: promulgate regulations dealing with living marine resources; provide additional regulatory authority and funds to protect Florida's ground water resources; and, update and clarify the state regulatory policies and procedures for protecting wetlands.

The 1989 routine program implementation package approved by OCRM added Florida Marine Fisheries Commission regulations; incorporated 1987 language for Florida statutes on permits required for beach and shore preservation; and incorporated a listing of Coastal Construction Control Lines adopted by the Governor. Also, changes adopted in 1987 for activities and permits concerning the FCMP were incorporated in the program.

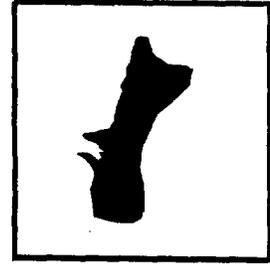
V. Federal Consistency

Florida completed a Federal consistency handbook and provided additional staff at OPB to help redress problems in conducting consistency reviews. In addition, DER initiated a FCMP-wide review of major DER permits to ensure greater consistency between reviewing agencies charged with issuing state permits. This new review is a significant accomplishment for the consistency process in Florida. Two OCS objections occurred during the review period. Unical and Mobil plans of exploration on the Polley Ridge area of the Gulf of Mexico were denied. Florida objected on the grounds that the projects would result in destruction of marine habitat which would have an adverse impact on coastal fisheries.

VI. Evaluation Findings

The final evaluation findings, issued in April 1988, recommended strengthening the IMC and its support group, the Interagency Advisory Committee. A review of overall FCMP implementation was recommended. Improvements to the state's consistency review process were also recommended. Cited accomplishments were DER's estuarine initiative, a joint effort by DER and the Department of Education to integrate environmental education programs into the general curriculum of public schools, passage of the Apalachicola Bay Protection Act (1985), Coastal Zone Protection Act (1985), State Comprehensive Plan (1985), and Local Development Regulation Act (1985), and hazards management activities.

TERRITORY OF GUAM



Federal Approval Date: August 1979
Federal Funding FY88: \$451,000
Federal Funding FY89: \$461,000

I. Background

The Guam Coastal Management Program (GCMP) is a networked program with the Bureau of Planning acting as the lead agency. The entire island and the territorial waters are included in the coastal zone. The management of coastal resources is governed by coastal policies and authorities set forth in Executive Order Nos. 78-20, 21, 13, 37; the Comprehensive Planning Enabling Legislation; and the Territorial Seashore Protection Act. Land use decisions are made by the seven member Territorial Planning Commission (TPC), which is appointed by the Governor; the Department of Land Management acts as staff to the TPC. All other coastal resource management decisions are made by the other networked territorial agencies: Guam Environmental Protection Agency, Public Utility Agency of Guam, and the Departments of Agriculture, Public Works, Parks and Recreation, Commerce, and Public Health and Social Services.

II. Program Accomplishments

Public Access - In 1989, the GCMP developed a Recreational Water Use Master Plan for Agana and Piti Bays. The plan addresses use conflicts between mechanized water craft, such as jet skis and hovercrafts, and fishermen, snorkelers, swimmers, and windsurfers. Numerous public hearings were held and the GCMP coordinated extensively with other agencies and private interests. Rules and regulations will be adopted for the implementation and enforcement of the plan.

Natural Resource Protection - Land use violations occur in some instances because building inspectors are not sufficiently familiar with the requirements of the land use laws. To rectify this problem, the GCMP developed training materials for Department of Public Works inspectors to better acquaint them with land use requirements. This training effort will help building inspectors detect violations at an earlier stage when they are more easily resolved.

Improved Government Operations - The GCMP has been actively involved in carrying out the Governor's directive that the Guam Public Land Use Plan should be followed in making decisions on public land dispositions. In 1989, GCMP staff extracted information from Department of Land Management files to identify public lands not currently included in the Public Land Use Plan. A list of public lands to be included in the plan was circulated for agency comment and the final list will be added to the plan.

III. Major Grant Tasks

Under the FY 88 grant, the GCMP conducted the water use master plan effort and training for inspectors. In addition, the GCMP began publishing a monthly newsletter that covers a wide range of topics including: resort development, fisheries, endangered species, and exclusive economic zone. The newsletter has proven to be an effective public education vehicle and has raised the visibility of coastal management issues on Guam.

In FY89, the GCMP began a multi-year effort to develop a master plan for southern Guam and to improve the management of land use data for the entire island. Large development projects have been proposed for southern Guam, an area that currently is largely undeveloped. To prepare for this development and the master planning effort, the GCMP is updating the zoning and seashore lot-line maps, completing land use inventories, and putting the information into a database and geographic information system. In addition, the GCMP is working with the Historic Preservation Office (HPO) to increase public awareness of historic resources on Guam. The GCMP and HPO will develop a handbook for developers detailing their responsibilities for the protection of historic materials at development sites.

IV. Significant Program Changes

During the biennium, no significant program changes were incorporated into the GCMP.

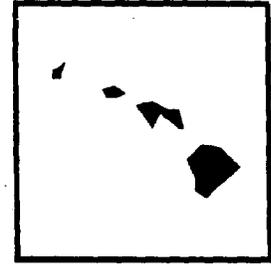
V. Federal Consistency

The GCMP has the lead for reviewing Federal actions for consistency and receives input from the other networked agencies. The GCMP has been involved in early discussions with the Navy concerning the Over-the-Horizon Radar facility proposed for Guam and Tinian in the Northern Mariana Islands, which will ultimately come to the GCMP for Federal consistency review.

VI. Evaluation Findings

The evaluation site visit was held February 5-9, 1990, and the draft evaluation report will be issued shortly.

HAWAII



Federal Approval Date: September 1978
Federal Funding FY88: \$681,000
Federal Funding FY89: \$687,000

I. Background

The Hawaii Coastal Zone Management (CZM) Program depends primarily on statutory provisions that direct state agencies and county governments to conduct their permitting and non-permitting activities in compliance with the coastal policies established in the Hawaii Revised Statutes. The Office of State Planning (OSP) is the lead agency for the Hawaii CZM Program and is advised on policy making and program implementation matters by the Statewide Advisory Committee.

II. Program Accomplishments

Permit Simplification - 1988 marked the third year of the Consolidated Applications Process (CAP) that offers the applicant of multiple state permits an opportunity to meet with representatives of permit issuing agencies to collectively discuss potential concerns and coordinate processing requirements.

The CAP process was complemented by the state Permit Information Counter (PIC) Service which serves as a point-of-contact for developers seeking information about regulatory processes applicable to their projects. Recently, the CAP and PIC Service responsibility was given to another state agency. In addition, an applicant's guide to land and water permits and approvals was prepared by the CZM Program.

Hazards Protection - Beginning in FY88, the CZM Program coordinated a multi-year study on beach erosion. The first report analyzed the physical characteristics of selected beaches, including vegetation lines, historic and seasonal cycles of erosion and accretion, susceptibility to high waves, and coastal engineering features. Alternative mitigation measures were recommended, including financing schemes, as well as proposed amendments to regulatory programs to improve planning, review, and approval processes for shoreline development.

Natural Resource Protection - Hawaii's ancient fishponds are a unique component of the state's culture and history. During FY88, a management plan was completed that included an inventory, assessment and evaluation of the Hawaiian fishponds on Oahu, Molokai and Hawaii. A key component of the inventory was a description of the surrounding land use

and recommendations for pond preservation for historic parks or aquaculture potential. The remaining islands will be inventoried during FY89.

III. Major Grant Tasks

In FY88, the Hawaii CZM Program began a multi-year study on beach erosion that also included a public education component. The County of Kauai completed a coastal view study and developed an inventory of shoreline properties and structures. In addition, the state Department of Land and Natural Resources commissioned a Hawaiian fishpond study and the Hawaii CZM program document was updated.

Using FY89 funds, the Hawaii CZM Program is continuing the beach erosion and fishpond studies. Also, a coastal view study for the County of Maui and a beach management plan for the City and County of Honolulu is being undertaken.

IV. Significant Program Changes

In 1988, the Governor signed into law Senate Bill 3166, which transferred the responsibility for the CZM program to the Office of State Planning. This program change was submitted and approved by OCRM. It included modification to the legislative and administrative elements of the Hawaii CZM Program.

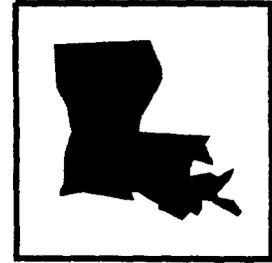
V. Federal Consistency

The OSP is striving to streamline the review process by issuing general consistency determinations for benign activities. In 1988, two agencies were issued general consistency statements for their activities. The OSP is continuing this effort by examining potential streamlining measures for the U.S. Army Corps of Engineers permits.

VI. Evaluation Findings

The final evaluation findings issued in May 1989, indicated that the State of Hawaii is adhering to its approved coastal zone management program and is making progress on its significant improvement tasks. The most significant issues which need to be addressed by the state are: clearly defining the role of the Statewide Advisory Committee (SAC), reeducating the public on Hawaii's CZM policies and procedures, and having OSP develop a strategy addressing such emerging issues as regulatory activities, and development and resource use pressures.

LOUISIANA



Federal Approval Date: August 1, 1980
Federal Funding FY88: \$1,883,000
Federal Funding FY89: \$1,934,000

I. Background

The Louisiana Coastal Resources Program (LCRP) is based on the Louisiana State and Local Resources Management Act of 1978 (Act) and implemented by the Department of Natural Resources' Coastal Management Division (CMD). The coastal zone boundary encompasses all or part of 19 parishes (roughly 5.3 million acres) and extends to the limit of state territorial waters. The Act established a comprehensive regulatory program, the Coastal Use Permit Program, through which the state directly regulates any use or activity within the coastal zone that has a direct and significant impact on coastal waters. Parishes are authorized, but not required, to develop Local Coastal Programs (LCPs); if an LCP is approved by CMD, the Parish may then regulate certain local uses. CMD has designated two special management areas -- the Louisiana Offshore Oil Port and the Marsh Island Wildlife Refuge -- and is in the process of developing special area management plans (SAMPs) for the Lake Pontchartrain and Barataria Basins.

II. Program Accomplishments

Improved Government Relations - Prior to 1988, relations between the state and some of the parishes with approved LCPs had become strained. CMD commissioned a study, funded by OCRM, to identify major issues and make recommendations for improvements in state/local interaction, coordination, and communication. Many of the recommendations of the study have already been implemented as new procedures or internal policies. The state is continuing to evaluate and implement other recommendations.

Wetlands Protection - Louisiana is currently experiencing the loss of between 30-50 square miles of coastal wetlands annually due to natural and man-induced factors. Oil and gas activities have been one of the more substantial man-induced factors. A geologic assistance review procedure was developed to provide geologic and engineering advice to CMD on some permit matters regarding oil and gas activities. CZM funds are used to contract with coastal geologists and engineers to provide technical recommendations on the feasibility of alternate access, surface relocation and/or directional drilling. The CMD expanded this procedure in 1988 to apply to all proposed oil and gas exploration and production sites in the coastal zone. The expanded process, along with General Permit #2 (described below),

has resulted in shorter access canals and the reduction of average wetlands alterations per coastal permit from 5.5 acres in 1983 to less than 2.5 acres in 1989.

The LCRP has also developed two general permits to expedite oil and gas activities, as well as minimize coastal wetlands losses. General Permit #2 allows dredging of small access slips while limiting the total area altered to 2.4 acres. General Permit #3 allows filling for land drilling operations provided there are no less damaging alternative sites, or methods of access to the site. In addition to reducing wetlands alteration, these general permits are estimated to have saved the oil companies more than \$5.3 million annually.

Improved Program Implementation - Using CZM funds, the state has developed a sophisticated Geographic Information System (GIS) and coastal database which are regularly used to facilitate permit review and natural resource monitoring and analysis. CMD has created a digital coastal database for most of its coastal zone. The database includes: coastal wetland habitats; a marsh management plan database; a natural heritage database for endangered or rare species; an OCS block database; and a database for Special Area Management Plans (SAMPs).

In the FY88-89 period, the state added data from LANDSAT satellite imagery to its database. Permit applications include project location coordinates, which when entered into the GIS by a permit officer automatically pulls up resource, permit, cultural, and other information on the area. The system, which also directs the user to other quadrangle maps, aerial photography, and other relevant information, is used to compute relative land loss, and perform habitat change and environmental sensitivity analyses. This has greatly improved staff efficiency in issuing permits. The GIS and database have also been used extensively by the Department of the Interior's Minerals Management Service and the U.S. Army Corps of Engineers in current wetlands studies.

III. Major Grant Tasks

Special Area Management - CMD is in the process of developing SAMPs for the Lake Pontchartrain and the Barataria Basin. These plans will identify the management areas, technical aspects of issues to be considered, methods of implementing the plan, and recommendations to the state regarding SAMP designation. Consideration of the role of the National Estuarine Program (NEP) in the overall SAMP will be addressed by CMD since the Barataria and Terrebonne Basins were nominated as an NEP in 1989.

Improved Program Implementation - The CMD is conducting a broad legal review of the LCRP, which will include evaluating current Memoranda of Understanding (MOU's) with state and Federal agencies, redrafting those that need to be changed and developing new MOU's. The review will also evaluate many of the Coastal Use Guidelines, and CMD internal guidelines, policies and program definitions. It will recommend changes and aid in the development of a single policy manual for CMD.

Wetlands Resource Protection - OCRM is funding several studies and research projects directed at improving coastal wetlands protection. Access canals are usually dredged to oil and gas production sites that cannot be accessed through directional drilling or other techniques. CMD personnel, working with the EPA, will undertake an Alternative Access Feasibility Study under the FY89 award. The study will evaluate the feasibility of using alternative, less damaging transportation methods to gain access to oil and gas production sites and make recommendations to the state. Another area of controversy regarding wetlands management is managing spoil banks along oil and gas access canals. CMD, working with other state and Federal agencies, will conduct a Spoil Bank Management Study in FY 89 to evaluate the benefits and impacts of having continuous versus gapped spoil banks.

Finally, the effect of marsh management plans (semi-impounded, hydrologically managed wetlands plans) on marine organisms and wetlands is another controversial management issue. CMD staff and contractors initiated several research projects on the impacts of these plans in FY 88 and will continue the research and monitoring in FY 89. The final recommendations of these and other major Federal studies will be used to revise current guidelines regulating activity in wetlands in FY 90. CMD is also evaluating potential coastal wetlands restoration and enhancement sites which could be used for future wetlands mitigation. This project will provide the beginnings of management efforts to deal with a wetlands no-net-loss policy.

Water Quality Protection - CMD is currently undertaking efforts to better coordinate the LCMP and Clean Water Act Section 401 water quality certification and non-point source programs administered by Department of Environmental Quality, Office of Water Resources (DEQ). CMD will develop regular coordination between the two staffs, and will participate on DEQ task forces for these water quality programs. CMD will also contract in FY 89 with the Louisiana Geological Survey to conduct studies on the adequacy of OCS oil and gas transportation plans and oil spill contingency plans in state waters.

IV. Significant Program Changes

In April 1989, the Louisiana Legislature passed Act 6 creating the Wetlands Conservation and Restoration Authority, and establishing a Wetlands Conservation and Restoration Trust Fund to fund restoration projects. The Act gave the new entity authority to: 1) develop guidelines for coastal wetlands conservation and restoration; 2) develop a list of priority restoration and conservation projects, wetlands conservation, and a restoration plan, and 3) modify Coastal Use Permits and marsh management plans that would have impacts on restoration projects. The legislation also reorganized part of Louisiana DNR by creating the Office of Coastal Restoration and Management in the DNR consisting of the Coastal Management Division and Coastal Restoration Division. This new legislation will eventually be submitted for incorporation into the program.

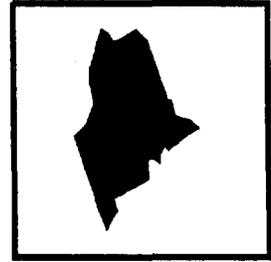
V. Federal Consistency

A major issue in Louisiana involves the applicability of Federal consistency to EPA's designation of ocean dumping sites, the Houma Navigation Canal (HNC) and Barataria Bay Canal Dredging (BBC) in particular. The state has suggested that the applicant, the U.S. Army Corps of Engineers (COE), use dredge spoil for marsh creation and beach renourishment and has issued findings of inconsistency for both of the EPA designated sites. EPA and the COE disregarded this finding stating that designation of an ocean disposal site was not subject to Section 307 Federal consistency. This finding was made before EPA issued its policy that the Federal consistency process would be followed in the designation of ocean disposal sites.

VI. Evaluation Findings

Final evaluation findings were issued March 10, 1989. While indicating that the state was implementing and enforcing the essential elements of the approved program, the findings recommended changes made to the operational procedures of the LCRP. Recommendations included: reviewing LCRP policies and improving communications with local programs. Finally, the findings recommended developing an administrative fine system, addressing the "after-the-fact" permit, and making better use of the State's Attorney General's Office to improve program enforcement. Accomplishments noted were better implementation of the LCRP through development of the geologic review process and General Permits #2 and #3. Other noteworthy improvements included better organization of the CMD and improved technical assistance to the local coastal programs.

MAINE



Federal Approval Date: September 1978
Federal Funding FY88: \$1,475,000
Federal Funding FY89: \$1,474,000

I. Background

The State Planning Office (SPO) is the lead state agency for the Maine Coastal Management Program (MeCMP). A network of 13 state laws that are jointly administered by state and local governments comprise the MeCMP. The Maine Department of Environmental Protection (DEP) is the primary regulatory agency for most of these laws. The state's coastal boundary includes the inland line of all coastal towns and all coastal islands. The state is now addressing these major coastal issues: growth management, water quality and public access.

II. Program Accomplishments

Habitat Protection - Under Maine's Critical Areas Program, over 600 areas have been designated to receive special protection from state regulatory programs. These include natural areas such as wetlands, fisheries habitats and deer wintering areas. Site information collected under this program was mapped and incorporated into a program database from which a state Register of Critical Areas was developed. The Register is now used as a management tool by state regulatory agencies in making permit decisions.

Managing Coastal Development - The multi-year efforts by the MeCMP to assess the impacts of coastal development on the state's coastal and ocean resources culminated in the passage of "The Comprehensive Planning and Land Use Regulation Act of 1988." The Act establishes a cooperative program of comprehensive planning and land use management among municipalities, regional councils, and the state. Local governments are required to prepare growth management programs and implementation plans which contain appropriate zoning ordinances approved by state agencies and the appropriate regional councils before their adoption. The state appropriated \$1 million for comprehensive planning in 1989 and for 1990. Awards have been made to 58 of the 140 towns which have experienced high growth since 1980 (34 are coastal towns). All towns must complete plans and zoning programs by 1996.

Coastal Hazards - The 1988 revisions to the Sand Dune Rules include the nation's first official recognition of sea level rise in a regulatory program. The rules prohibit reconstruction of buildings severely damaged by storms, seawalls and bulkheads.

Fisheries Management - The Portland Fish Pier became home of the Portland Fish Exchange, the first of its kind in the nation, which has greatly enhanced the quality of fish available to consumers and improved prices for fishermen.

Public Access: During this report period, the MeCAMP funded 18 low-cost construction projects, to provide enhanced coastal access opportunities along Maine's coast. They included development and rehabilitation of waterfront parks, such as Rockport, Bangor, Pembroke and Portland; wharf and parking lot reconstruction at Castine, Freeport and Bucksport; and land acquisition for South Blue Hill and construction of a new gangway for access to the floats. The MeCAMP funded the acquisition of three new boat launch sites (about 8 acres), bringing the total number of state coastal boat launch sites to 53. Also, CZM funds were used to assist the state in acquiring over 2,000 acres of land which includes more than 10,000 feet combined of coastal frontage.

In a ruling issued March 30, 1989, the Maine Supreme Court upheld a Superior Court decision that public access to privately-owned Moody Beach located in Wells, Maine, was not extended to include recreational uses by the public. In its decision, the Court said that the public trust in Maine was limited to traditional rights of fishing, fowling and navigation. The decision supports the right of oceanfront property owners in the Town of Wells, Maine, to legally prohibit access to their property by the public for the purpose of enjoying recreational activities such as swimming and sunbathing.

In response to the decision in the Moody Beach case, the MeCAMP has expanded its efforts to meet the immediate coastal access and educational needs in the state which include the following framework: 1) public access planning; 2) acquisition of sites for coastal access; 3) improving institutional arrangements affecting public access opportunities; and 4) discovering access opportunities that have been overlooked. Along these lines, various projects have been completed, and others are now underway or in planning.

The MeCAMP funded the recently completed right-of-way (ROW) discovery program, which involved nine coastal communities. As a result of this effort, a total of 37 rediscovered ROWs were recorded and an instructional handbook for communities to undertake future ROW projects was completed and distributed. Several communities are now in various stages of the ROW program, and additional sites are under consideration.

In 1988, data from a previous coast-wide public access survey by the SPO was combined with access site data from more current local and regional inventories to form a state data base file of coastal access sites. During 1989, the data was reviewed for accuracy by each coastal community and all updates and changes were made in the data base. The access inventory identified 682 publicly owned coastal access sites which have all been delineated on maps of each coastal municipality and distributed to towns, regional planning commissions and other relevant agencies in the state.

Managing Interstate Waterbodies - In a collaborative, joint effort, the New England States of Maine, New Hampshire and Massachusetts and the Canadian Provinces of Nova Scotia and New Brunswick, have renewed their management efforts to sustain the vast resources of the Gulf of Maine (GoM). Recent studies on the GoM have reported that the Gulf, which was previously one of the most productive coastal waters in the world, may be irreversibly damaged by chemicals, poisonous heavy metals, bacteria and overfishing.

In support of this joint effort, the MeCMP has received two section 309 interstate grants from OCRM. In October 1988, an interstate grant was awarded for the purpose of preparing two products. First, a State of the Gulf report was completed and used as the primary document for a conference on the Gulf in December 1989. The conference resulted in an international agreement on the Gulf, which was signed by the three state Governors and two Canadian Premiers. Second, the design of an ecosystem based environmental monitoring program for the Gulf was funded. In September 1989, a second award was made to the MeCMP to support the development of a 10-year natural resources action plan for the Gulf, to assist with the conference held in December 1989, and to assist in preparing several editions of a newsletter on the Gulf. Progress has been made under this effort, which is expected to continue.

Permit Simplification - A Permit by Rule was adopted by the DEP and enacted in February 1989. Under this rule, certain minor activities, such as placement of moorings and riprap can be conducted without filing for permits. The rule requires that a notice be filed with the DEP and affected local government at the time of application for a permit by rule.

III. Major Grant Tasks

The FY 88 grant sponsored a series of regional workshops for local officials of coastal communities. The workshops focused on several issues including the state's coastal policies, water quality, public access, and harbor management planning and historic preservation. The workshops educated local officials on the state's regulatory programs for more improved management at the local level.

Under the FY 88 award, the MeCMP was instrumental in proposing and organizing the Maine Marine Alliance, an organization covering all marine interests in the coastal area. The organization represents 22,000 marine related jobs contributing nearly \$494 million in salaries to the state's economy. Under the grant, the program will propose ways in which the Alliance can develop an agenda to improve marine water quality, shoreline access, and working waterfronts. A major benefit of this project is its potential influence on the state legislature regarding high priority CZM issues. The Alliance also advocates state and local permitting programs, to preserve and protect the shoreline against adverse projects.

Under the FY 89 award, the MeCMP will address several coastal and ocean resource issues in Maine. Policy issues include marine waters, Maine's islands, and estuarine management. With regard to resource issues, the MeCMP will include management recommendations,

legislative proposals such as draft legislation and proposed amendments to existing core laws, a fiscal note, and a policy document on how best to manage resources.

IV. Significant Program Changes

Numerous changes were made to the MeCMP core laws during the report period. The most significant changes were:

- o Revisions to the Protection of Waters Act, which upgraded the state's classification of surface waters.
- o Mandatory Shoreland Management and Zoning Law, which was changed to include certain freshwater wetlands.
- o The Coastal Wetlands and Sand Dunes Act, Alteration of Streams Act, Freshwater Wetlands Act, Great Ponds Act and previous core laws were consolidated into one law, the Natural Resources Protection Act. Permit standards for each of these laws were included in this Act.

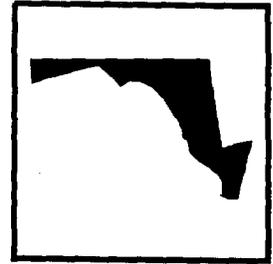
V. Federal Consistency

Federal consistency reviews are conducted jointly by the MeCMP and the DEP. During this period, major Federal consistency issues involved the U.S. Army Corps of Engineers maintenance dredging projects at several state harbors. In a DEP Department Order and Federal Consistency Determination, the state denied approval for a COE maintenance dredging project at the Town of Wells harbor. The DEP's draft decision was based on the potential for adverse impacts to the nearby intertidal flats and salt marsh of the Webhannet Estuary, and the impacts of the dredge spoil material on the beach, marine organisms and wildlife in the harbor area. The COE's request to dredge the harbor is currently being revised and will soon be resubmitted to the DEP.

VI. Evaluation Findings

The final evaluation findings issued November 30, 1989, indicated the state is implementing and enforcing the essential elements of the approved coastal program. Accomplishments cited include: the passage of the Growth Management and Comprehensive Planning Act in 1988; increased funding for core law licensing and enforcement; a \$35 million bond initiative for access and recreation; and initiating an interstate project on the Gulf of Maine. Areas in need of improvement include enforcement activities, comprehensive planning and zoning efforts, and harbor management issues.

MARYLAND



Federal Approval Date: September 1978
Federal Funding FY88: \$1,883,000
Federal Funding FY89: \$1,934,000

I. Background

The Maryland Coastal Zone Management Program (MCZMP) is based on a networking of existing state laws and authorities. Implementation is accomplished through Memoranda of Understanding between the Department of Natural Resources (DNR), the lead agency, and other state agencies. The program's coastal zone boundary includes the 16 coastal counties and Baltimore City. Within the DNR the Coastal Resources Division (CRD) is responsible for coordinating and monitoring the MCZMP. Maryland also controls development in a critical area 1,000 feet landward from all tidally influenced waters through the Chesapeake Bay Critical Areas Law and Commission. The Critical Area law and criteria were incorporated by amendment into the MCZMP on July 27, 1987. Most of the local coastal communities have developed land use plans for the critical area as mandated by the Critical Areas legislation.

II. Program Accomplishments

Natural Resource Protection - The state passed legislation prohibiting oil and gas drilling in the waters of the Chesapeake Bay. This legislation precludes all drill operations through the Chesapeake Bay water column but does allow "slant" drilling from the shore to potential resource deposits under the Bay. This activity will require a state permit, approval from the Maryland Critical Areas Commission, and strict monitoring.

In addition, the Maryland Environmental Trust (MET) continues to secure conservation easements along the Chesapeake Bay and its tributaries. Private landowners donate the development rights on their land to the MET in exchange for financial benefits. The landowners retain all other rights and privileges.

Wetlands Protection - The DNR played an active role in developing the new state non-tidal wetland law. The new law incorporates the no-net-loss concept. The goal of the program is to attain a no-net-loss of non-tidal wetland acreage and function, and to strive for a net resource gain. The law provides the DNR with strict permitting, mitigation, and comprehensive watershed planning authority. The law also mandates a Nontidal Wetlands Compensation Fund for creation, restoration, and enhancement of non-tidal wetlands. This law will soon be submitted to OCRM for incorporation into the MCZMP.

Public Information - The CRD has conducted highly successful recreational boating workshops to address citizen concerns. The DNR developed an issue paper to guide future DNR actions in this area. The paper includes information, for approximately 150 creeks and similar water areas, on line of sight, shoreline characteristics, boating facilities, swimming areas, shoreline erosion, boat traffic, accidents/complaints, special conditions, and current boating regulations.

Public Access - The CRD has continued to make extensive use of CZMA Section 306A low-cost construction program. In FY88, the state expended \$240,574 in Federal funds on five projects. These projects provided major improvements to some of Maryland's coastal parks. The state is expected to expend approximately \$250,000 in FY89 on five to seven section 306A projects.

III. Major Grant Tasks

In FY88 and FY89, the CRD was in the process of rewriting the state's CZM Program Document. Under FY87, FY88, and FY89 awards, the CRD provided funds to the Maryland Natural Heritage Program to identify important coastal plant and wildlife habitat areas and to develop long-term management programs to protect these areas. FY87, FY88, and FY89 funds are also being used for the Anacostia River Study. This study will produce a numerical water quality model leading to the identification of pollution abatement methods resulting in improved water quality and aquatic habitat enhancement.

During FY88, the state developed a sub-watershed-wide plan for non-tidal wetland protection to guide permitting and mitigation actions. The plan was developed through the use of the NOAA funded regionalization of the Wetland Evaluation Technique model. Also as a result of an FY88 study on phragmites control, the state is attempting to rid the Chesapeake Bay area of this undesirable marsh grass.

In FY89, the state will be developing a Chesapeake Bay access and land preservation plan. This project will result in a series of overlay maps depicting all public access locations, areas where additional access is needed, and ecologically sensitive areas in need of protection. FY89 funds will also be used to map important fishery resource areas. Copies of the maps will be distributed to state and Federal agencies making land and water resource management decisions affecting fishery resources.

Using FY89 funds, the state is continuing its support for the National Center for Maritime Preservation Technology. A plan will be developed on how the Center will provide for (1) technology transfer, (2) promotion of research in maritime preservation and underwater archaeological technologies, (3) resource protection and conservation, and (4) involvement of the government, industry, and the public in maritime preservation information.

IV. Significant Program Changes

The state will be submitting a revised program document, the Chesapeake Bay oil and gas prohibition laws, the new non-tidal wetland law, and the local government Chesapeake Bay Critical Area Protection Plans for incorporation into the MCZMP.

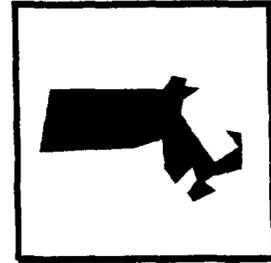
V. Federal Consistency

The DNR is developing a Federal consistency handbook. This will be useful to the public, the state and Federal agencies when proposing projects in Maryland's coastal zone.

VI. Evaluation Findings

The final evaluation findings issued October 25, 1988, indicate that the state is adhering to its approved coastal program and that the CRD is adhering to the terms and conditions of its financial assistance awards. Accomplishments of the program included the finalization of most of the 60 local Chesapeake Bay Critical Areas Protection Programs, the state's Conservation Easement Program, Non-Tidal Wetland Initiatives, and recreational boating workshops. Recommendations included increasing staff support for local technical assistance, increasing information sharing among the local coastal governments, increasing monitoring of state agency and local government activities, developing a Federal consistency handbook and clarification of the state's Federal consistency process, and submitting various program changes.

MASSACHUSETTS



Federal Approval Date: April 1978
Federal Funding FY88: \$1,181,000
Federal Funding FY89: \$1,180,000

I. Background

The legal framework for the Massachusetts Coastal Zone Management Program (MCZMP) is in the Act Relative to the Protection of the Massachusetts Coastline which was passed in 1983. The program includes 27 policies which serve as a guide for implementing the authorities of the program. Other key laws of the program are the Wetlands Protection Act, the Wetlands Restriction Act, and the Ocean Sanctuaries Act. The lead Commonwealth agency for the MCZMP is the Executive Office of Environmental Affairs (EOEA), with EOEA's Office of Coastal Zone Management having responsibility for the day to day administration of the MCZMP. The coastal zone boundary extends 100 feet inland of specified major roads, rail lines, or other visible right-of-ways which are located up to one-half mile from coastal waters or salt marshes, and includes all of Cape Cod, Martha's Vineyard, and Nantucket. Major coastal issues include public access, coastal erosion, non-point source pollution and critical area planning.

II. Program Accomplishments

Natural Resource Protection - To formally recognize the importance of significant coastal resource systems, the MCZMP designates Areas of Critical Environmental Concern (ACECs). Designation of these areas ensures protection of the coastal resources included within the ACEC systems by requiring a higher level of review including higher performance standards for activities in and affecting these designated ACECs. The Commonwealth has designated 14 ACECs, of which 11 are coastal.

The MCZMP has taken the lead in efforts relative to the Buzzards Bay National Estuary Program. MCZMP's extensive efforts led to the Environmental Protection Agency's designation of Buzzards Bay under the National Estuary Programs (NEP). The NEP for Buzzards Bay has served as a model for other such programs around the nation. Under the auspices of the Buzzards Bay Management Committee, of which the MCZMP is a key participant, a Comprehensive Conservation Management Plan is now being prepared for the Bay. The Buzzards Bay NEP is a cooperative state/Federal effort and the MCZMP has played a major role in this effort since its inception.

In conjunction with "Coastweeks," the MCZMP helped to organize and conduct a variety of activities which focused attention on the value and importance of the Commonwealth's coastline. Over 300 events were held in the state during Coastweeks '88 and '89. Of these events beach cleanups were no doubt the most popular. In 1988, some 2,200 volunteers collected over 25 tons of debris from over 150 miles of commonwealth shoreline. In 1989, over 3,000 volunteers cleared more than 30 tons of debris from about 200 miles. As a result of these events, a heightened awareness of the coast and its importance was advanced.

The MCZMP prepared a handbook entitled, Primer for Dredging in the Coastal Zone of Massachusetts. The handbook addresses topics such as dredging technologies, disposal alternatives, environmental impacts, regulatory framework, and environmental testing. The handbook is a management tool used by the commonwealth in making decisions on the best management practices related to dredging. Also, efforts by the MCZMP to limit the use of antifouling points containing the chemical Tributyltin (TBT), led to the decision by the state to suspend use of this chemical in its waters.

Public Access - The CZM program published a revised version of its public access guide entitled, The Guide to Public Access in Massachusetts. The guide covers rights of access, information on boat registration, and general information on fishing in the Commonwealth. It includes a list of regular freshwater boat access, canoe and car top boat access points and saltwater access, along with how the points are chosen and who maintains them. Over 121 public access points (boat ramps) are listed. For each point, the guide includes a map and notes restrictions, fees, special services, and number of parking spaces.

Coastal Hazards - MCZMP completed Massachusetts Shoreline Change Summary Maps, which describes the amount the shoreline has changed for more than 350 locations along the Commonwealth's coast. The changes have been caused by either erosion or accretion. The maps are free of charge and have been distributed to property owners, public officials and private business.

Improving Government Operations - Under the auspices of the MCZMP, an Environmental Crime Strike Force was created. The primary purpose for the 34-member Strike Force is to increase the state's ability to protect its coastal resources from violators such as illegal wetland fill, toxic discharges to sewage and threats to drinking water supplies and illegal dumping. The Strike Force consists of prosecutors, police officers, and scientists who have been trained in this area.

III. Major Grant Tasks

A significant improvement grant task addressed the issue of improving the commonwealth's ability to enforce its wetlands protection provisions. Also, a strategy was developed which included cross training of DEP personnel, hiring of term appointments to eliminate the backlog of applications and completion of the Chapter 91 regulations which are expected by March 30, 1990.

Under a FY89 award, a major grant task related to improving coastal water quality and an effort by the state to quantify contaminant input from treatment plants. The report area will focus on efforts to quantify treatment plant loadings to marine waters in Massachusetts Bay.

IV. Significant Program Changes

During the report period, three new ACECs were designated and approved by OCRM as routine program implementation (RPI). The regulations for designation of ACECs were revised and approved as RPIs.

V. Federal Consistency

Federal consistency reviews are conducted by the MCZMP. An effort by the state to streamline the consistency review process was initiated during the report period. This includes the conduct of concurrent reviews by all environmental regulatory agencies, following the completion of the Massachusetts Environmental Protection Act (MEPA) review process. Concurrent review has shortened the overall review process time for large-scale projects and has been more efficient.

During the biennium, MCZMP determined that the waste water treatment facility located outside its coastal zone in Seabrook, New Hampshire, would be subject to a formal consistency review by Massachusetts. EPA has informed Seabrook that a consistency certification from Massachusetts, as well as New Hampshire, must be submitted before a NPDES permit can be issued. The Corps of Engineers has held that a consistency certification from Massachusetts is not necessary for the Section 404 permit. Both the Corps and EPA will hold public hearings on the project during the summer of 1990 before making their permit decision.

VI. Evaluation Findings

Final evaluation findings were signed January 28, 1988. The state was recognized for its leadership in addressing coastal issues as exemplified by its implementation of the MEPA, its work on technical assistance to towns for coastal area planning and management and for drafting the initial proposed regulations under Chapter 91 of the Massachusetts General Law regarding the issuance of licenses/permits for activities in state tidelands. The principal recommendations concerned the Coastal Wetlands Restriction Program, implementing and enforcing the state's Wetlands Protection Law, and the need to complete a non-technical user's guide for the shoreline change maps.

MICHIGAN



Federal Approval Date: August 1978
Federal Funding FY88: \$1,883,000
Federal Funding FY89: \$1,934,000

I. Background

The Michigan Coastal Management Program (MCMP) was approved in August 1978. The Department of Natural Resources (DNR) is the lead state agency for coastal management. The DNR's Land and Water Management Division (LWMD) is responsible for administration and management of the MCMP. Major authorities under which the MCMP is administered include: the Shorelands Protection and Management Act; the Great Lakes Submerged Lands Act; the Sand Dunes Protection and Management Act; the Goemaere-Anderson Wetlands Protection Act; the Inland Lakes and Streams Act; and the Michigan Environmental Protection Act.

The Natural Resources Commission establishes policy and guidelines for all DNR programs based on recommendations from a Citizens Advisory Committee and the Standing Committee on Shorelands and Waters. In addition, the Inter-Departmental Environmental Review Board and the Governor's Cabinet Committee on Environment and Land Use serve as forums for coordination and conflict resolution.

The MCMP's lakeward coastal boundary is the jurisdictional border that Michigan shares with Canada's Province of Ontario and the states of Minnesota, Wisconsin, Illinois, Indiana, and Ohio. The landward coastal boundary extends inland to include resources that affect the coastal zone and includes significant coastal features such as sand dunes, wetlands, and coastal lakes. The Michigan coastline is geographically unique because it consists of two large peninsulas and is surrounded by four of the five Great Lakes.

II. Program Accomplishments

Sand Dunes Protection - In July 1989, the state Legislature passed amendments to the Sand Dunes Protection and Management Act. Key provisions of the Act include the designation of Critical Dune Areas, the establishment of a model zoning plan for sand dunes protection, and the option of local governments to adopt zoning ordinances to administer the Act. The Act identifies uses that are prohibited in Critical Dune Areas and establishes the requirement that structures be located behind the crest of the first landward ridge of a critical dune that is not a foredune.

Underwater Archaeology - The MCMP conducted several projects related to the preservation and exploration of underwater archaeology. For example, the MCMP contributed grant funds to a research team using an underwater robot to study two shipwrecks, including the Edmund Fitzgerald and one previously unexplored shipwreck. The research team tested the use of video equipment to assess its value. Other efforts in this area include the installation of a standardized buoy system on shipwrecks within Michigan's Bottomland Preserves, and the patrol of Michigan's seven Underwater Preserves to detect illegal salvage. The state Legislature also passed amendments to the Underwater Salvage Act, including stricter fines and penalties for the illegal removal of underwater artifacts.

Great Lakes Information System - In 1986, the Land and Water Management Division developed the Great Lakes Information System (GLIS). The computerized geographical information system for the Great Lakes is intended to consolidate environmental quality and resource management data to enable resource managers complete access to all existing data for decisionmaking. Recent projects on GLIS involve the continuation of data entry for sensitive areas, critical habitats, and floodplains. In addition to mapped data, GLIS has established a database on the environmental quality of Lake Michigan. The database consists of several hundred thousand records of water and sediment quality data from point sampling sites. This database is a companion to that established for Lake Huron.

Public Access - The Michigan Coastal Management Program awards funds to 30-40 communities a year for low-cost construction or projects. Each award amount ranges from \$3,000 to \$50,000. These grants provide considerable benefits to communities attempting to increase or improve public access opportunities.

Wetlands Protection - Several booklets and technical documents have been developed and published by the MCMP. The Wetland Protection Guidebook provides information on the Wetlands Protection Act, defines and discusses the value of wetlands, and explains Michigan's wetland permitting process. A brochure, Michigan Wetlands: A Guide for Property Owners and Homebuilders, is aimed at educating property owners and local officials who are involved in development. The MCMP developed the Wetland Determination Manual for Field Testing to provide written and operational guidance in identifying wetland characteristics and indicators used in making wetland determinations. The primary purpose of the manual is to formalize the wetland determination process practiced by DNR personnel in conducting wetland determinations.

Protection of Estuarine Areas - Special Area Management Plans are being written for river mouth areas that are under intense development pressure. The purpose of these management plans is to assist staff in permit reviews, shorten the permit process, and educate local officials and property owners. The plans summarize resource information and collect site-specific data on the resource. This information is then used to make general and site-specific guidelines for development.

III. Major Grant Tasks

In addition to basic administration of coastal regulatory authorities, highlights of the FY88 award included staff work on amending the Sand Dunes Protection and Management Act to regulate non-mining development activities in sand dune areas, expanding the Great Lakes Information System, collecting data for the DNR Saginaw Bay Initiative, and continued implementation of the St. Clair Flats Management Plan. In addition, the MCMP continued to fund many section 306A projects, including overlooks, trails, boardwalks, and historic preservation projects.

In the FY89 award, the MCMP has further developed certain provisions of the newly passed Sand Dunes Act and amendments to the Underwater Salvage Act. The MCMP is also working on proposed rule changes to the Shorelands Protection and Management Act. With the passage of the amendments and rule changes, the program is publishing updates to the booklets describing these Acts. In implementing the Shorelands Management and Protection Act, the MCMP is developing Special Area Management Plans for estuarine areas, conducting recession rate studies for high risk erosion areas, and monitoring flood risk areas for compliance with floodplain regulations.

The MCMP continued to fund numerous low-cost construction and planning projects. Under its current grant, 30 low-cost construction and 12 planning projects are proposed.

IV. Significant Program Changes

No program changes were submitted during this report period.

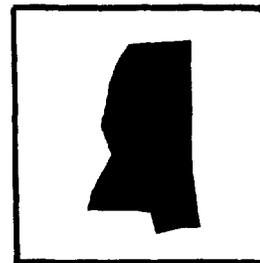
V. Federal Consistency

The Michigan Coastal Management Program made a negative consistency determination regarding the extension of the navigation season by the U.S. Army Corps of Engineers. The justification for the negative determination concerned detrimental ecological impacts to coastal wetlands, fish habitats and populations, and coastal structures. Furthermore, the MCMP stated that the Corps of Engineers did not fully consider alternatives.

VI. Evaluation Findings

The last evaluation site visit was conducted in July 1988, and the findings were published in January 1989. The findings cited the accomplishment of the state in taking a leadership role in addressing coastal issues, such as the Saginaw Bay integrated planning effort, the Great Lakes Inventory System, and the adoption of rules under the Wetlands Protection Act. Two recommendations were made in the findings: (1) to revise the wording in its Federal consistency determinations, and (2) to improve the administrative management of MCMP.

MISSISSIPPI



Federal Approval Date: September 1980
Federal Funding FY88: \$508,000
Federal Funding FY89: \$539,000

I. Background

The Mississippi Coastal Program (MCP) is based in large part on the Mississippi Coastal Wetlands Protection Law, and the Mississippi Marine Resource Council enabling legislation. The Department of Wildlife, Fisheries and Parks (DWFP) is the lead agency and the DWFP/Bureau of Marine Resources (BMR) administers the major portion of this networked program. Mississippi's coastal zone boundary encompasses the three coastal counties and all coastal waters, although regulatory jurisdiction is generally more limited in scope. Collectively three "coastal program agencies" - the BMR, the Bureau of Pollution Control and Land and Water Resources, and the Department of Archives and History - are responsible for monitoring decisions that affect the coastal area and ensuring their consistency with the program. The BMR ensures that decisions made by the other state and Federal agencies are consistent with the MCP. The state has designated several ports and beaches Special Management Areas (SMA's).

II. Program Accomplishments

Sand Beach Plan: Using CZM funds, the state implemented the Harrison/Hancock County Sand Beach Master Plan developed under an earlier CZM grant. The plans divided the beaches into planning units and provided beach management and recreational recommendations. Local governments adopted the recommendations and in FY88, the BMR continued to provide CZM funds to implement these plans which include: beach maintenance, vegetation plantings for erosion control, and other management techniques. The state also used section 306A funds to construct planned recreational improvements.

Public Access: The state has continued to provide increased public access to coastal waters through use of the section 306A low cost construction grants. The state completed five public access section 306A projects in 1988 for a total of roughly \$305,000 and to date has proposed one access project in FY89 for a total of \$64,250. FY88 projects consisted of four boat launches and one public pier, the FY89 project is an addition to an existing pier. The state has completed 22 section 306A public access projects (11 boat ramps or launches and 11 piers) between 1985 and 1988. In FY88, the BMR completed a water access site study which inventoried existing sites and determined needs for water access.

Natural Resource Protection - In recent years, oyster production in the state has diminished greatly from roughly 100,000 sacks in 1982 to 20,000 sacks in 1988. For a number of years the state has planted new oyster shell on old reefs to provide more hard bottom from oyster clutch in order to increase oyster production. OCRM awarded \$100,000 to purchase and plant new shell in 1988.

III. Major Grant Tasks

Waterfront Redevelopment - In FY88, the BMR commissioned waterfront studies for the Cities of Waveland, Moss Point, Pass Christian, and Biloxi. These studies identified the potential for enhanced public use, economic redevelopment, conservation and preservation of certain areas. The studies recommend development strategy and encourage appropriate land and water uses in these waterfront areas.

Public Education - The State of Mississippi conducted public education outreach programs in cooperation with the Biloxi Seafood Industry Museum and the Scranton Museum to enhance public awareness of the marine and coastal environment. The funds were used to add displays in the museums, support a public outreach campaign aimed at elementary level students, and support a program to support a newly built Biloxi Schooner. The state also used CZM funds to produce two more in a series of Marine Discovery Books on shorebirds and dolphins.

Resource Protection - In FY89, the state used CZM funds to investigate the use of mitigation Banking as a mechanism to mitigate unavoidable impacts to wetlands resources. The study addressed the feasibility of establishing mitigation banks in Mississippi by evaluating state and Federal regulations and administrative policies. The study also evaluated the opportunities and obstacles presented by mitigation banks.

Coastal Water Quality - In FY89, the BMR, working with the Bureau of Pollution Control, will undertake a coastal water quality assessment. The task includes a review of water quality classifications and regulations, an inventory of major land and water uses and point and non-point sources, and an evaluation of local ordinances and techniques for controlling pollution.

Improved Program Implementation - In FY89, the state will commission a legal review of the MCP, including an evaluation of program policies and guidelines, approved special management area agreements, permitting regulations, Federal consistency, and policy coordination. The BMR will also assist the Secretary of State's office in determining the boundaries of Mississippi's public trust tidelands.

IV. Significant Program Changes

Mississippi Marine Debris Act - The state legislature passed the Mississippi Marine Debris Act in 1989; the Act took effect July 1, 1989. The Act prohibits the disposal of any plastic,

paper, metal or other garbage or debris into coastal waters by any person or vessel. The Act establishes strict penalties of up to \$10,000 for violations. The Act also requires the placement of adequate solid waste receptacles at all areas accessible to the public for recreation or water dependent uses. The BMR is charged with developing guidelines for and enforcing the Act. The Mississippi Commission on Wildlife, Fisheries and Parks has already approved the incorporation of the Act into the MCP and OCRM is currently reviewing the legislation, which was submitted as a program change. If incorporated into the MCP, the BMR will receive CZM grant funds to aid in administering and enforcing the new law.

DWC Reorganization - In mid 1989, the Department of Wildlife Conservation and Bureau of Marine Resources underwent a substantial reorganization. The Mississippi Department of Parks was incorporated into the DWC to create the new Department of Wildlife, Fisheries and Parks. Within the department three divisions were established: Fisheries, Parks and Administrative Services. The BMR is now located in the Fisheries division. The presence of a high level coastal/marine staff in Jackson, as a result of the reorganization, will give coastal and marine matters a much higher priority in the DWFP. Within the BMR the wetlands division was folded into the coastal programs division to avoid program overlap and to place new emphasis on habitat protection.

V. Federal Consistency

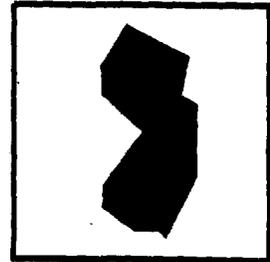
Federal consistency reviews are conducted through the coastal programs division of the BMR. There were no major Federal consistency issues during the report period.

VI. Evaluation Findings

The final evaluation findings issued June 9, 1988 indicated that the state needs to implement more carefully the Federal consistency provisions of the MCP, improve its performance reporting, improve financial accounting procedures and determine how to use or dispose of BMR's surplus equipment, in particular its aircraft. Noted achievements of the program included the development of the Port of Pascagoula Special Management Area, a study on future marina needs, waterfront redevelopment studies, and improved public access to coastal waters through section 306A low-cost awards.

NEW JERSEY

Federal Approval Date: September 1978 (Bay/Ocean Shore)
September 1980 (Consolidated Program)
Federal Funding FY88: \$1,883,000
Federal Funding FY89: \$2,014,000



I. Background

The New Jersey Coastal Management Program (NJCMP) is administered by the Division of Coastal Resources (DCR) in the Department of Environmental Protection. The following core laws form the basis for regulatory control: the Coastal Area Facility Review Act (CAFRA), the Wetlands Act of 1970, the Waterfront Development Law, and the Riparian statutes. The NJCMP couples regulatory responsibilities with a coastal land-use planning function. Through time, the DCR's overall mission has expanded to include the regulation of inland freshwater wetlands and construction in floodplain areas of state tributaries, placing it in a unique position to protect watershed systems and ultimately, the coastal zone.

The coastal boundary extends (1) from the New York border to the Raritan Bay landward up to the first road or property line from mean high water, (2) from the Raritan Bay south along the Atlantic shoreline up to the Delaware Memorial Bridge varying from one-half to 24 miles inland (1,376 square miles of land area), (3) north along the Delaware River to Trenton landward to the first road inclusive of all coastal wetlands, and (4) a 31-mile square area in the northeast corner of the state bordering the Hudson River under the jurisdiction of the Hackensack Meadowlands Development Commission, the state's designated body responsible for implementing the NJCMP in the Meadowlands.

II. Program Accomplishments

Wetlands Protection: In 1988, the Freshwater Wetlands Protection Act was enacted, followed by the associated transition area rules in 1989. Statewide in scope, the law provides the DCR authority to regulate construction in freshwater wetlands in the coastal zone not subject to CAFRA regulations. The law expands the types of activities regulated now by the U.S. Army Corps of Engineers, as well as increasing fines and penalties for violators. The transition area rules provide for a buffer of up to 150 feet in width adjacent to valued freshwater wetlands, to protect this integral ecosystem and provide a sediment and storm water control zone. The DCR has been involved in an extensive effort which will lead to the assumption of the Clean Water Act's section 404 permit program. This would make New Jersey the second state to seek this regulatory role from the Federal government.

Water Quality: A report was prepared on the discharge of sewage from watercraft under the auspices of the Marine Sewage Treatment Act. The report assesses the supply of and demand for pumpout facilities, and evaluates the effectiveness of existing regulations related to those facilities. Regulations have been proposed which would require pumpout facilities at all new marinas.

Hazards Management: The NJCMP possesses the ability now, due to a several-year contractual effort, to generate computer-based shoreline maps which depict historical positions of mean high water for any portion of the state's coastline. The archived map data are based on up to 11 different surveys done over a period of 140 years. With this system, a quantitative, site-specific predictive value of shoreline change can be calculated and is presently being used during the review of waterfront development permit applications within the CAFRA area. There have been several spinoffs from this. The shoreline prediction capability has provided a sound basis for revising the Coastal High Hazard Areas and Erosion Hazard Areas policies prohibiting selected coastal development and setting a 30-year set-back threshold. Also, during FY89, the DCR has been taking steps to expand the use of these shoreline change maps by making them available to local governments for more sophisticated land use planning and decisionmaking along the coast.

Dune Protection: A facet of the DCR's Shore Protection Program has been to assist municipalities in dune protection efforts. In Atlantic City, this has involved technical assistance since 1987 to create dunes along a 28-block section of the city with grass plantings and fencing. As agreed, the city adopted a dune protection ordinance. After initial resistance, the community has been pleased with the results. The dunes will be appreciated for their valuable role in storm protection and erosion reduction, but of more immediate satisfaction were the aesthetic benefits. The DCR has been working with 14 coastal communities in the state to achieve similar results.

In the wake of a severe northeaster in 1984, the DCR received and administered \$2 million in emergency Federal funds to be used for beach and dune restoration and walkway construction in 15 municipalities, research on restoration techniques, and land acquisition.

Public Access: A 17-mile border along the Hudson River is being constructed with a continuity in design and is available to the public as a walkway because of the foresight of the NJCMP. The initiative, beginning with a 1982 inventory and analysis of existing conditions, was conceived in anticipation of rapid rates of development on the Hudson waterfront. The Design Standards component, completed recently, has been added to the Hudson River Waterfront Walkway Plan and Design Guidelines (1984), which describe the location, design and methods of implementation of the plan. The standards guide developers in the preparation of project plans, while allowing latitude for individual expression. The guidelines serve as the basis for local evaluation and DCR approval of waterfront development permits. A reference manual Waterfront Public Access: Design Guidelines was completed in 1989 for local governments, private developers, and others interested in providing or utilizing access to New Jersey's coastal resources. The manual

presents background and design information dealing with the public's right to waterfront access, how it is provided in New Jersey, and design concepts for both ensuring substantial access, and minimizing potential conflicts between private landowners and the general public.

III. Major Grant Tasks

During the reporting period, the DCR has completed a major reorganization to consolidate permit programs and functions by region rather than by statute. This major step was taken to accommodate an expanded scope of regulatory functions (a number of which are statewide in scope), and to produce a consolidated and streamlined regulatory process to serve the public interest more efficiently. Regional staff have been allocated under the functional elements of Planning, Regulation, and Engineering and Construction. The state has been divided into nine regions. The regulatory functions of permit review and enforcement for all statutes for the region are being carried out by staff at DCR's three existing locations. Additional benefits should be improved coordination with local governments and more effective protection of the state's natural resources.

Since early 1988, the NJCMP has been providing advisory and technical assistance to the Office of State Planning and coastal counties participating in the preparation of the State Development and Redevelopment Plan. The preliminary plan will ultimately direct growth to certain areas in the state based on natural carrying capacity. Coastal counties within the boundary of the NJCMP are using the planning process to address many of their concerns, such as development on barrier islands. This alternate growth and development strategy builds on the existing NJCMP designations for low, medium and high growth areas in the coastal zone. The DCR will continue to play an active role in the state's plan, as the counties compare the mapped land use categories with their own zoning requirements, and negotiate any outstanding issues. Final adoption of the state plan is estimated for 1991.

In a continuing effort to refine NJCMP policies, the DCR focused on stormwater runoff, a major source of nonpoint pollution, and on ways the regulatory program could improve coastal water quality. An interim step has been the recent completion of a study, "Stormwater Management in the New Jersey Coastal Zone." What began as an analysis of innovative practices and techniques to be incorporated into the regulatory program turned into a wide-ranging analysis of what DCR regulates at the coastal and state levels, and where and how it regulates stormwater management. The study proposes an array of best management practices and a system for technique selection. It also makes non-structural water quality recommendations that may need to be adapted to existing development to fully address this problem.

Barnegat Bay in Ocean County, a valuable resource area, is currently experiencing adverse affects to water quality and ecology due to intense development pressure. Ocean County is one of the fastest growing areas in the state. Backed by a legislative mandate, the DCR is involved currently in the development of a comprehensive land use and environmental management plan for the Bay.

IV. Significant Program Changes

A number of minor changes were approved and incorporated into the NJCMP as routine program implementations during the reporting period. These included changes to rules on coastal resources and development (N.J.A.C. 7:7E - 1.1 et seq.) and changes to the rules governing the Hackensack Meadowlands Development District. A change to the Flood Prone Areas policy judged to be a substantial change to the program has undergone further revision and will be resubmitted for consideration with other policy changes.

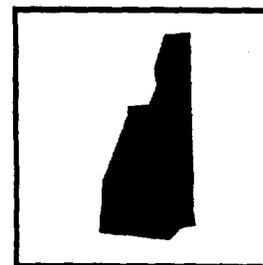
V. Federal Consistency

In an appeal case concluded during the report period, the Under Secretary of Commerce for Oceans and Atmosphere refused to override the state's objection to a proposal by Exxon Company to construct an automobile service station adjacent to Barnegat Bay. The state had objected on the grounds that the proposal violated the CMP's prohibition of the filling of wetlands. The Under Secretary found that the proposed filling of wetlands to construct the service station would have an adverse effect on the natural resources of the coastal zone that outweighed the project's minimal contribution to the national interest.

VI. Evaluation Findings

The final evaluation findings issued December 20, 1988 indicate that the state was implementing and adhering to the provisions of its approved CMP. Accomplishments of the CMP included the high standard set by the permit program to clarify policies and consolidate regulations. A number of enforcement positions that were vacant at the time of the evaluation review have since been filled.

NEW HAMPSHIRE



Federal Approval Date: June 1982 and September 1988
Federal Funding FY88: \$470,000
Federal Funding FY89: \$480,000

I. Background

The Office of State Planning is the lead agency for the New Hampshire Coastal Program (NHCP). The NHCP was approved under the segmented approach. The first phase was approved in June 1982 and includes the Ocean and Harbor Segment which covers the Atlantic Ocean, Hampton Estuary, and the Portsmouth Harbor portion of the New Hampshire coast (approximately 30 miles). Phase two, approved in 1988, includes the remaining 101 miles of the coastline under tidal influence around the Great Bay area.

The NHCP is based on a series of state laws and implementing regulations administered by various state agencies, boards and commissions. The Council on Resources and Development (CORD), an interagency board comprised of key state agencies, is responsible for coordinating state policies and resolving agency conflicts.

New Hampshire's inland CZM boundary is defined as 1,000 feet from the mean high water, or to the limits of the Wetlands Board's jurisdiction over tidal waters, whichever is further inland. The boundary around Great Bay extends inland to identifiable features such as roads, which in most cases are more than 1,000 feet from the shoreland, to the limits of the Wetlands Board's jurisdiction along estuarine rivers. Seaward the boundary includes all coastal waters within the limits of the state's jurisdiction.

II. Program Accomplishments

Estuarine Protection - Multi-year efforts by the NHCP culminated in the designation of Great Bay as the 18th National Estuarine Research Reserve in October 1989. The Reserve will be managed by the state's Environmental Services Agency.

Wetlands Protection - The NHCP provided funds to establish a field office in Portsmouth which includes staff from several state regulatory agencies who conduct site inspections, monitor permit compliances, and provide technical assistance to local officials and private developers on a variety of topics involving wetlands and water resources. Also, CZM funds were used to support the toll free 800 number as an alert line for use by public and town officials to report illegal activities and to obtain advice and information regarding wetlands

and actions of the Wetlands Board. These efforts have contributed to the decrease in wetlands violations and other violations along the coast.

Public Access - Several projects funded by the NHCP have encouraged water dependent uses, public access and recreational initiatives in the State of New Hampshire. These include state and local coastal park improvements, construction of boat launch facilities, and planning and engineering design studies. For example, a waterfront park was completed for the Town of Durham; a public walkway was completed for the Town of New Castle; and a land acquisition study was done for Dover. Also, CZM funds were used to prepare a development plan for Odiorne Point State Park Visitor's Center. The plan emphasizes the protection and interpretation of New Hampshire's natural resources and multi-season operation. Current efforts are underway to raise funds to construct the new visitor's center.

Urban Waterfront and Ports - To address the increased pressure on coastal communities to develop the shores along tidal rivers, the NHCP funded a harbor management plan for the Lamprey River in New Market. The plan combines the interests of the communities located along the river with the concerns of the state, which regulates water and bottomlands use. In FY89, the NH Port Authority received CZM funds to complete a similar plan by June 1990 for the Cochecho River in Dover County. Currently, the NY Port Authority is completing a mooring realignment project at Rye Harbor which should increase the number of moorings at the harbor. The project will be completed by June 1990.

Coastal Hazards - The CZM program is now funding bathymetric mapping projects for Great Bay and Little Bay for the purposes of tracking sediment movements and providing a control point relative to sea level rise. Also, model regulations and a document explaining erosion problems were completed and distributed by the NHCP to all coastal communities concerned with erosion problems.

Permit Simplification - Pre-application inspections initiated under the NHCP have been an effective management tool for the state in ensuring greater protection for coastal wetlands and other sensitive coastal resources. As a result of this effort and other activities by the state and local agencies, there are no major wetlands protection problems occurring along the state's seacoast area.

III. Major Grant Tasks

During FY 88, the NHCP began implementing the newly approved segment two of its coastal management program, the Great Bay Segment. Under this effort, CZM funds are used to augment state funding required to perform the management functions of the NHCP.

Under the current award, the state is preparing updated maps of its coastal area, including the Great Bay Segment and the newly designated National Estuarine Research Reserve. The maps will improve intergovernmental coordination, public and industry awareness and

will lay out key areas such as the entire CZM boundary, major roads, rivers, bays, ocean, and other key resource features. The maps will facilitate regulatory decisionmaking in the state.

IV. Significant Program Changes

During the report period, a major amendment to the state's CZM program was made. A second segment which includes the Great Bay area was approved in September 1988. With this approval, all waters to the seaward limits of the state's jurisdiction and all land along the state's Atlantic Ocean shoreline from Seabrook to the Portsmouth/Newington townline, extending 1,000 feet inland or to the limits of the Wetlands Board's jurisdiction, whichever is further, are now subject to the New Hampshire Coastal Management Program.

V. Federal Consistency

The OSP is the lead agency for reviewing all Federal consistency certifications and determinations for the state. A major consistency issue during the report period relates to the U.S. Army Corps of Engineer's (COE) maintenance dredging projects for a portion of the Piscataqua River. The state's concerns centered around the timing for the COE's dredging activity and the proposed method of disposal of the dredged materials. Further, the state has repeatedly requested additional information from the COE in order to more adequately assess the impacts and make a final decision on the COE's proposal. Through several meetings and other discussions with the COE and other state resource agencies, the NHCP expects a resolution to this problem in the near future.

VI. Evaluation Findings

The last evaluation findings were completed in April 1988. The principal findings cited major accomplishments in the areas of monitoring and enforcement and the creation of the Portsmouth field office. Recommendation for improvements included completion of the second segment of the CZM program. The final approval for the Great Bay area of the NHCP was completed in September 1988.

NEW YORK



Federal Approval Date: September 1982
Federal Funding FY88: \$1,883,000
Federal Funding FY89: \$1,934,000

I. Background

The Department of State, through its Division of Coastal Resources and Waterfront Revitalization, administers the New York Coastal Management Program (NYCMP) and coordinates state activities and programs essential to the Program's implementation. The NYCMP is based primarily on the Waterfront Revitalization and Coastal Resources Act (WRCRA), the State Environmental Quality Review Act (SEQRA), the Coastal Erosion Hazards Areas Act (CEHAA), and the Tidal Wetlands Act. The WRCRA provided the legal authority to establish a coastal program in the state, with coastal policies, a coastal boundary, state consistency requirements, and a coordination process. The law also provided local governments with the option to establish waterfront revitalization programs, which address local needs and objectives in accordance with the state CMP policies. The SEQRA is the mechanism by which state agency actions are coordinated relative to the NYSCMP. The CEHAA provides for uniform setback requirements in coastal high hazard areas. The SEQRA, CEHAA, and the Tidal Wetlands Act are administered by the Department of Environmental Conservation.

Generally, the coastal boundary is 1,000 feet from the shoreline, plus all identified areas of particular concern, which can extend the boundary up to 10,000 feet. In urbanized areas and other developed locations along the coast, the boundary is approximately 500 feet from the shoreline. For management purposes, New York is divided into the following regions: Great Lakes and St. Lawrence and Niagara Rivers, Hudson River estuary, New York City (with an approved Waterfront Revitalization Program), and Long Island and the Sound.

II. Program Accomplishments

Habitat Protection - The state has designated Coastal Fish and Wildlife Habitats of Statewide Significance on Long Island, the Hudson River and the Great Lakes. The Federal government has approved the Long Island designations. Habitats in New York City and the St. Lawrence River remain to be designated. State consistency provisions apply to all designated habitats and afford them a greater degree of protection. As the Federal government approves these designations, the habitats are even further protected through Federal consistency requirements. To improve the basis for managing coastal habitats, the NYCMP has developed a "Guide to Hudson River Natural Resources" which includes ecological, species and human use information, as well as site-specific maps and narratives

for all designated habitats along the Hudson. In a somewhat different approach directed at a specific habitat, the NYCMP is working on a guide to the protection of habitats for beach-nesting shorebirds on Long Island. Communities preparing Local Waterfront Revitalization Programs have incorporated habitat information and local protection legislation into their programs.

Public Access - The Eastern Lake Ontario Sand Dunes are the largest fresh water system of dunes in New York. The dunes, some of which are high and relict, buffer an aquatic system providing habitat vital to shorebirds. This 17-mile section of coastline is the subject of a recently completed management plan entitled, "New York's Eastern Lake Ontario Sand Dunes: Resources, Problems and Management Guidelines," for which technical direction, support and funding (\$17,000) were provided by the NYCMP. The project focused on the resolution of conflicts between human use, largely in the form of public access, and resource protection needs of a fragile and extremely valuable section of coastline. With an anticipated doubling of use pressures in the next decade by the expansion of a nearby military base, this effort takes on heightened significance. Furthermore, the management goals of the plan stand a high chance of being met because the project was undertaken with the cooperation and full support of the Ontario Dunes Coalition, representing the full spectrum of public and private interests.

Water Quality - Save The River, a New York non-profit environmental group located on the St. Lawrence River, was given a \$20,000 grant by the NYCMP to help launch a project to educate riverfront property owners in the Thousand Islands area on proper sewage disposal methods, with the initial goal of eliminating those systems discharging directly into the river. Voluntary on-site inspections of waste-water disposal systems were conducted, after which owners were advised and assisted on appropriate remedial actions. The public has given full support to this effort. The project is expected to be expanded to include more of the Thousand Islands region of the state.

Local Government Involvement - Of 250 coastal communities, 115 have elected to complete LWRPs to date. This coverage represents 60 percent of the coastline and 90% of its population. Examples of individual accomplishments under this facet of the NYCMP are: the Town of Mamaroneck/Village of Larchmont pursued a recommendation made in their LWRP to ultimately restore and preserve an extensive wetland around the Premium River in Westchester County; the Village of Greenport in Long Island took the necessary steps to meet its LWRP objective to ensure that the community's heritage as a working waterfront is preserved; New York City reviewed proposed public and private actions within the coastal boundary for consistency with its approved LWRP, at a rate of over 500 reviews in the last two years. The NYCMP is providing funding/technical assistance to six communities for the development of harbor management plans as components of their LWRPS.

Hazards Management - Long Island's south shore ocean coastline continues to experience erosion and flooding, a threat to existing development, infrastructure and natural resources. Rather than continue to approach these problems on a short-term crisis basis, the NYCMP

recognized the need for a comprehensive and coordinated long-term strategy for land use management and erosion control. The results of this study are outlined in a Hazard Management Program tailored to this region which was completed recently with the Long Island Regional Planning Board. General recommendations on erosion management for the region are provided or when appropriate, specific recommendations are made for each shoreline segment. Most notably, a mechanism is suggested for a regional response to these coastal hazards coordinated by Federal, state and local interests.

Improved Government Operations - The NYCMP chairs the NYS Interagency Committee on Aquatic Resources Development (ICARD), created to foster growth of the aquatic resource industry more effectively and efficiently. Representation by such member groups as harvesters, aquaculturists, processors, retailers, wholesalers, suppliers, financial institutions, and local governments makes it possible to coordinate their respective activities and to better perform the committee's primary function, which is to provide advice and counsel to the Governor.

III. Major Grant Tasks

Public Education - In FY89, the NYCMP held a series of five regional conferences throughout the state to highlight the urgency of present development pressures on coastal resources in New York and solicit a consensus on new solutions suited to each region. This effort culminated with a statewide conference which focused on recommendations for changes to the CMP to address a refined set of objectives. A Task Force on Coastal Resources formed by Governor Cuomo has begun an assessment of these recommendations -- a process which will lead to new legislation. Of note is the recent appropriation of \$800,000 in the Governor's budget for coastal management activities in 1990/1991.

Scenic Area Designation - The NYCMP has been undertaking a unique effort to preserve the state's visual resources in the implementation of one of the coastal policies. Based on a series of criteria which have been recently developed, about 60% of the Hudson River has been identified for designation on the basis of unique scenic qualities. Once coastal lands are formally designated, state and Federal agencies will be required to ensure that their actions will not impair the scenic nature of those areas. This concept will then be established in other regions of the state.

Regional Open Space/Public Access - The NYCMP is deeply involved in development of a report to the Governor on the status of lands along the Hudson River which could be included in a Greenway to stretch between New York City and Albany. The report will contain recommendations for legislation to designate Greenway segments and for overall management guidelines to ensure the preservation and beneficial use of the Greenway. The report is due to the Governor in November 1990.

Regional Land Use - The Secretary of State, as the Governor's appointee, represents the NYCMP on the Horizons Waterfront Commission which is composed of representatives

from Erie County, the Niagara Frontier Transportation Authority, and all coastal municipalities in Erie County. The Commission's goal is to develop a comprehensive land use plan for the 90-mile Erie County waterfront. To date, the Commission has selected a planning consultant and developed a public involvement process.

IV. Significant Program Changes

A total of six Local Waterfront Revitalization Programs have received Federal approval as Routine Program Implementations during the reporting period: Towns of Esopus, Irondequoit, and Smithtown, the Villages of Greenport and Cape Vincent, and the City of North Tonawanda. This brings the total of fully approved LWRPs to 20. Of the remaining 95 LWRPs, 42 have been submitted to OCRM. The balance of the LWRPs are in various stages of development and approval at the state and local levels.

V. Federal Consistency

The Secretary of Commerce rendered three New York appeal decisions during the report period. In the DeLyser case, the state had objected to Mr. DeLyser's inclusion of a residential component in his dock and boathouse project on the grounds that it violated the NYCMP policy of giving priority in the coastal zone to water-dependent uses. The Secretary found that the residential component did not further the objectives or purposes of the CZMA and accordingly refused to override the state's objection.

In the Bianchi case, the state had objected, on the same grounds as in the DeLyser case, to Mr. Bianchi's construction of a pier behind his restaurant to serve as a temporary dock for the boats of restaurant patrons and an "alternate" waiting area for the patrons. The Secretary found that the state had identified a reasonable alternative to the project that would be consistent with NYCMP policies -- namely, construction of a smaller pier for docking, with patrons waiting in the bar area of the restaurant for tables. The Secretary therefore refused to override the state's objection.

In the Lilco case, the state had objected to Lilco's proposed dredging and jetty maintenance project on the grounds that Lilco had supplied it with insufficient information to determine the consistency of the project with NYCMP policies. The Secretary, however, found that the project was consistent with the objectives and purposes of the CZMA and overrode the state's objection.

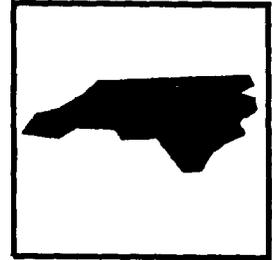
A permit application to the Corps of Engineers (Corps) from the New York Department of Corrections to moor the first of a proposed series of prison barges along the New York City coast received critical modifications as a result of the NYCMP consistency review process. Conditions incorporated into the permit limited the duration of the mooring arrangement to one year and required the city to submit a comprehensive application to the Corps which takes into consideration the future need for floating detention facilities.

The NYCMP received OCRM's approval to review a request by three New York-based jurisdictions to continue the interim dumping of sewage sludge at a site 106 miles offshore, using a consistency provision which allows a CMP to review a permitted activity not anticipated and, thus, not listed in a state's approval program. As the regulations required, the NYCMP demonstrated that the loading and transport of the sludge may reasonably be expected to affect the coastal zone and, therefore is subject to review. The permit issued by the Environmental Protection Agency under the Marine Protection, Research and Sanctuaries Act, recognized concerns raised by the NYCMP during the consistency review process.

VI. Evaluation Findings

The last evaluation findings were issued in May 1988. The NYCMP received recognition for its leadership role in working with state and Federal entities to meet and further coastal management goals. A strong presence was cited in such areas as the restoration of the maritime industry, support for the state's commercial fishery, and the facilitation of dredging in state waters. It was also commended for its effectiveness in assisting local communities to develop LWRPs.

NORTH CAROLINA



Federal Approval Date: September 1978

Federal Funding FY88: \$1,747,000*

Federal Funding FY89: \$1,946,000**

(An additional *\$300,000 and **\$500,000 were Congressionally appropriated from deobligated CZMA funds for the purchase of Buxton Woods)

I. Background

The North Carolina Coastal Management Program (NCCMP) is based primarily on the state Coastal Area Management Act (CAMA) and the Dredge and Fill Act, although other state laws are networked into the NCCMP as well. A state Executive Order requires all state agency actions to be consistent with the goals and policies of the NCCMP. The program's coastal zone boundary extends to the 20 coastal counties. The lead agency is the Department of Environment, Health and Natural Resources' Division of Coastal Management (DCM). A Governor-appointed Coastal Resources Commission (CRC) develops policy and regulations and implements CAMA with DCM assistance. Activities occurring within Areas of Environmental Concern (AECs) require a CAMA permit. Major development permits are handled at the state level and minor development permits are administered through the local governments with state overview. Other major components of the NCCMP include: local land use planning and management, and a public access program which acquires and develops beach and estuarine access ways.

II. Program Accomplishments

Natural Resource Protection - In 1989, the state designated seven "Outstanding Resource Waters" (ORWs), which are large sections of ecologically significant estuarine waters. The Division of Environmental Management's (DEM's) ORW standards include development density controls. In addition, the CRC increased the boundaries of the Estuarine Shoreline AEC adjacent to ORWs from 75 to 575 feet. This will dramatically increase the activities that fall under CAMA jurisdiction.

In 1988, the state increased its ownership of the ecologically significant Buxton Woods Maritime Forest to 337 acres. Currently, the state is seeking to purchase additional acres of this unique coastal resource with both state and Federal funds. The CRC also expanded the well field AEC in Buxton Woods to protect the existing and future well field locations. The well fields are the natural fresh water aquifers for Hatteras Island. Most of the island's

drinking water comes from these aquifers. Prior to AEC designation, development was threatening these water supplies.

Hazards Protection - Under the 1987 "Jones-Upton" amendments to the Federal Emergency Management Act, the DCM has been designated by the Federal Emergency Management Administration (FEMA) to perform the certifications necessary for landowners to qualify for FEMA funds to move or destroy oceanfront structures in imminent danger of collapse. North Carolina also continues to implement its ocean setback requirements for structures and its non-hardening of the ocean shoreline policy. New ocean erosion rates were approved by the CRC in November 1988. These rates will be used by state and local governments to determine the setback requirements for new construction.

Public Access - In FY88, the state used \$237,000 in Federal funds for eight more federally funded beach and estuarine access ways. The highly successful North Carolina coastal access program has provided approximately 150 access points to beach and estuarine areas. These access points include 16 large regional access ways with dune walkovers, up to 60 parking spaces, a restroom, an outdoor shower and picnic facilities; 59 neighborhood access points with dune walkovers, and up to 10 parking spaces; and over 60 local access points that include dune walkovers or vehicle ramps.

Public Information - In 1988, the DCM began publishing a public information journal, the CAMA Quarterly. The journal provides indepth articles on current and emerging coastal issues and the activities of the NCCMP. In addition, the DCM/CAMA development handbook, A Guide to Protecting Coastal Resources Through the CAMA Permit Program, was updated. This guide was the subject of a highly successful series of workshops attended by developers, realtors, and government officials.

III. Major Grant Tasks

A major grant task continues to be CAMA permit and enforcement activities. In addition, local land use plans were updated, public access was greatly enhanced, and the ecologically sensitive Buxton Woods was further protected.

In 1988, the state completed a comprehensive inventory of maritime forests. This document will be instrumental in further efforts to protect these unique areas. In FY89, the DCM staff will implement the new ORW AEC regulations. A revised program document will also be completed. FY89 activities further include DCM participation in a Department of Environment, Health and Natural Resources state legislative task force study on the protection of wetlands. DCM will also be updating its aerial photographs for wetlands.

IV. Significant Program Changes

During 1989, 35 of the 78 local land use plan updates were approved by NOAA. The remaining plans will be submitted in early 1990. The CRC also approved policies prohibiting

offshore oil and gas land based facilities in two local land use plans, and airspace noise and corridor use policies. These changes have not been incorporated into the federally approved NCCMP. The state and OCRM have begun preliminary discussions concerning these issues, as these changes have raised significant concerns.

V. Federal Consistency

The state continues to make extensive use of Federal consistency in reviewing federally licensed and direct Federal activities. The state is currently reviewing various military activities and one offshore oil and gas Plan of Exploration (POE) for consistency with the NCCMP. The CRC created a task force to consider the military issues and developed the aforementioned airspace policies.

North Carolina is concerned with the cumulative effect of increasing military activity in the state's coastal zone. Concerns center on the effects of low level military training flights, electromagnetic radiation, and the use of water and wetland areas for ordinance target areas. The CRC's Military Task Force has been investigating these issues. As a result, the state amended its Coastal Area Management Act (CAMA) to allow the CRC to develop state airspace guidelines. The Task Force also developed state airspace and military rules and policies. The CRC adopted these policies in December 1989. The state plans to submit the CAMA amendment and rules to OCRM for incorporation into the NCCMP.

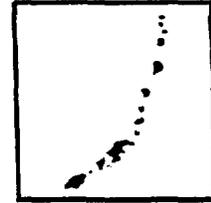
The state is also consulting with Mobil and the U.S. Department of the Interior concerning Mobil's intention to drill an exploratory outer continental shelf (OCS) well for natural gas approximately 40 miles off the North Carolina coast. Due to state concerns over short- and long-term environmental impacts of Mobil's proposal, the Minerals Management Service (MMS) of the U.S. Department of the Interior and the state entered into a Memorandum of Understanding. The MOU sets forth the information that Mobil and the MMS will provide to the state in an Environmental Report (ER). The MOU also sets forth the time table for Mobil's submission to MMS and the state of a draft and final ER and Plan of Exploration (POE), and the date that the state must conclude its review of the POE under the Federal consistency provisions of the CZMA. The state has agreed to render a consistency decision on April 15, 1990. The draft ER is currently under state review.

VI. Evaluation Findings

The final evaluation findings issued May 1, 1989, indicate that the state is adhering to its approved coastal program and that the DCM is adhering to the terms and conditions of its financial assistance awards. Program accomplishments of the NCCMP are as noted above. Areas identified for improvement include assessing the adequacy of the NCCMP's land use planning guidelines, increasing DCM staffing levels, and developing management plans for Buxton Woods and Permuda Island, a 50 acre estuarine island purchased in 1987.

COMMONWEALTH OF THE NORTHERN MARIANA ISLANDS

Federal Approval Date: September 1980
Federal Funding FY88: \$457,000
Federal Funding FY89: \$468,000



I. Background

The Northern Mariana Islands Coastal Resources Management Program (CRMP) was originally established by Executive Order. In 1983, the Coastal Resources Management Act was enacted and the CRMP policies and use priorities were codified in statute and regulation. The CRMP is administered by the Coastal Resources Management Office (CRMO) in the Office of the Governor. Permit decisions are made by the CRMO and five other Commonwealth agencies: the Departments of Natural Resources, Public Works, and Commerce and Labor, the Division of Environmental Quality, and the Historic Preservation Office. The coastal zone is comprised of the land area of the 14 islands and the territorial waters. The CRMP regulations set up a two-tiered permit program. Activities occurring within the four areas of particular concern (APCs) -- shoreline, lagoon and reef, wetlands and mangrove, and port and industrial -- require a permit. Outside the APCs, only activities deemed to be "major sitings" require a permit.

II. Program Accomplishments

Hazards Protection - During the 1989 legislative session, a zoning code and building code were passed and signed into law. The CRMO was instrumental in working with the legislature on the zoning code statute, which will enable the Commonwealth to regulate land uses, in addition to impacts currently regulated under the CRMP. The building code will also improve the Commonwealth's ability to manage development impacts.

Water Quality - Storm water runoff constitutes a significant source of coastal pollution in the Commonwealth. In 1988, the CRMO and the Soil Conservation Service completed a "Storm Water Control Handbook" to help developers and farmers identify, plan, and implement storm water control systems. The handbook provides site specific information on rainfall, soil drainage, vegetation, and technical solutions for the three inhabited islands of Saipan, Tinian, and Rota. In 1989, the CRMO co-sponsored a series of erosion control workshops in the islands, which were well attended by farmers, builders, and agency personnel.

Public Access - The CRMO considers public access impacts as part of the permit review process. All hotels permitted during 1989 were required to provide public coastal access through their property as well as parking in some cases. The CRMO also initiated the

development of a bike/pedestrian path along Saipan Lagoon. The CRMO has commitments for three sections of the path; one section has been built.

III. Major Grant Tasks

In FY88, the CRMO completed a technical study of options for producing manufactured sand as a building material to eliminate the need for beach sandmining. The CRMO is in the process of completing an economic feasibility study of the various technical options for manufacturing sand. Also, the CRMO, with consultant assistance, completed an assessment of the biological health of the Talakhaya Reef in Rota. The CRMO was concerned that erosion of adjacent uplands was injuring the reef system. The study showed a healthy reef system; the data will provide important baseline information for future monitoring. Educational materials on erosion control practices were distributed to the residents of Rota. Finally, the CRMO sponsored a Pacific CZM Conference with focused workshops on development impact fees. As a result of the conference and additional CRMO assistance to the legislature, an impact fee bill passed but was not signed into law.

In FY89, the CRMO is focusing on several public education projects, including: development of a marine studies course for elementary students; expansion of the junior and senior high environmental science curriculum to include a coastal ecology section; and publication of a coral protection pamphlet for tourists. The CRMO will also address wetlands management issues through the development of new policies and regulations for the Wetlands APC, including criteria for wetlands mitigation. The CRMO will also begin working on the development of a new APC to protect important groundwater resources.

IV. Significant Program Changes

During the biennium, no significant program changes were incorporated into the CRMP.

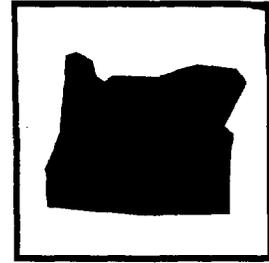
V. Federal Consistency

The CRMO and the other CRM agencies are responsible for evaluating Federal consistency review. One large Federal project which is in the initial stages is the Navy's Over-the-Horizon Radar System proposed for Tinian and Guam. The CRMO commented to the Navy at the draft EIS stage regarding areas of concern. It will continue to work with the Navy through the Federal consistency process.

VI. Evaluation Findings

An evaluation site visit was held February 12-16, 1990, and the draft evaluation report will be issued in early 1990.

OREGON



Federal Approval Date: May 1977
Federal Funding FY88: \$833,000
Federal Funding FY89: \$832,000

I. Background

The Oregon Coastal Management Program (OCMP) is part of the statewide program for coordinated land use planning. The OCMP is a networked program that is based on the Oregon Land Use Planning Act (Act), regulations for the 19 statewide planning goals, 41 comprehensive local coastal management plans, and statutes and rules for the networked agencies. The Act established the Land Conservation and Development Commission (LCDC) and its staff, the Department of Land Conservation and Development (DLCD), as the lead agency for coastal management. LCDC has the authority to adopt goals and guidelines to provide direction for the OCMP and the comprehensive local coastal management plans. Together with LCDC, the state implements the OCMP through the coordinated responsibilities of several state agencies. Principal agencies assisting LCDC are the Division of State Lands (DSL), and the Oregon Departments of Fish and Wildlife, Transportation, Energy, Agriculture, and Environmental Quality (DEQ). The coastal zone boundary is the watershed from the crest of the coastal mountain range to the seaward three-mile jurisdictional boundary, and includes all coastal counties.

II. Program Accomplishments

Public Access - Through the acquisition of properties, and several small-scale Section 306A public access projects, DLCD is maintaining its strong commitment to increase public access throughout the state. Section 306A funding has been a prime catalyst for many joint state/local public access efforts. One major accomplishment was the publishing and wide distribution of a Section 306A "Field Guide," which presented a photograph, map, and descriptive text for each Section 306A project.

Wetlands Protection - The state Legislature recently adopted the new Wetlands Management Act (Senate Bill 3) which revises and updates the regulation of wetlands. The Act includes: 1) a definition of wetlands that is consistent with the Federal definition; 2) a call for the development of a statewide wetlands inventory; 3) a requirement that local governments notify DSL of pending land use approvals in inventoried wetlands; and 4) the authority for DSL to adopt "wetland conservation plans" that are implemented and managed jointly by DSL and the affected local government.

Pacific Northwest Outer Continental Shelf Task Force - In late January, 1989, the U.S. Secretary of the Interior joined with the Governors of Oregon and Washington, the Northwest Indian Fisheries Commission, and the Columbia River Intertribal Fish Commission to establish the Pacific Northwest OCS Task Force. The purpose of the Task Force is to assist the Secretary with the resolution of issues related to OCS oil and gas leases for the Washington-Oregon Offshore Planning Area. DLCD staff is taking the lead in developing a comprehensive environmental studies program for the region, and identifying sensitive areas that should be deleted from proposed OCS lease sales.

Water Quality - DEQ has designed a basin-wide approach for managing point and nonpoint sources of pollution to protect water and sediment quality, living resources, and natural habitats. This approach was demonstrated in a study of the Coquille River that was used by the Environmental Protection Agency as a near coastal waters pilot project for developing and implementing innovative ways of managing water quality in estuaries and coastal waters.

Also, pollution monitoring studies at South Slough in the Coos Bay estuary have focused on the identification and analysis of commercial oyster cultivation contamination. DEQ is completing an investigation of tributyltin (TBT) in South Slough that analyzes shellfish tissue, water and sediment samples to determine if the enactment of state legislation limiting the use of TBT has reduced residual concentrations and restored oyster growth to normal levels.

Oregon Ocean Management Resources Plan - The Oregon Ocean Resources Management Act of 1987 requires that the Oregon Ocean Resources Management Task Force submit an Ocean Resources Management Plan to LCDC by August 1, 1990. The plan will address a wide range of issues, including: (1) a study of present and future ocean uses off Oregon, and an analysis of the state's management regime for these uses; (2) an analysis of state and Federal laws, programs and regulations affecting ocean resources within the planning area; and (3) recommendations to develop or improve state agency programs for managing ocean resources.

Five Year Plan - DLCD is developing a five-year coastal strategic plan to address current and future coastal economic and environmental problems and issues. This plan will identify future problems and issues, and develop strategies to address them. DLCD will monitor the implementation of the plan's recommendations.

III. Major Grant Tasks

In FY88 and FY89, DLCD completed several major grant tasks that strengthened the OCMP. In the area of resource protection and management, DLCD produced a Coastal Erosion Study; worked on integrating the State Land Use Program Into Oregon's Nonpoint Source Management Plan; participated on a State-Federal Marine Placer Mineral Task Force; and directed efforts towards mapping state estuaries and developing a Geographic Information System data base.

To promote public access, DLCD developed a Highway 101 Visual Access Plan; produced a Waterfront Revitalization Guide; and completed an inventory and assessment of all public access to coastal lakes, estuaries and ocean beaches. Also, as a means to provide assistance to other state and Federal agencies and the public, DLCD produced a Federal Consistency Brochure; developed a User's Guide to Streamlining the Permit Process; worked with DSL, affected local governments, and interest groups to improve coordination between comprehensive plan and wetland permitting procedures; and instituted several public information efforts including a Citizen's Guide to the OCMP.

IV. Significant Program Changes

The three significant program changes during FY88 and FY89 were: (1) inclusion of The Oregon Ocean Resources Management Act (Senate Bill 630); (2) incorporation of the City of Yachats' comprehensive plan; and (3) addition of the Trails End segment of the City of Seaside's comprehensive plan and land use regulations.

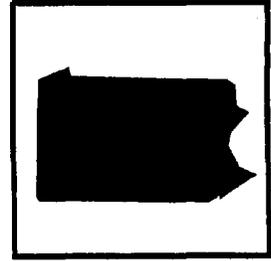
V. Federal Consistency

Federal consistency reviews are conducted through DLCD. There were no major Federal consistency issues reported during this period.

VI. Evaluation Findings

The final evaluation findings issued on January 14, 1988, indicate that the state is successfully implementing and enforcing its federally-approved OCMP. DLCD is taking a leadership role in coastal issues, coordinating with other state agencies, and assuring the opportunity for full participation by the public and other interested parties. In response to the evaluation recommendations, DLCD decided to hold individual workshops with each of the OCMP state agencies to increase state agency staff understanding of the procedural and substantive aspects of the local coastal plan periodic review process. Another improvement was the development of a detailed list of issues and requirements that each state agency must address during its state agency coordination review.

PENNSYLVANIA



Federal Approval Date: September 1980
Federal Funding FY88: \$701,000
Federal Funding FY89: \$702,000

I. Background

The Pennsylvania Coastal Zone Management Program (PCZMP) consists of two coastal zones: 63 miles along Lake Erie in the extreme northwestern corner of the commonwealth, and 57 miles along the Delaware River in the extreme southwestern section of the state. The major coastal management issues addressed by the PCZMP are: coastal hazards; dredging and spoil disposal; fisheries management; wetlands; public access for recreation; historic sites and structures; port activities; energy facility siting; intergovernmental coordination; and public involvement. The PCZMP was established from several state laws: the Dam Safety and Encroachment Act, Floodplain Management Act, Bluff Recession and Setback Act, Clean Streams Act, and the Air Pollution Control Act.

The Department of Environmental Resources (DER) is the lead state agency for implementing, administering, and enforcing the PCZMP. The Division of Coastal Zone Management is responsible for monitoring and evaluating activities related to coastal zone management and ensuring compliance with the program's enforceable policies. An Executive Order and Memorandum of Understanding provide the basis for state agency compliance with enforceable policies.

II. Program Accomplishments

Hazards Protection - The PCZMP provides advice on structural and non-structural methods of shore protection and bluff stabilization to lakeshore property owners in the Lake Erie coastal zone. The Division of Coastal Zone Management (DCZM) developed a Site Analysis and Recommendations (SAR) service. The SAR involves a site survey by DCZM, usually accompanied with coordinating agencies, and includes recommendations as to what the owner can do to reduce the rate of bluff recession of their property. The recommendations are given orally at the site. Additional recommendations in the form of a detailed report are sometimes sent to property owners within 30 days of the site survey. The SAR service, which has been particularly valuable due to high rates of erosion from high lake levels in 1985-87, has reduced the loss of property from erosion.

Wetlands Protection - The PCZMP has committed substantial time and effort to protecting the coastal wetlands of Pennsylvania. To control illegal, unpermitted wetland losses and to identify and locate coastal wetlands, DCZM initiated, with the help of the U.S. Fish and

Wildlife Service (FWS), a Wetland Monitoring Program for both Pennsylvania coastal areas. Aerial overflights and resultant net gain/loss mapping updates enable DCZM to identify where and when wetland impacts have occurred. In addition, a task force of state and Federal wetlands protection personnel has been assembled to verify wetland losses and to obtain preliminary documentation to initiate enforcement actions.

Permit Simplification - The PCZMP created the Urban Waterfront Action Group (UWAG) in 1980 to provide voluntary "one-stop shopping" for information about waterfront development permits in the Delaware Estuary. The UWAG is composed of representatives from state and Federal agencies. The UWAG, which meets monthly as needed, is a pre-permit conference service that enables potential waterfront developers and regulatory agencies to identify and attempt to resolve potential permitting problems. In 1989, the UWAG and the Delaware Valley Regional Planning Commission published the Waterfront Developer's Permit Handbook. The handbook describes the role of the UWAG and outlines the jurisdictions and responsibilities of each agency.

National Estuary Program - The PCZMP is the lead agency for Pennsylvania in the Delaware Bay National Estuary Program. A representative of the PCZMP is serving on the Management Committee. This strong involvement has provided opportunities for the PCZMP to influence management of the Delaware Estuary, which is located in Pennsylvania coastal zone.

Waterfront Redevelopment - With the use of CZM funds to develop the Erie Waterfront Comprehensive Plan and 306A funds for low-cost construction projects, the PCZMP has had a significant impact in redeveloping the Erie waterfront. Low-cost construction projects have included the renovation of a pier area for public use, construction of boardwalks, and the installation of lighting. The projects have resulted in successfully making the transition of Erie from a commercial port to an area providing recreational opportunities.

III. Major Grant Tasks

In FY88, the PCZMP improved public relations activities in the Delaware Estuary coastal zone, provided technical assistance to property owners in addressing bluff recession problems, acquired a portion of land for public access at Elk Creek on Lake Erie, and continued several ongoing projects. The PCZMP initiated several planning studies under the FY88 award: a study to determine alternatives for adaptive reuse of the Forebay Bridge at the Fairmount Waterworks in Philadelphia; a feasibility study to examine the revitalization and development of the Tincum Waterfront; and a study to examine the feasibility of restoring the historic Dickson Tavern in the Lake Erie Coastal Zone.

In FY89, the PCZMP focused on wetlands protection, providing support to the Department of Environmental Resources in identifying wetlands losses and taking corrective measures. The program contributed \$150,000 to the acquisition of the Elk Creek public access site, with plans to contribute another \$150,000 over the next two years. Two historic preservation

projects were initiated: the restoration of Glen Foerd Boat House and Bartram's Garden Courtyard, both located in the Delaware coastal zone. The PCZMP is also updating the program's five year strategy and publishing a booklet on the state CZM program.

IV. Significant Program Changes

No significant program changes were made during this biennium.

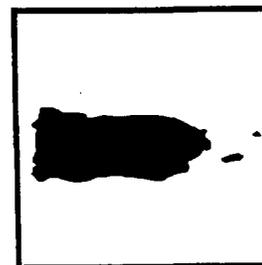
V. Federal Consistency

The PCZMP was instrumental through its Federal consistency process in assuring that water-dependent uses of the waterfront were adequately considered.

VI. Evaluation Findings

The last site evaluation was conducted in May 1987. The findings were published in March 1988. The recommendations were to: increase the amount of resources devoted to public awareness efforts in the Delaware Estuary; continue working towards a resolution on water lot issues in the Lake Erie coastal zone; and ensure adequate coordination with other state agencies. The following accomplishments were cited in the findings: (1) the DER effectively takes enforcement actions against activities which adversely affect commonwealth resources; (2) the DER has played an effective leadership role by sponsoring regular CZM workshops for the public, strengthening its efforts to protect coastal wetlands, and providing effective technical assistance to the public, developers, local government, and other state agencies; and (3) the DER effectively conducts Federal consistency reviews through the development of a specific process to carry out the reviews and the initiation of a joint permit application with the U.S. Army Corps of Engineers.

PUERTO RICO



Federal Approval Date: September 1978

Federal Funding FY88: \$1,088,000

Federal Funding FY89: \$1,087,000

I. Background

The commonwealth developed the Puerto Rico Coastal Management Program (PRCMP) to manage the significant land and water activities conducted in its waters and an area extending approximately 1,000 meters inland. The Department of Natural Resources (DNR) and Planning Bureau (PB) are the principal permitting and planning agencies responsible for the management of Puerto Rico's coastal zone. DNR's Coastal Management Office (CMO) is responsible for administration and coordination of the PRCMP. The PB is part of the Office of the Governor and has broad regulatory power and responsibility for land-use planning in Puerto Rico and is the sole land-use regulatory authority in the commonwealth.

The PB controls all uses in publicly owned land along the shorefronts, and has regulatory authority over all major uses in the coastal zone through its general controls over subdivisions, residential and agricultural uses, industrial projects, commercial centers, and hotels. Two other commonwealth agencies have responsibilities relating to the implementation of the PRCMP. The Environmental Quality Board prepares environmental impact statements and adopts and reviews pollution control standards and regulations. The Regulations and Permit Administration exercises the permitting responsibility for building and use permits after PB approval of land use changes.

II. Program Accomplishments

Hazards Protection - With hazard mitigation and planning a high priority in the commonwealth, the PRCMP has supported the development of an early warning system for flash flooding to protect the lives of over one million Puerto Ricans. Additionally, work continues on basin-wide planning for high hazard areas where relocation may eventually be proposed. Storm surge modeling is also being funded through the PRCMP.

Public Education - The PRCMP has provided long-term support for a number of public information and education programs. These efforts have helped to increase public awareness of coastal issues. Activities in the program include brochures, television spots, newspaper articles and many "Coastweeks" projects which are done yearly.

Habitat Protection - The designation of several important habitat regions has been accomplished by the PRCMP, including the recent designation of the Vieques Bioluminescent Bay Natural Reserve in 1989. This natural reserve was designated based on a Critical Area Management Plan prepared by the PRCMP.

III. Major Grant Tasks

In a study sponsored by CMO, criteria was developed to assess the environmental and economic issues related to marina siting within the commonwealth. This manual was developed to respond to the increasing public demand for marina sites, as well as a need to provide public access and facilities for launching small recreational boats.

Work continues on planning efforts in several coastal management areas, including Maritime Zone Regulations, which have been under development for several years. The regulations should be completed within Fiscal Year 1990. Also, land surveys sponsored by DNR are helping to resolve land ownership problems on Culebra. The long-term squatter problem -- people occupying Commonwealth lands -- will be addressed after clear ownership is demonstrated by the government.

IV. Significant Program Changes

In January 1989, five laws were added to the PRCMP. They included amendments to the regulation of development within floodable areas; creation of a quasi-public Marine Resources Development Council; increased regulation of threatened or endangered plant species and wildlife; protection for caves, caverns and sinkholes as special habitat areas; and additional regulation of recreational vessels and off-road vehicles to protect bathing areas.

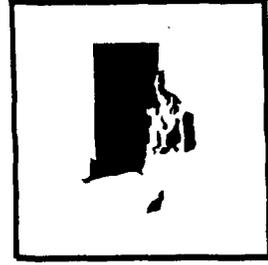
V. Federal Consistency

Many appellants have objected to the PB's finding of inconsistency for permanent moorage of floating houseboats in the La Parguera area of the commonwealth. These consistency appeals are pending before the Secretary of Commerce.

VI. Evaluation Findings

The final evaluation findings issued on January 17, 1989 cited progress in the designation of natural reserves; in developing plans for certain special planning areas (e.g. Pinones); and in the survey of Culebra lands which will aid in the planning for this important offshore island area. Recommendations identified a need to resolve the "takings" issue, especially as it relates to designation of natural areas; resolving the squatter issue on Culebra; taking a stronger leadership role and implementing management plans for the La Parguera area; and strengthening the PRCMP education program.

RHODE ISLAND



Federal Approval Date: May 1978
Federal Funding FY88: \$574,000
Federal Funding FY89: \$582,000

I. Background

The Rhode Island Coastal Program (RICP) is based on the Coastal Resources Management Act of 1971, which created the Coastal Resources Management Council (CRMC). The CRMC regulates development in coastal waters, 200 feet inland from a coastal feature (i.e., wetlands and bluffs), and certain uses wherever they occur in the state. The coastal boundary extends to the entire state. The CRMC created Special Area Management Plans for the Salt Ponds area, Providence Harbor and Narrow River. The 21 coastal local governments participate in the program on a voluntary basis. Most are developing harbor management plans and many have used section 306A funds under the CZMA to construct specific projects. The coastal program is administered by the Office of the Governor.

II. Program Accomplishments

Harbor Management - One-third of the coastal towns have developed harbor management plans to address the problem of displacement of water-dependent land uses, the need for public access, the placing of moorings and water quality uses. Another third of the towns have harbor plans underway.

Public Access - In FY88, CZM funds were used to assist towns in signing, developing and maintaining the 160 CRMC designated rights-of-way. Five towns participated in the initial program with eight sites developed. The state continued this program in 1989 with \$100,000 in state funds; an additional \$300,000 has been earmarked for this effort over the next three years through a recently approved environmental bond. The state Department of Environmental Management has offered an Indenture of Lease form to the towns as a means of limiting liability. This has removed a major obstacle from town participation.

Water Quality - In its permit program, the CRMC regulates nonpoint sources of water pollution by requiring setbacks of development and septic systems, preserving natural buffer zones, requiring settling ponds, and other mechanisms.

Permit Simplification - The RICP was recently revised to allow insignificant projects within its jurisdiction to receive an "at the counter" permit for projects that will have no impact on coastal resources. In addition, the CRMC began a new effort to conduct joint reviews of projects with pilot towns. Previously, it was necessary to receive all town permits before

CRMC would evaluate a project. This effort will encourage the towns to incorporate the standards of the CRMC, such as access and water quality protection, in their permits, which should simplify the process when it comes before the CRMC.

Administrative Fines and Fees - The CRMC substantially increased fines and fees over the past two years. Violators are now charged for the costs associated with enforcement actions, including staff time.

Improved Government Operations - The CRMC has increased its enforcement through a series of administrative actions, including follow-up of every cease and desist order and notice of violations, registering cease and desist orders as liens, and charging violators for the time required to investigate the violation and develop remedial conditions. In addition, CRMC sends a list of violators to local newspapers. The resulting publicity has served the purpose of deterring other violations.

Hazards Protection - In 1988, the CRMC adopted regulations which establish post hurricane and storm permitting procedures. Included is authority to impose a 30-day moratorium to provide time to assess damages, determine changes in natural features, and identify mitigation opportunities, including purchase.

Local Construction Projects - Towns have completed several coastal construction projects during the biennium. Successful projects, all with less than \$25,000 of 306A funds, included: Bristol: Rockwell and Town Docks; Cranston: Aborn Street Boat Ramp Reconstruction; East Providence: Carousel Park Pier Piling Removal; Jamestown: Taylor Point Park Overlook; Newport: Restoration of Rose Island Lighthouse; Warren: Commercial Docking and Warfare Facility; and Warwick: Crocket Street Beach Rehabilitation and Restoration. The Governor's Office initiated this program, which was administered by the Rhode Island State Planning Office.

III. Major Grant Tasks

In FY88, the program began a major effort to determine the impacts of sea level rise on the state's southwestern coast. Various scenarios are applied to maps that can be shown to permit applicants. Also in FY88, Rhode Island and the Connecticut Coastal Program received a section 309 interstate grant to develop a special area management plan for the Pawcatuck River Estuary. The goal of the management plan is to protect, as well as develop, the resources of this waterbody, which are shared by both states. In FY89, funding went to the University of Rhode Island to produce a guidebook on coastal access, which should be completed before the summer of 1990.

IV. Significant Program Changes

Routine program implementation (RPI) changes were approved by OCRM in 1988 and 1989. Several changes to the CRMP were submitted and approved as RPIs by OCRM in

1988 and 1989. The changes include numerous changes to the CRMC's Administrative Procedures Act, and Rules and Regulations; and incorporation of the Salt Ponds and Narrow River Special Area Management Plans.

V. Federal Consistency

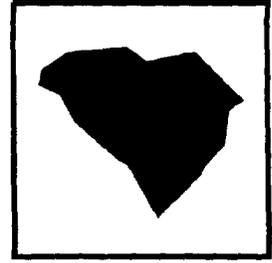
The CRMC conducts Federal consistency reviews. Major consistency issues during the biennium included the siting of a GWEN tower which was subsequently withdrawn by the U.S. Air Force, and the siting of a lightering facility by the U.S. Navy in Narragansett Bay, which is now pending. Discussions between the Navy and the state are now underway to resolve the issues relative to the location of the lightering facility and the potential for a major oil spill.

VI. Evaluation Findings

The final evaluation findings issued September 20, 1989, indicate the state is implementing and enforcing the essential elements of its approved program. Areas cited as particular accomplishments include: the continued reduction in time for processing minor permits, despite an increased number of applications; improved enforcement; joint processing of permits with towns; the harbor management planning process; increased state funding of the CRMC budget; a special area management plan for the Narrow River; designation of 14 new rights-of-way, including important sites in Newport Harbor; the shoreline access program to mark and develop rights-of-way; and the CRMC leadership role in protecting water quality by addressing nonpoint sources of pollution.

Among the recommendations for strengthening the program were: increased permit simplification; increased enforcement; increased public awareness efforts; increased coordination with the DEM for management of designated rights-of-way; and that CRMC should be represented on the Executive Committee of the Narragansett Bay Project, one of the National Estuary Programs funded by EPA to increase coordination.

SOUTH CAROLINA



Federal Approval Date: September 1979
Federal Funding FY88: \$1,280,000
Federal Funding FY89: \$1,188,000

I. Background

The South Carolina Coastal Council (SCCC) directs the state's coastal program. Eighteen members make up the SCCC; it is divided into specialized committees which make recommendations to the council. The SCCC's authority is derived from the South Carolina Coastal Management Act (SCCMA) of 1977. The eight coastal counties containing "critical areas" -- i.e., tidelands, beaches, primary oceanfront dunes, and coastal waters -- comprise the coastal zone. The SCCC has direct permitting authority for activities that take place in the critical areas, and indirect permitting authority in non-critical areas through consistency reviews of Federal actions and consultation with other state agencies.

II. Program Accomplishments

Hazards Protection - Responding to concerns that the SCCMA defined the beach and primary oceanfront dune critical area too narrowly, leaving the SCCC with inadequate authority to regulate the areas properly, the state established the Blue Ribbon Committee on Beach Management in 1986. The commission concluded that significant regulatory reforms were necessary to protect and preserve the beach/dune system. As the commission held hearings, the SCCC began an extensive beach profile analysis, mapping, and survey process to identify an "ideal primary dune line" for the state's coastal properties.

In 1988, the South Carolina legislature adopted the Beach Management Act (BMA). The BMA sets a policy of a 40-year retreat from the beach/primary dune system, expands the beach/primary dune critical area, establishes a setback line based on local annual erosion rates and the 40-year retreat, designates a "dead zone" behind the primary dune in which no construction may take place, provides for improved local beach management, and requires more stringent state permit regulations. The BMA also obligates the SCCC to follow a number of policies: to discourage new construction near the beach/dune system, and encouraging a retreat for existing structures; to promote "soft" erosion control devices within the context of a gradual retreat and to prevent the strengthening and enlarging existing "hard" erosion control devices; to promote public access to the beaches; and to encourage and assist local governments in developing local beach management plans.

The BMA is an innovative regulatory program which addresses some of the state's most serious coastal problems. Hurricane Hugo has provided a severe test of the BMA; most

SCCC activity since the hurricane has been directed toward dealing with its consequences and evaluating the implications of the BMA for reconstruction and repair in Hugo's wake.

Water Quality - South Carolina's coastal waters face serious threats from non-point source pollution and stormwater runoff. During the review period, the SCCC launched a series of research and management programs to improve coastal water quality. In coordination with the South Carolina Department of Health and Environmental Control (DHEC) and county and local governments, the SCCC undertook the following activities: funded research on the effectiveness of various stormwater management techniques; helped fund and coordinate Clean Water Act section 208 plan updates in coastal counties; revised its stormwater management guidelines and developed a model local stormwater management ordinance; funded water quality data collection efforts in coastal areas; issued marina development regulations and an operations and maintenance manual; and sponsored a citizen's beach and creek watch program to assist the Council's monitoring and enforcement efforts.

The SCCC continues to pursue improvements in coastal water quality through research, new policy initiatives, enforcement, consultation procedures with other state agencies, and Federal consistency reviews.

Natural Resource Protection - In 1986, Congress provided the state with additional funds to study Charleston Harbor. These funds were passed through to the South Carolina Wildlife and Marine Resources Department to study the ecological and physical characteristics of the Harbor. In 1985, the U.S. Army Corps of Engineers (COE) completed a project to divert the Cooper River into the Santee River. The diversion was to reduce sedimentation rates in the Harbor; at the same time, however, the diversion caused increases in salinity and other changes with possible effects on the ecological values and recreational and commercial uses of the estuary. The study includes hydrographic modelling, inventories of biota, and analysis of water quality changes.

III. Major Grant Tasks

In FY88, the SCCC continued its Beach Monitoring Program, published a technical guide for using the beach monument system to establish BMA setback lines; completed beach profile, accretion, and erosion trend analysis; and drafted guidelines for developing a comprehensive beach management plan and renourishment plans. The SCCC also continued water quality improvement efforts, completed an assessment of areas with degraded water quality, expanded SCCC stormwater management requirements in cooperation with the Department of Health and Environmental Control for state-wide application, and continued wetlands area mapping and digitizing programs.

In FY89, all of South Carolina's major grant activities will be directed toward implementing the Beach Management Act. Tasks include regulation development, a review of final beach setbacks and baselines, and developing comprehensive local and state beach management

plans. Hugo recovery efforts have slowed SCCC progress on FY89 grant tasks; however, the council expects to meet all benchmarks and deadlines with only minor changes in the grant.

IV. Significant Program Changes

In 1988, South Carolina submitted the Beach Management Act to OCRM as a program amendment. OCRM approved this major program change in early 1989. The state had previously submitted several minor routine program implementation changes.

VI. Federal Consistency

The SCCC has used Federal consistency aggressively as a tool to ensure Federal actions are consistent with the SCCMP. The council most frequently applies consistency requirements to Corps of Engineers section 404 permits under the Clean Water Act for activities in coastal freshwater wetlands.

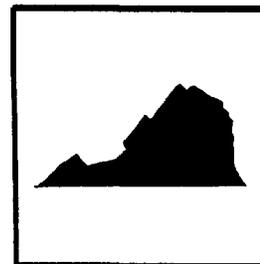
During the review period, the SCCC also sought to review projects located in Savannah, GA, which it felt could significantly affect South Carolina's coastal zone. The LJ Hooker project, the larger of the two, involved an extensive marina complex and canal system. NOAA supported South Carolina's contention that the state had the right to review activities outside the state, but COE rejected this argument, eventually issuing a section 404 permit. The permit, however, did include conditions which partially addressed South Carolina's concerns.

VI. Evaluation Findings

The most recent evaluation findings were issued in January 1988 for the period from November 1984 to May 1987. That evaluation found that the SCCC was adhering to the requirements of the South Carolina Coastal Management Program. The evaluation noted expanded monitoring and enforcement activities, increased permit applications, new shorefront management plans for two of the eight coastal counties, and the operation of the new Coastal Zone Information Center.

The evaluation also noted concerns that some council members made permit decisions in a manner inconsistent with SCCMP policies and that the Council had inadequately communicated its internal committee assignments and appointments to the public. The SCCC has since taken steps to remedy these concerns.

VIRGINIA



Federal Approval Date: September 1986

Federal Funding FY88: \$1,785,000

Federal Funding FY89: \$1,783,000

I. Background

The Virginia Coastal Resources Management Program (VCRMP) is based on the networking of existing state laws and authorities. Implementation is accomplished through monitoring and coordinating with state agencies and local governments; the Virginia Council on the Environment (COE) is the lead agency. The program's coastal zone boundary includes the 29 counties which border upon tidal waters and 15 cities.

II. Program Accomplishments

Wetlands Protection - The Virginia Marine Resources Commission (VMRC) adopted a wetland mitigation compensation policy, which became effective September 1989. The policy will be used in conjunction with the state's existing Wetland Guidelines, which were adopted in 1974 and revised in 1982. Under the new policy, a project proposal that would destroy wetlands will be denied if it cannot meet certain criteria. In addition, submerged aquatic vegetation (SAV) reports developed by the Virginia Institute of Marine Science (VIMS) are used by Maryland and Virginia state agencies, and Federal agencies, in research and management decisions for the Chesapeake Bay.

Stormwater Management - In 1989, the state passed a new stormwater management law. This law allows local governments to specifically address stormwater management in their comprehensive plans and local ordinances. The Virginia Department of Conservation and Recreation is currently promulgating regulations, which will provide a minimum stormwater management framework and define the limits of local authority to address stormwater management. While the legislation is strictly voluntary, it does give local governments new authority to implement stormwater management programs.

Water Quality - The Virginia Chesapeake Bay Preservation Act of 1988 (CBPA) requires local governments to incorporate water quality protection measures into their land use plans and ordinances. The CBPA also created a new Chesapeake Bay Local Assistance Department (CBLAD) and Board (CBLAB). The CBLAD promulgated criteria to be used by localities in complying with the CBPA. The CBLAD and CBLAB assist the local governments in meeting CBPA requirements and review the final plans.

Improved Government Operations - The local environmental planning assistance component of the Council on the Environment has been greatly utilized by many local governments. This program provides an environmental review of specific development projects for local governments which lack the necessary personnel or expertise.

III. Major Grant Tasks

An FY88 project led to the City of Virginia Beach requiring that stormwater disposal plans be included in all project site plans. FY87, FY88, and FY89 funds are being used to develop a Geographic Information System for Virginia's tidal rivers. The Virginia Rivers Inventory (VRI) information will be used by state and local government permitting and planning agencies to identify and protect coastal resources.

In FY88, the state completed a comprehensive guide to public access for the entire Chesapeake Bay watershed. This effort is an important first step in meeting the public access goals of the 1987 Chesapeake Bay Agreement. FY88 funds were also used to fund a Virginia Institute of Marine Science (VIMS) study on the effects of bulkheads at Sandbridge Beach in the City of Virginia Beach. This study will be used in the state's Dunes Act program change request and will also have relevance for all ocean beaches.

The major FY89 activity is the development of local natural resource inventories, maps and draft ordinances to improve Chesapeake Bay water quality in accordance with the Chesapeake Bay Preservation Act. Other FY89 activities include expanding the citizen water quality monitoring program initiated under a CZMA interstate grant award, and assessing the potential risk to human, wildlife, and plant populations at selected coastal hazardous waste sites.

IV. Significant Program Changes

The state Tributyltin regulations, Clean Water Act section 401 water quality certification process, and Chesapeake Bay Initiatives were incorporated into the VCRMP as routine program implementations (RPIs). A request to incorporate the 1987 and 1988 changes to the Virginia Coastal Primary Sand Dune Protection Act (Dunes Act) as an RPI was denied by OCRM. The Dunes Act was passed in 1980 and was intended to preserve and protect coastal primary sand dunes in Virginia. In 1986, when the VCRMP received Federal approval, the Dunes Act contained a 1985 amendment exempting eight to 10 property owners in the Sandbridge Beach area of the City of Virginia Beach from the seawall prohibitions of the Dunes Act.

In 1987, the Virginia General Assembly amended the Dunes Act again, expanding the exempted area to all of Sandbridge Beach. The 1987 amendment required bulkhead applicants to obtain written consent from adjacent property owners and allowed adjacent owners to tie into the bulkhead at no additional cost. In 1988, the General Assembly eliminated the requirement for the adjacent property owner's consent.

The Dunes Act was essential for Federal approval of the Virginia CRMP in 1986 and the state was informed that any significant change in the act must be submitted to OCRM for incorporation into the VCRMP. OCRM was concerned that the 1985 Sandbridge amendment would be expanded to other areas of Sandbridge and the state. The state is preparing to submit these changes as an amendment to the VCRMP.

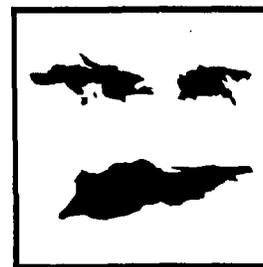
V. Federal Consistency

No consistency reviews were reported during the biennium.

VI. Evaluation Findings

The final evaluation findings issued October 1988, indicate that the state is adhering to its approved coastal program and that the COE is adhering to the terms and conditions of its financial assistance awards. Accomplishments of the program included the efforts by local government and Planning and Development Commission projects to develop buffer strips in new development, formulate stormwater and erosion management plans, implement groundwater protection strategies, use GIS systems to revise subdivision ordinances, and develop an innovative cross county conservation district. Recommendations included improved monitoring of state agency and local government activities, and submitting various program changes.

VIRGIN ISLANDS



Federal Approval Date: June 1979
Federal Funding FY88: \$460,000
Federal Funding FY89: \$470,000

I. Background

The Virgin Islands Coastal Zone Management Act (VICZMA) of 1978 established a comprehensive coastal zone permit system designed to manage all development activities in the Virgin Islands coastal zone, which includes the islands of St. Thomas, St. John, and St. Croix, all offshore islands and cays, and the territorial sea. The program directly manages all development activities in the First Tier, a relatively narrow coastal strip, along with all the offshore islands and cays, through the use of a comprehensive system of major and minor coastal zone management permits. Other laws and related permits control activities within the Second Tier, which includes the interiors of the three major islands.

The Department of Planning and Natural Resources (DPNR) is the lead agency for administering the VICZMP. The Commissioner of the DPNR is responsible for directing the activities of the VICZMP, for approving or denying all minor coastal permits, and for taking all enforcement actions arising from the implementation of the major and minor permits. DPNR also processes all building, plumbing and electrical permits. Major permits are issued by individual Coastal Management Committees for each island (five members on each Committee are appointed by the Governor). A Coastal Zone Management Commission is composed of all three of the individual island committees and as a body is empowered to promulgate rules and regulations and provide policy direction and leadership in coastal management issues.

II. Program Accomplishments

Enforcement - Over the past two years, the Virgin Islands has made a noteworthy improvement in enforcement. In August 1988, the Virgin Islands adopted a civil fine procedure, which provides for up to a \$10,000 penalty. To date, DPNR has fined several major violators, at least four of which were \$10,000 fines. DPNR has undertaken additional measures to improve enforcement. In January 1989, DPNR initiated a program of joint patrols by Bureau of Environmental Enforcement (BEE) officers and VICZMP analysts. VICZMP analysts spend one day each week with a BEE officer, systematically patrolling the islands by sector to discover violations, monitor permit compliance, and perform follow up inspections. This program was fully operational in St. Thomas and partially in place on St. Croix, until Hurricane Hugo struck in September 1989.

III. Major Grant Tasks

Resource Survey - In FY88, the territory completed an in-depth resource survey for the lands of all three islands. This survey will be used to complete the Comprehensive Land and Water Use Plan now under development by the DPNR and determine damage to the natural resource base caused by Hurricane Hugo.

Post Hugo Assessments - Hurricane Hugo devastated large portions of the Virgin Islands in September 1989. The DPNR will be occupied with rebuilding and with redevelopment plans and permit enforcement for the remainder of FY89. Additionally, the territory plans to assess the resource damage caused by Hurricane Hugo in a series of natural resource surveys.

IV. Significant Program Changes

The Virgin Islands did not submit any program changes during the report period. However, OCRM has determined that several legislative changes should be submitted as program changes. The VICZMP has been unable to carry out this request due to staff shortages.

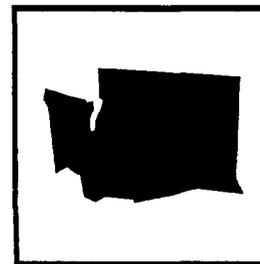
V. Federal Consistency

During the biennium, there were no major issues in the territory related to Federal consistency.

VI. Evaluation Findings

Final evaluation findings were issued June 19, 1989. Improvement areas cited in the findings included the need for DPNR to fill critical staff positions which have long been vacant. Other areas needing improvements are: clarifying and better defining the responsibilities of the Coastal Committee/Commission; clarifying the role of the Board of Land Use Appeals as a coastal permit review body; and providing a precise definition of the location and status of Areas of Particular Concern (APCs). Regarding the latter, OCRM strongly recommended that the APCs be redesignated and that immediate efforts be made to complete management plans for the most important of these areas. OCRM is aware that DPNR's ability to resolve these issues will be severely taxed by the immediate problems relating to Hurricane Hugo. A noteworthy accomplishment was DPNR's enforcement efforts, specifically the institution of the sector patrol system and the new civil fine program.

WASHINGTON



Federal Approval Date: June 1976
Federal Funding FY88: \$1,872,000
Federal Funding FY89: \$1,870,000

I. Background

Washington was the first state to receive Federal approval of its coastal management program. The Washington Coastal Management Program (WCMP) is based on the state's Shoreline Management Act (SMA) of 1971, which established broad guidelines for the protection and management of all of the state's marine waters, and certain lakes, streams and wetlands. The WCMP is a networked program involving several state agencies, 15 counties, and 36 cities, with the Department of Ecology (DOE) acting as the lead agency.

The Washington State Departments of Natural Resources, Fish, Game, Highways, Parks and Recreation, Archaeology and Historic Preservation, and Emergency Services support and participate in the implementation of the WCMP. Local actions are guided by locally-developed, state-approved, city and county Shoreline Master Programs (SMP). The coastal zone boundary embodies a two-tier approach. The first tier, a resource boundary area of permit authority under the SMA, includes all of the state's marine waters and their associated wetlands. The second tier, a planning and administrative initiative, is composed of the region inland from the first tier to the crest of the coastal range, which includes all 15 coastal counties.

II. Program Accomplishments

Wetlands Protection - During the biennium, the DOE continued its strong commitment to wetlands acquisition, protection, and preservation with several efforts, including a study of the feasibility of using wetlands for stormwater retention; the production of wetland designation maps; an ongoing effort to inventory all state wetlands; and the development of guidelines for local wetland management programs.

Public Access - DOE has ongoing involvement in the development and implementation of the Nisqually River Plan, a comprehensive management plan which includes public access planning. To promote public access, DOE produced a Public Shore Guide for Marine Waters, and a Shoreline Public Access Handbook; developed a public access program that converted abandoned railroad tracks to access trails; and completed many small scale acquisition and construction projects that enhanced public access throughout the state.

Hazards Protection - DOE has initiated an ambitious program relating to the issues and problems associated with global warming and sea level rise. The Sea Level Rise program has included the formation of an Interagency Task Force; the first Northwest Sea Level Rise Conference; several studies examining sea level rise, vertical land movement, and erosion; and public education.

Nonpoint Source Pollution Strategy - The WCMP has the responsibility for implementing the shellfish protection and wetlands activities outlined in the Puget Sound Water Quality Plan, a document prescribing needed actions for the maintenance and enhancement of Puget Sound water quality. As part of their efforts, the WCMP is developing a nonpoint source pollution control strategy to identify and correct existing problems in watersheds that drain to commercial and recreational shellfish beds.

Natural Resource Protection - The Oil Spill Act, passed by the state Legislature in 1989, governs the state's activities regarding oil spills, the transfer of petroleum products in state marine waters, and the development of ocean use policies for Washington's coast. Under the Act, DOE establishes oil spill financial responsibility levels; prepares and adopts ocean use guidelines and policies to be used in reviewing and amending local SMP's; and conducts scientific studies related to the effects of offshore oil and gas activities on the coast.

Washington 2010 Project - DOE participated in the development of the Washington "State of the Environment Report," the first stage of the long-range Washington Environment 2010 planning program. The Environment 2010 program was created to develop a systematic approach for identifying and assessing existing state environmental and natural resource management issues, anticipating emerging ones, and setting priorities through the year 2010.

Improved Government Operations - In late January, 1989, the U.S. Secretary of the Interior joined with the Governors of Oregon and Washington, the Northwest Indian Fisheries Commission, and the Columbia River Intertribal Fish Commission to establish the Pacific Northwest OCS Task Force. The purpose of the task force is to assist the Secretary with the resolution of issues related to OCS oil and gas leases for the Washington-Oregon Offshore Planning Area. As part of this effort, DOE reviews, comments, and makes recommendations on proposed Federal programs, and conducts scientific studies relating to offshore activities.

Habitat Protection - With the aid of DOE and the WCMP, a National Wildlife Refuge was created in Bowerman Basin at Grays Harbor. This refuge is of critical importance to thousands of migratory shorebirds and waterfowl, and provides important habitat for many types of fish and wildlife, including threatened and endangered species.

III. Major Grant Tasks

In FY88 and FY89, DOE completed several important grant tasks that strengthened the WCMP. DOE conducted several public access projects, including development of a

handbook on public access. To enhance shellfish protection, DOE produced an Aquaculture Use Conflict Report that focused on the impacts of salmon net pen aquaculture on water quality, its interference with marine navigation, and aesthetics of the floating structures. Several projects involving shellfish protection were also undertaken to open previously closed shellfish beds.

In the area of regional and local resource management, DOE directed efforts toward establishing a water quality coordination organization at Willapa Bay; offered technical assistance to develop a comprehensive Tacoma City Waterway project; provided funding to administer and conduct estuarine research and education at the Padilla Bay National Estuarine Research Reserve; and produced an Urban Waterfront Policy Document and a study on structural and non-structural methods of shoreline protection. To further public education and information dissemination, DOE continued its educational and interpretive watershed awareness project and extensive Coastweeks activities.

IV. Significant Program Changes

The significant program changes during FY88 and FY89 were: (1) the inclusion of the 1989 Washington Oil Spill Act; (2) several procedural changes to the SMA, its implementing rules, and the state Environmental Policy Act; and 3) several changes to local SMP's. DOE also submitted changes to the Matcom County/Cherry Point SMP as routine program implementation; however, the changes were deemed to be a program amendment.

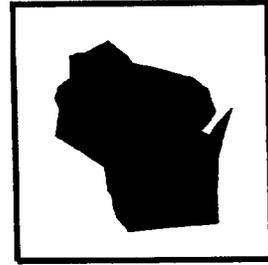
V. Federal Consistency

Federal consistency reviews are conducted through DOE. Two of the more complicated Federal consistency issues during the report period were: (1) a dispute between DOE and the Bonneville Power Administration over whether Federal agencies should be required to secure permits for Federal activities on non-Federal lands; and (2) a dispute between the City of Everett and the U.S. Navy over whether the Navy must obtain a SMA permit for its homeporting project in Everett. Both issues were resolved through the creation of memoranda of agreement.

VI. Evaluation Findings

Final evaluation findings issued on May 11, 1989, indicate that the state is successfully implementing and enforcing the essential elements of its program and is taking the initiative to review and refine the program. DOE is taking a leadership role in coastal issues, monitoring the actions of other state agencies for compliance, and assuring the opportunity for full public participation. In response to the findings, DOE has improved the WCMP by providing technical assistance and encouraging local governments to adopt procedures for the civil fine system through amendments to local Shoreline Master Programs. Another improvement was DOE's work with other state agencies to complete a statewide aquaculture data base, and its participation in a state aquaculture management plan.

WISCONSIN



Federal Approval Date: May 1978
Federal Funding FY88: \$799,000
Federal Funding FY89: \$799,000

I. Background

Wisconsin has 820 miles of coastline in three major coastal stretches bordering on Lake Michigan, Green Bay, and Lake Superior. Forty-three percent of the state's population is in the 15 counties adjacent to these bodies of water. The WCMP's primary goal is to preserve, protect, develop and, where possible, to restore or enhance the resources of Wisconsin's coastal area. To facilitate planning and the implementation of the WCMP, eight specific issue areas are identified to address concerns such as severe erosion, polluted waters and limited recreational access. The specific areas are coastal water and air quality; coastal natural areas; community development; economic development; governmental relationships; public involvement; and coastal energy impacts.

The Coastal Management Section is the lead agency for implementing the coastal management program. The Section is located in the Department of Administration, the state's executive agency. The program is implemented under the policy guidance of the Wisconsin Coastal Management Council (WCMC), a decisionmaking body created by Executive Order. WCMC is responsible for setting the program's policies and making major program decisions. The Council is also responsible for coordinating Federal, state and local coastal activities and for advising the Governor on coastal matters.

Since 1980, the Council has been organized to include legislators and representatives of state agencies, local governments, tribal governments and interested citizens. The 33 regulatory responsibilities are primarily carried out through the Department of Natural Resources (lake bed activities, water quality, and fish and game management), the Department of Transportation (harbor assistance), the Public Service Commission (power plant and transmission line siting), and county governments (shoreland zoning). The 15 coastal counties make up the landward coastal zone boundary. Counties are served by one of the three regional planning commissions, each of which has a coastal specialist on its staff.

II. Program Accomplishments

Hazards Protection - A Coastal Hazards Information Database was assembled by the coastal Regional Planning Commission. The database contains a bibliography on various aspects

of coastal hazard management. The WCMP is in the process of updating this database. Also, the DNR developed a "Floodplain and Shoreland Management Guidebook" to provide an overview of state mandated zoning requirements and to assist local zoning officials and the DNR staff concerning zoning programs. During 1989, DNR held a series of training classes with local zoning officials.

Wetlands Protection - The DNR has drafted water quality standards for wetlands to more effectively implement section 401 of the Clean Water Act. The Wisconsin Nonpoint Source Water Pollution Abatement Program was one of the first state programs enacted to control pollutants from both urban and rural nonpoint sources.

Public Access - Low cost construction projects for improved public access to the state's shoreline included: the Manitowoc pedestrian walkway along the City's waterfront, a parkway and walkway for Green Bay, a walkway and viewing area at Sturgeon Bay, a coastal trail and visitor center for the Village of Ephraim, and a floating dock at the Kewaunee Marina.

Urban Waterfront Redevelopment - The Waterfront Action Group, set up by the WCMP, provides a forum for state agencies to share information and ideas concerning waterfront redevelopment. The objectives of the group are to increase statewide awareness of waterfront redevelopment needs and programs and coordinate funding for these programs. CZM funds were used to plan and construct a 150 slip marina and waterfront park on abandoned land in the City of Kewaunee. The development of this waterfront site catalyzed significant private investment during 1988 and 1989, in addition to attracting over 100,000 tourists annually.

A boat launch facility and transient docks in Racine were built in 1988-89 using CZM funds. As a result of this effort, a larger project was then implemented by the public and private sector including: the Racine Festival Project Site, which includes a 900 slip marina, support facilities, a 17 acre county park, and a public boating facility. Local officials credit the original "seed" CZM funding for providing the impetus for this larger project.

Permit Simplification - In 1988, the state Legislature authorized the establishment of a general permit program and procedures for its implementation. It is estimated that when implemented the program will result in a savings of field staff time by 13 percent. During 1988, the state initiated a study to assess DNR's capability of assuming the dredge and fill permit authority under Section 404 of the Clean Water Act.

III. Major Grant Tasks

In FY88 and FY89, the WCMP focused its funding on waterfront redevelopment and harbor contamination. Waterfront redevelopment efforts focused on interagency coordination through the Waterfront Action Group. More than 20 waterfront redevelopment projects were funded under Section 306A. To address harbor contamination, the state funded a

number of technical studies related to toxic sediments and public participation efforts related to two remedial action plans.

IV. Significant Program Changes

There were no program changes during FY88 or FY89.

V. Federal Consistency

Federal consistency reviews are carried out by the WCMP staff. No major consistency issues were presented during this period. However, during the period a Federal consistency database and tracking system was established, tested and finalized.

VI. Evaluation Findings

Final evaluation findings for the period October 1985, through October 1987, were issued June 30, 1988. The findings indicated that the state was adhering to its program and doing a commendable job in implementing its provisions. The findings recommended that: the WCMP staff spend more time in the field and that the computer logging and tracking system be expanded and program staff be trained in its operation.

APALACHICOLA Florida

Designated: 1979
Size: 193,758 acres
Biogeographic Region: Louisianan
Acquisition Status: 89.5% complete

Federal Funding FY88: \$78,641
Federal Funding FY89: \$28,676



I. Background

Located in northwest Florida, approximately 90 miles southwest of Tallahassee, the reserve is the largest of the 18 existing National Estuarine Research Reserves. It includes two barrier islands and a portion of a third, portions of the Apalachicola River and adjoining uplands, and Apalachicola Bay. Managed by the Florida Department of Natural Resources, the reserve also includes a 12,358 acre National Wildlife Refuge on St. Vincent Island, the 2,300 acre Cape St. George State Reserve, and 1,883 acre state park on the eastern tip of St. George Island. Surrounding habitats include salt water marshes, swamp forests, barrier sand beaches, upland forests, and open waters of the bay and river. The reserve is one of the most important bird habitats in the southeastern U.S. It is also home to over 1,300 species of plants, 36 of which are threatened or endangered, including the Ogeechee Tupelo tree, which is found on St. Vincent's Island, and 116 species of fish.

II. Program Accomplishments

The reserve headquarter facility opened in 1984. It contains office space, a conference room and library, a research-teaching laboratory and an auditorium. The facility serves as the focal point for the reserve's education and research programs. Two successful education programs, Project Estuary and Estuarine Pathways, are carried out through the five-county school system bordering the reserve.

III. Research and Monitoring Programs

Research has focused on many resource management issues of the Apalachicola estuary. Three main in-house projects include: Red fish population dynamics, colonial nesting shorebirds -- Least Tern and Black Skimmer -- data collecting, and a molluscan inventory. As a result of these research activities, the identification of molluscan and vascular plant species has doubled.

IV. Education Program

The reserve's research and education programs are closely linked. Research information is disseminated through the education program to audiences ranging from pre-school children to college-level students. Dissemination of information is accomplished through various methods including presentations, publications, supplemental school curriculum units, audio-visual programs, field trips and college classes.

V. Evaluations

No evaluations were conducted during FY 1988 or FY 1989.

CHESAPEAKE BAY
Maryland

Designated: 1985
Size: 3,400 acres
Biogeographic Region: Virginian
Acquisition Status: 85% complete

Federal Funding FY88: \$32,500
Federal Funding FY89: \$90,120



I. Background

Managed by the Maryland Department of Natural Resources, the reserve will eventually consist of three components. It presently includes one designated component, Monie Bay, which is located within the Deal Island Wildlife Management Area in Somerset County on the lower eastern shore of the bay. Two additional elements have been proposed: Otter Point Creek, located 17 miles northeast of Baltimore in Harford County on the upper western shore of the Bay; and Jug Bay, located 20 miles southeast of Washington DC, on the Patuxent River, a western shore tributary of the Bay. The 3,400 acre Monie Bay component is comprised of tidal creeks, open estuarine waters, salt marshes and pine forests. It is a haven for resident and migratory bird populations, including herons, egrets and ibises native to Maryland, and a wide variety of waterfowl species. Many of Maryland's shorebirds also frequent the site. Important aquatic populations such as blue crabs, white perch, oysters and blue fish are also found in Monie Bay.

II. Program Accomplishments

The Chesapeake Bay NERR has made remarkable progress in the last two years. The proposed additions of Jug Bay and Otter Point Creek has been successful with regards to program and public support. A Draft Environmental Impact Statement and Draft Management Plan for the additional components has been published and distributed. A Final Environmental Impact Statement should be available in March 1990. NOAA plans to designate the two sites by September 1990.

III. Research and Monitoring Programs

Research projects currently include a study on the variability in sea level rise and its effect on marsh development, and a study on the role of sulfate from sea water in the degradation of marsh peat. A barn owl nest box study is ongoing. The Maryland Forest, Park and Wildlife Service performs a waterfowl census and periodic water quality monitoring in the Wildlife Management Area.

IV. Education Program

The current education program at the reserve operates through cooperative efforts with educational organizations operating in the area. Activities include marsh management programs, bird banding demonstrations, canoeing, and tours of the state shellfish hatchery.

V. Evaluations

No evaluations were conducted during FY88 or FY89.

ELKHORN SLOUGH California

Designated: 1980
Size: 1,330 acres
Biogeographic Region: Central California
Acquisition Status: Approximately 98% complete

Federal Funding FY88: \$186,098
Federal Funding FY89: \$104,920



I. Background

The reserve is located on the central California coast roughly halfway between the cities of Santa Cruz and Monterey. One of the few relatively undisturbed seasonal estuaries in central Monterey Bay, the Elkhorn Slough reserve encompasses coastal dunes, grasslands, oak woodlands, freshwater ponds and maritime chaparral. Hundreds of species of invertebrates, fishes and birds are found at the reserve, which is also home to several endangered species, including the California brown pelican and American peregrine falcon. Resident marine mammals include harbor seals, sea lions and sea otters.

Managed by the California Department of Fish and Game, the Elkhorn Slough NERR is one of nine sites in California that comprise the California Wildlands Program (CWP). The CWP was established in recognition of the interpretive value of wetlands and other habitat-rich environs to non-consumptive users of the area. The CWP has hired two state interpretive staff for the reserve. A Reserve Advisory Committee assists the on-site manager with decisions regarding research and education programs, and facility and maintenance operations, as well as resource protection and general policy.

II. Program Accomplishments

A site development and exhibit plan was completed in FY89 that includes plans for an administration building, interactive dynamic exhibits and a native plant demonstration project. In October 1988, the reserve and the Elkhorn Slough Foundation, a non-profit organization, held a State of the Bay conference to highlight the environmental issues and status of the Monterey Bay ecosystem for public and local coastal management decisionmakers. In December 1988, the reserve, in cooperation with the California Coastal Conservancy and the Nature Conservancy, developed a Barrier Free Access for wheelchairs along the shore of the slough.

In addition, the Monterey Bay Aquarium, with assistance from the Foundation, published a 65-page, illustrated book on Elkhorn Slough, which describes the uses, history, habitats and organisms of the reserve's environment. In other activities, a dumpsite on Hummingbird

Island in the river was cleaned up, native vegetation was restored, and an environmental sculpture was created to provide a historical and aesthetic interpretive exhibit.

III. Research and Monitoring Programs

Elkhorn Slough intertidal habitat is threatened by severe erosion from tidal scouring. Research studies into eelgrass ecology have led to the establishment of new eelgrass populations that have significantly reduced erosion in certain mudflat habitats. A Restoration and Enhancement Plan for eroding habitat has been prepared from this research and will serve as a model for similar situations around the nation.

Research studies have identified certain sources of nonpoint source pollution and established effects on the neighboring Slough ecosystem. The data has been used in local, regional, state and federally funded management plans aimed at enhancing water quality in the watershed. Also, an inventory and long-term monitoring of native and introduced species within the reserve has led to Elkhorn Slough Volunteer Restoration Projects. These projects are designed to restore such native species as the Coast Live Oak to pre-disturbed population levels to provide native plant cover and habitat for natural repopulation of local endemic and endangered species.

IV. Education Program

Some 40,000 to 50,000 visitors are attracted to Elkhorn Slough annually. In FY88 and FY89, over 600 teachers were trained to lead field trips to the site. Teacher training workshops prepare teachers to lead field trips to the reserve. These workshops include background information, activities and field trip guidelines. During the biennium, 7,000 school children visited the reserve. In FY 89, 100 volunteers at the site devoted 4,500 hours to assist as interpreters for visitors. Volunteers also assist with research projects, maintain trails, and sponsor special events at the reserve.

V. Evaluations

On January 13, 1989, an evaluation of the reserve concluded that the California Department of Fish and Game (CDFG) had done a commendable job in managing the Elkhorn Slough National Estuarine Research Reserve and in implementing the March 1987 evaluation recommendations. Especially noteworthy was the success of the interpretive and education programs. Communication between the CDFG staff, OCRM staff and other assisting organizations has improved dramatically. As a result, the habitat enhancement efforts done in cooperation with the Advisory Committee have increased and the volunteer network has become extremely effective in carrying out reserve functions.

The implementation of a fee-structure with the initiation of the CWP remains a concern for OCRM due to the Federal requirements that funds raised at the site be used for reserve

purposes only. OCRM staff are working with CDFG to establish an accounting procedure that will facilitate the policies and goals of both the state and Federal programs.

Also of concern is the state commitment to the research program at the site. The responsibilities and functions of a site research coordinator are currently conducted by the Elkhorn Slough Foundation. A meeting was held in November 1989, by CDFG and OCRM staff with all assisting organizations to discuss, among other things, the future of the research program. It was determined that the duties and responsibilities of the research coordinator will be set forth in the updated management plan, due in August 1990.

GREAT BAY New Hampshire

Designated: 1989
Size: 4,471 acres
Biogeographic Region: Acadian
Acquisition Status: 80% complete

Federal Funding FY88: \$258,000
Federal Funding FY89: \$808,000



I. Background

The Great Bay estuary extends 15 miles from the coast at New Castle, New Hampshire, to the upper Great Bay in southeastern New Hampshire. The reserve includes 4,471 acres of tidal waters and mudflats and approximately 48 miles of shoreline. Eight hundred acres of upland within the boundary represent the range of different resources/environments in the estuary, including salt marsh, tidal creeks, islands, woodlands, and open fields. The water area includes all of Great Bay, the small channel from the Winnicut River, and large ones from the Squamscott and Lamprey Rivers, which meet in the center of the bay to form a channel which connects to Little Bay at Adams Point.

The Great Bay estuary derives its freshwater inflow from these rivers. Approximately one-half of Great Bay is exposed at low tide with most of the intertidal being mudflat. The bay is typical of northern New England estuaries in having a variety of marine plant communities. Eighteen rare or endangered plant species have been identified within the reserve, as well as five rare or endangered animal species. The managing agency is the New Hampshire Department of Fish and Game.

II. Program Accomplishments

During the biennium, the draft and final management plans and environmental impact statements were developed for the reserve. In addition, key land and water areas contained within the reserve's boundaries were acquired, primarily through conservation easement.

III. Research and Monitoring Programs

During FY89, the reserve was awarded a \$13,229 grant to create a Great Bay Floating Laboratory Program and a citizens' monitoring project. Monthly and bi-monthly monitoring of the water column, flora and fauna, and weather conditions at the site will be done by the Jackson Estuarine Laboratory.

IV. Education Program

Area schools, the University of New Hampshire, local groups, and traditional users of the Bay have viewed the area as an ideal, informal classroom over the years. This new reserve is expanding and building on this concept by providing slide shows, tours, and lecture series.

V. Evaluations

No evaluations were conducting during FY88 or FY89.

HUDSON RIVER
New York

Designated: 1982
Size: 4,250 acres
Biogeographic Region: Virginian
Acquisition Status: 100% complete

Federal Funding FY88: \$50,000
Federal Funding FY89: \$203,900



I. Background

Extending 152 miles from the southern tip of Manhattan Island north to the Federal Dam at Troy NY, the reserve embraces four sites: Piermont Marsh, a brackish tidal wetland comprised of emergent vegetation and shallows along two miles of shoreline; Iona Island, which includes slightly brackish tidal marsh and rocky, forested uplands; Tivoli Bays, the largest freshwater tidal wetland complex on the Hudson estuary; and Stockport Flats, which comprises intertidal mudflats, subtidal shallows, emergent freshwater tidal marshes, and vegetated dredge spoil islands. The reserve is managed by the New York Department of Environmental Conservation.

Tidal freshwater wetlands are the reserve's most unusual habitat. Its emergent marshes support many marsh birds, small mammals and snapping turtles. Low marsh vegetation provides habitat for fish, turtles, waterfowl and wading birds. The reserve's shallows serve as spawning and nursery grounds for many species of fish.

II. Program Accomplishments

During the biennium, land and water areas were acquired at the Stockport and Tivoli Bays components totalling more than 265 acres. In addition, the reserve's field station at Bard College, which is within the Tivoli Bays area, was remodeled. The building is equipped with wet and dry laboratories, office space, field equipment, a library, a herbarium and other scientific specimen collections, living quarters for visiting researchers, and exhibits.

The reserve has expanded its efforts to assist researchers in making contacts with other research institutions, identifying sampling sites that meet their research specifications, providing information about tides, and identifying projects about related research being conducted in the estuary. During 1989, the reserve began offering year-round interpretive field programs at all four sites on a wide range of topics. In addition, efforts have been expanded to provide estuary-related programs for coastal managers.

III. Research and Monitoring Programs

A Research Advisory Committee was established for the reserve in 1988. The Committee is assisting the reserve in planning a long-term research and environmental monitoring program. The program is being designed to identify long-term trends and provide information to coastal managers. The Committee is also assisting the reserve in determining research priorities for the Hudson River estuary.

A wide variety of research projects have been conducted at the four reserve sites. These include physical, biological and chemical characterizations, studies of ecosystem processes, and investigations of exchanges between wetlands and the main stem of the Hudson. The reserve sites represent the range of salinity regimes found in the estuary, as well as the gradient of watershed development density, creating many excellent opportunities for examining research questions related to coastal management issues.

IV. Education Program

The reserve's public education program was greatly expanded during the biennium. It currently conducts field programs for elementary and high school students. These programs include demonstrations and activities that illustrate estuarine processes and academic programs, such as career days, high school seminars for gifted and talented students, and science fairs. A variety of programs and materials are also developed for teachers.

The reserve staff also contributed monthly radio scripts to Central Hudson's ALMANAC program, a series devoted to the natural history of the mid-Hudson region. The scripts were broadcast over 17 Hudson Valley radio stations. Reserve staff have also worked with local and regional television stations, which have featured programs about reserve sites and on-going research.

Also, the reserve program funded the development of estuarine exhibits at the Trailside Museum and Zoo in the Bear Mountain State Park, near Iona Island. These include a variety of live animal exhibits and a killifish pool with an artificial seven-minute tidal cycle, as well as information panels about the Hudson River estuary and its watershed.

V. Evaluations

Issued September 20, 1989, the final evaluation findings indicate that the state is making significant improvements in reserve operations and management and meaningful progress in attaining the goals of the NERR System. Accomplishments are also cited in education, research and land acquisition. Recommendations included increasing staff support; permanently incorporating the reserve into the state fiscal structure; and revising the draft management plan. The reserve also was encouraged to continue its planning process for a visitor center, and to examine existing reserve facilities and operations to provide full accessibility for handicapped individuals.

JOBOS BAY
Puerto Rico

Designated: 1981
Size: 2,800 acres
Biogeographic Region: West Indian
Acquisition Status: 100% complete

Federal Funding FY88: \$50,000
Federal Funding FY89: \$250,000



I. Background

Located on the southern coastal plain of the island of Puerto Rico, the reserve has been divided into three units for management purposes: Mar Negro, characterized by mangrove fringe, which protects the shoreline and lagoons and channels; Cayos Caribes, a chain of 17 tear-shaped islets; and Seagrass Beds/Punta Colchones. Three hundred West Indian manatees are known to forage within the Cayos Caribes area of the reserve. This is thought to be the second largest population of manatees in Puerto Rico. Sea turtles are often found in the seagrass beds of Jobos Bay. The site is managed by the Puerto Rico Department of Natural Resources.

II. Program Accomplishments

The reserve offers an extensive outreach program throughout the island in order to increase public awareness and appreciation of coastal and estuarine resources. The bay is used as the focal point of the local school systems for estuarine education programs. The reserve has served as a catalyst for the Department of Natural Resources to develop management plans for their forestry reserve system. In addition, the DNR has entered into a cooperative agreement with the Sea Grant Program at the University of Puerto Rico, Humacao College, to pursue joint education and research activities at Jobos Bay.

III. Research and Monitoring Programs

Development of a research and education facility is in the design phase. Construction is expected to begin in 1990.

IV. Education Program

The reserve's education program focuses on the natural integrity of the Bay and the importance of the estuarine habitat to Puerto Rico. Programs are designed to reach local communities, schools, and the general public. Special slide shows, tours, lecture series, and outreach programs are available at the reserve.

V. Evaluations

The final evaluation findings issued July 7, 1989, noted accomplishments in staffing, education programming, international training, and improved monitoring and enforcement within reserve boundaries. The recommendations included: increasing the number of rangers for more effective surveillance and enforcement; providing a precise delineation of the reserve boundary (an aerial map for Federal acquisition and a more recent survey map were found inconsistent); developing reserve use regulations to control access, hunting and other activities; revising the draft management plan and broadening public review of the plan; and completion of the reserve's visitor center.

NARRAGANSETT BAY
Rhode Island

Designated: 1980
Size: 2,626 acres
Biogeographic Region: Virginian
Acquisition Status: 100% complete

Federal Funding FY88: -0-
Federal Funding FY89: \$20,000



I. Background

Located in the geographic center of Narragansett Bay, twelve miles from Newport RI, the reserve is composed of 1,035 acres of land on Prudence, Patience, and Hope Islands, and 1,591 acres of water adjoining the islands out to the 18-foot isobath. The islands contain diverse aquatic and terrestrial habitats and are nesting sites for numerous species of birds. Soft-shell clams, quahogs, lobster, striped bass, black-back flounder and sea trout are found in the reserve's tidal deepwater. During the winter, harbor seals occasionally use the reserve's exposed offshore rocks as haulout and resting sites. An extensive trail system reaches the major ecological features of the reserve. A seasonal ferry brings school classes, organizations and individuals to the reserve. An interpretive program is provided. The Rhode Island Department of Environmental Management manages the site.

II. Program Accomplishments

The reserve's first full-time onsite manager was hired in June 1989. During the biennium, efforts were made to coordinate the reserve's operation and program activities with the Narragansett Bay Project (NBP), which is part of the Environmental Protection Agency's National Estuary Program.

A weather tower monitoring station was installed at the reserve and has been in continuous operation since September 1988. The station facilities were constructed by the Rhode Island Department of Environmental Management using Federal CZM funds. The University of Rhode Island's (URI) Graduate School of Oceanography operates the tower to gather scientific data on atmospheric deposition of nutrients and chemical contaminants. The Prudence Conservancy, a non-profit citizens' organization, maintains the tower, collects data weekly, and collects and transports samples to the Graduate School of Oceanography.

Also during the biennium, a 29 passenger ferry was purchased and refurbished by the state. The ferry delivers reserve visitors from the mainland to Prudence Island for onsite education programs.

III. Research and Monitoring Programs

The research program is focused on the salt marshes and aquatic habitats of the reserve. A long-term atmospheric monitoring effort is underway and will be coupled with a water quality program designed to characterize, detect change, and assess trends in marine water quality.

IV. Education Program

NBP, in conjunction with URI, sponsored a field course of the ecology of salt marshes within the adult education series, entitled "The Narragansett Bay Classroom." The Coggeshell marsh at the reserve has been used because it is an excellent, undisturbed example of southern New England estuarine wetlands. Public education is achieved through special seasonal education programs at the reserve.

V. Evaluations

Final evaluations were issued on December 3, 1989. Accomplishments included a finding that the state hired a full-time Reserve Manager, instituted a successful education program, and integrated reserve management with the EPA funded NBP. Among the recommendations is that the state formally extend the reserve boundary to include recent acquisitions, expanded the ferry service, and that the state decide on the location of a recreation center.

NORTH CAROLINA

Designated: 1982
Size: 9,800 acres
Biogeographic Region: Virginian/Carolinian
Acquisition Status: 88% complete

Federal Funding FY88: \$344,732
Federal Funding FY89: \$103,443



I. Background

The reserve, managed by the North Carolina Department of Environment, Health and Natural Resources, includes three sites along the North Carolina coast, including: Zeke's Island in New Hanover and Brunswick Counties; Rachel Carson in Carteret County; and Currituck Banks in Currituck County. A fourth component at Masonboro Island in New Hanover County is proposed for designation.

The Zeke's Island component encompasses approximately 1,165 acres of upland, intertidal and shallow water areas. The Rachel Carson site includes 2,625 acres of upland area, marshes, intertidal flats, tidal creeks, and shallow estuarine waters. The Currituck Banks components cover 964 acres of beach, dunes, maritime forest, marshes and flats, sound-side islands and a portion of Currituck Sound. The proposed Masonboro Island component includes 5,046 acres of salt marshes, maritime forests, dunes, grassy flats, shrub thickets, eel grass beds, and mud and sand flats.

II. Program Accomplishments

In addition to continuing the acquisition process of Masonboro Island, the state of North Carolina approved two state-funded positions for the reserve. These positions are currently being filled and will be located in Wilmington.

III. Research and Monitoring Programs

Most NOAA-funded research has been focused on the Rachel Carson component of the North Carolina NERR. Research has included a quantitative description of plant succession on dredge spoil islands and changes as a result of transformations in plant species composition; habitat mapping; and the effects of feral horses on the production, distribution, abundance and stability of salt marsh plants. In addition, research funds for baseline studies on sediment dynamics of Currituck Sound at the Currituck Banks component have been awarded.

IV. Education Program

The reserve's public education program is accomplished through a coordinated network consisting of staff based in Raleigh and coastal facilities including the North Carolina Aquariums and the North Carolina Maritime Museum. These facilities offer field trips to the reserve sites and serve as focal points for public information about the reserve through exhibits and distribution of literature.

V. Evaluations

The final evaluation findings issued in April 1989 recommended that state funding be pursued for the positions of Reserve Coordinator and Research Coordinator. Additionally, the findings recommended that these two positions be located on the North Carolina coast in relationship with the components instead of Raleigh, North Carolina. It was felt that on-site management would give the program the visibility and effectiveness it has been lacking. Most of these findings have been addressed and are in the process of being implemented.

OLD WOMAN CREEK
Ohio

Designated: 1980
Size: 571 acres
Biogeographic Region: Great Lakes
Acquisition Status: 100% complete



Federal Funding FY88: \$36,500
Federal Funding FY89: \$97,700

I. Background

The smallest reserve in the NERR System, Old Woman Creek is a drowned stream mouth that drains into Lake Erie and is representative of a Great Lakes-type freshwater estuary. Within the reserve, which is managed by the Ohio Department of Natural Resources, several aquatic and terrestrial habitat types have been identified, including open water, barrier beach, remnant embayment marshes, mudflats, oak-hickory upland hardwood forests, and a swamp forest.

Hundreds of species of algae, vascular plants, invertebrates, mammals, fishes, and birds have been recorded in the reserve. Several are threatened, endangered, or species of special concern. Some examples include the American bald eagle, sharp-shinned hawk and spotted turtle. The reserve also serves as an important nursery and spawning area for numerous Lake Erie forage and sport fish species.

II. Program Accomplishments

During the biennium, computer components were acquired enabling Old Woman Creek to hook into the OMNET communication network with other sites in the NERR System. In addition, a maintenance equipment storage facility was constructed. An education project was initiated to photographically document the effects of climatic changes in the Old Woman Creek estuary, and to produce an audio/ visual display for the reserve visitor center and a teaching package for use at other reserves and in local area schools.

III. Research and Monitoring Program

The long-range goal of the Old Woman Creek research program is to develop a better understanding of the Great Lakes-type freshwater estuarine ecosystem. A secondary objective is to determine the extent that Great Lakes-type freshwater estuaries perform natural functions similar to marine estuaries. A watershed-wide water quality monitoring program began at the reserve in 1980. The purpose of this ongoing project is to provide basic temporal information about the water chemistry of the estuary. In 1984, the

monitoring program was expanded to include a study of the role of storm events in changing the chemical makeup of estuarine waters and the effects of these storms on the microscopic plant populations which are the foundation of the estuarine food chain. Routine monitoring of phytoplankton, zooplankton, aquatic plants, invertebrates, reptiles, amphibians, mammals, fish and birds is carried out on a seasonal basis by reserve staff.

IV. Education Program

The reserve's education program ranges from multi-media presentations and aquatic ecology field trips to college-accredited workshops for students and teachers as well as lectures which are open to the general public. Reserve staff provide off-site educational activities including lectures, slide presentations and mobile displays, as well as interagency workshops.

V. Evaluations

No evaluations were conducted during FY88 or FY89.

PADILLA BAY
Washington

Designated: 1980
Size: Approximately 11,000 acres
Biogeographic Region: Columbian
Acquisition Status: 24% complete

Federal Funding FY88: \$59,313
Federal Funding FY89: \$89,216



I. Background

The reserve is located near Anacortes in Skagit County, Washington. This area contains one of the largest concentrations of eelgrass on the Pacific Coast and maintains a diverse collection of invertebrates, fish, birds and marine mammals. This site is comprised of eelgrass, subtidal sand and mud. The area is unique in that it is surrounded by large urban centers and an inland marine system that is used extensively for commerce and recreation by these urban centers. Padilla Bay has established itself as the natural field laboratory for estuarine research and data collection in the Pacific Northwest and works closely with universities and other research facilities in the region. The reserve is managed by the Washington Department of Ecology.

II. Program Accomplishments

During the biennium, a two-mile public trail was constructed along the bay and sloughs for estuarine interpretation. In addition, an observation deck and estuary access overlooking the reserve was constructed. Other activities included: design and implementation of an on-site curriculum program for grades K-8 resulting in direct education programs for 4,500 students per year; completion of exhibitry programs providing passive estuarine learning opportunities for approximately 25,000 people annually; and design and sponsorship of college-level courses on estuarine ecology and related topics using Padilla Bay researchers.

III. Research and Monitoring Programs

Research has focused on seagrasses, mudflats, crabs, juvenile fish and food organisms of young fish. Rates of production have been measured and several important controlling factors and trophic links identified. During fiscal years 1988 and 1989, research activities focused on: developing Landsat-V satellite methodology for identifying seagrass habitat; characterizing and mapping major habitat types throughout the reserve; developing seagrass system productivity budgets; and developing a freshwater budget calculating surface water inflow into Padilla Bay correlated with rainfall and tidal cycles.

The monitoring program requires an initial characterization of the estuary and has begun with the identification of the important plant and animal communities. It is continuing with a characterization of hydrocarbons in the reserve. During the biennium, an applied monitoring program was developed for agricultural pesticides which come off the thousands of acres of intensive cropland within the Padilla Bay watershed.

IV. Education Program

The reserve conducts ongoing youth and family education programs, presentations, classes and weekend film series. Mudflat "safaris" and beach seines are offered on a seasonal basis. School groups participate in half- and full-day programs which are augmented by the newly developed curriculum.

V. Evaluations

No evaluations were conducted during FY88 or FY89.

ROOKERY BAY
Florida

Designated: 1978
Size: 9,400 acres
Biogeographic Region: West Indian
Acquisition Status: 68% complete



Federal Funding FY88: -0-
Federal Funding FY89: \$94,300

I. Background

The reserve preserves a large mangrove-filled bay and two creeks. Managed by the Florida Department of Natural Resources (DNR), the reserve includes mangrove forests, marshes, sea grasses, and open water. The reserve's uplands are composed of pine woodlands, seasonal wetlands and scrub oak habitat. In March 1989, the DNR outlined a proposal to expand the existing boundaries of the reserve to include all state-controlled lands in the Rookery Bay area and associated watersheds.

II. Program Accomplishments

In November 1988, the state acquired Cannon Island, a 350-acre pristine coastal hardwood hammock and mangrove-fringed barrier island, for inclusion into the reserve. The Friends of Rookery Bay Inc. sponsored a gopher tortoise population study and raised over \$3,000 for manatee awareness projects. The reserve staff initiated planning for a proposed expansion of the site through consolidation of the state's lands in surrounding areas. Two law enforcement officers were added to the reserve staff in December 1989.

III. Research and Monitoring Programs

Research currently underway includes the study of wading birds, habitat preferences of fishes and invertebrates, primary and secondary productivity in mangrove ecosystems and stone crab biology. Reserve staff are collecting data to analyze the fish populations in the reserve. Long-term programs exist for monitoring water quality, compiling a bird census, and recording tide and meteorological conditions. The reserve also has a geographic information system and remote sensing program.

IV. Education Program

Reserve education programs contacted 4,766 persons in 1988, through 201 adult classes, field trips, seminars and summer programs. Over 500 adults participated in Marine Biology and Inshore Fishing courses offered through the reserve. During fiscal year 1989, the reserve

received two education grants from NOAA, providing \$72,000 to support development of educational materials and initiate a two-year fisheries research project that provides student training. A screened-in classroom facility was completed in March.

Bimonthly Coastal Resource Management Workshops were initiated in February 1989, providing training programs for environmental professionals from across the state. A two-week Summer Teacher Institute on Coastal Ecology, funded by Florida Department of Education, was developed and conducted by reserve staff. A Summer Marine Science three-week field course for high school students was conducted in June. The reserve sponsored and coordinated the first annual Regional High School Science Fair for Collier County. Programs range from illustrated slide talks and interpretive displays to adult education courses, workshops for teachers, and boat trips for high school and college students. The reserve also functions as a regional clearinghouse for the dissemination of technical information to coastal zone managers, regulators, and policymakers.

IV. Evaluations

No evaluations were conducted during FY88 or FY89.

SAPELO ISLAND
Georgia

Designated: 1976
Size: 5,905 acres
Biogeographic Region: Carolinian
Acquisition Status: 100% complete

Federal Funding FY88: -0-
Federal Funding FY89: \$47,400



I. Background

Most of the Duplin River watershed is included in the reserve, which contains extensive marsh, southern hardwood forest, pure stands of pines, dunes and beaches. Managed by the Georgia Department of Natural Resources, the reserve is bound to the northwest by the Mud River, to the west by New Teakettle Creek, and to the southwest by Doboy Sound. The site encompasses 3,811 acres of marshland and 2,094 acres of high ground at the south end of Sapelo Island.

Broad-leafed evergreens and Spanish moss are abundant in the reserve. During the warm months, the Duplin River serves as a nursery ground for shrimp and the juvenile forms of menhaden, sea trout, blue crabs and sea bass.

II. Program Accomplishments

During the biennium, a comprehensive management plan was developed for the reserve. As part of this effort, site advisory committees and research and education subcommittees were created. Plans are underway for construction of an on-site visitor center. The reserve has recently hired a full-time education coordinator. Public access to the reserve was improved by the acquisition of a 55 seat passenger tram, which is used on the guided tours throughout the site. During the biennium, there were more than 250 tours of the reserve, accommodating approximately 5,000 visitors.

III. Research and Monitoring Programs

Approximately 40 research projects were conducted in the reserve during FY88 and FY89. The University of Georgia Marine Institute (UGMI), located at the reserve, has been the center for nearshore geological and ecological research. More than 600 publications have been generated by the Institute, many addressing the general ecology and system energetics of the marshes of Sapelo Island. In addition to Institute-sponsored research, the reserve has attracted a variety of estuarine research proposals funded by other Federal agencies, such as the National Science Foundation and NOAA's Sea Grant Program.

Currently, the NERR System program is funding the development of a Geographic Information System for the island that may provide a prototype system for other national estuarine reserves.

As part of its monitoring program, the reserve is working in conjunction with UGMI to establish three remote Hydro Lab 2020 units and three weather stations. Two units operated by UGMI already exist. In addition, the Georgia Environmental Protection Division does quarterly sampling of 22 physio-chemical parameters and annual sampling of metals and pesticides in water, oysters and sediment. The Georgia Coastal Resources Division conducts bi-monthly water quality sampling as part of its shellfish program at four sites within the reserve.

IV. Education Program

The education program has sponsored slide talks, films, and guided tours of the reserve.

V. Evaluations

A review of the performance of the state in managing the reserve was conducted during FY89. The evaluation findings will be issued in 1990.

SOUTH SLOUGH Oregon

Designated: 1974
Size: 4,400 acres
Biogeographic Region: Columbian
Acquisition Status: 98% complete

Federal Funding FY88: \$61,702
Federal Funding FY89: \$63,898



I. Background

The first estuarine reserve, South Slough is one of 11 shallow tidal inlets connected to the Coos Estuary in Coos Bay, Oregon. Encompassing approximately 25 percent of the South Slough drainage basin, the reserve includes a variety of habitats, including upland forests, freshwater marsh, mudflats, salt marsh, and open water. At least 22 commercially important fish species have been identified in this estuary and extensive eelgrass beds are found within the reserve, which attracts migrating waterfowl along the Pacific Flyway. The reserve is managed by the South Slough National Estuarine Research Reserve Management Commission, under the policy guidance of the Oregon State Lands Board.

II. Program Accomplishments

During FY88 and FY89, the state of Oregon acquired the 27.8 acre Kunz estate within the reserve. In addition, a trail improvement plan was produced to improve access to the reserve's tidal areas. The reserve was also one of the principal agencies responsible for the formation of the Coos Estuary Shellfish Sanitation Task Force.

Since 1986, public school participation has increased from 1,000 students per year to 3,000 students per year in 1989, and public participation in South Slough-sponsored programs has increased from 8,000 visitors annually to over 20,000 visitors per year.

III. Research and Monitoring Programs

The reserve collects and maintains summary data describing basic physical environmental features of the area. Tidal data are available since the early 1970s. Solar radiation (total global) has been monitored since 1987. Data sets for meteorological and some hydrographic parameters are also available.

IV. Education Program

The broad education program has special activities for pre-school through college classes. Special programs at the reserve include slide shows, exhibitions, films and lectures. Guided trail walks and canoe tours are offered at the reserve.

V. Evaluations

No evaluations were conducted during FY88 or FY89.

TIJUANA RIVER
California

Designated: 1982
Size: 2,531 acres
Biogeographic Region: Californian
Acquisition Status: 100% complete

Federal Funding FY88: \$296,521
Federal Funding FY89: \$117,000



I. Background

Managed by the California Department of Parks and Recreation (DPR), the reserve encompasses approximately 2,521 acres of tidally flushed wetlands, riparian, and upland habitats extending immediately north of the U.S.-Mexico border in southern San Diego County. As the southernmost estuarine system on the west coast, the reserve represents one of the few remaining examples of relatively undisturbed, tidally flushed coastal wetlands in southern California. It is one of about 30 coastal wetlands that still occur south of Point Conception. Located within the jurisdictions of the cities of Imperial Beach and San Diego, and near the City of Tijuana (Mexico), the estuary provides productive marsh habitat for invertebrates, fish, and birds including federal and state-listed endangered or threatened species, such as the light-footed clapper rail, California least tern, brown pelican, and peregrine falcon. An endangered plant, the salt marsh bird's beak, also occurs in the area.

Responsibility for setting management policies lies with the Tijuana River National Estuarine Sanctuary Management Authority (TRNESMA), which is comprised of representatives of the California Department of Parks and Recreation (DER), the lead agency, U.S. Fish and Wildlife Service, City of San Diego, City of Imperial Beach, San Diego County, the California Coastal Commission, and the California Coastal Conservancy. Education and volunteer support programs are coordinated by the Southwest Wetlands Interpretive Association.

II. Program Accomplishments

During FY88 and FY89, a new visitor center was constructed, providing reserve offices in addition to space for educational and interpretive programs. Plans were initiated to expand Pacific Estuarine Research Laboratory facilities to a site near the new Visitor Center. This will allow for new controlled experimentation, greater facility security, and greater ease of viewing by school groups and the public. The reserve neared completion of a master enhancement plan for the estuary, which seeks to improve tidal flow. An environmental impact report on the plan was prepared by the San Diego State University Foundation

(SDSUF), under a grant from the California State Coastal Conservancy. In addition, SDSUF implemented a dune restoration project, which involved fencing, replanting and monitoring along 1.5 miles of the shoreline. Enforcement capabilities were enhanced at the reserve by the hiring of a full-time State Park Ranger and an Assistant Manager for the Wildlife Refuge. The TRNESMA continued its involvement in a number of proposed projects which could have major impacts on the estuary, including a joint agreement by the U.S. and Mexico to develop a sewage treatment facility that would divert the flow of raw sewage from the Tijuana River and make treated water available for reclamation.

III. Research and Monitoring Programs

The reserve has undergone substantial changes in the past including episodes of increased or decreased freshwater flow, increased sedimentation, and severe deterioration of water quality. These changes and the unique southerly character of the wetland have provided the basis for research that has contributed to the understanding of estuarine systems in southern California. The Pacific Estuarine Research Laboratory, managed by San Diego State University, is located within the reserve and is a center for research and education programs. Research is conducted on a broad range of habitats, including dunes, beach, salt marsh, udflat, salt pannes, coastal sage scrub, riverine and brackish marsh. Research has focused on the effects of wastewater discharges and watershed management practices on the estuarine environment, the development of estuarine and riparian habitat enhancement techniques, and the assessment of the nature of artificial wetlands as a mitigation measure in the region. Monitoring programs have been established to track the influence of hydrological disturbances on the reserve.

IV. Education Program

The reserve's school programs are structured around the M.A.R.S.H. (Marsh Awareness with Resources of Slough Habitats) Project curriculum developed for fifth and sixth grade students. During the spring and fall, workshops are offered for teachers and youth leaders to provide information related to the reserve. Workshop materials are available in Spanish and English. Development of a high school curriculum was begun during this biennium using funds from a San Diego County marine science education grant.

V. Evaluations

Final evaluation findings were issued on November 21, 1989. Accomplishments of the program included: finalizing a long-term lease between the California DPR and the U.S. Fish and Wildlife Service (FWS) for use of land for a visitor center; developing a memorandum of understanding between OCRM and DPR; developing an education program and establishing and maintaining a volunteer program; and increasing staff levels. The findings indicate there is optimal coordination between DPR and FWS, which has office space at the reserve. Among the recommendations is that the state commit funding to the education coordinator position.

WAIMANU VALLEY
Hawaii

Designated: 1976
Size: 3,600 acres
Biogeographic Region: Insular
Acquisition Status: Approximately 92% complete

Federal Funding FY88: \$200,000
Federal Funding FY89: \$50,000



I. Background

The reserve, which is managed by the Hawaii Department of Land and Natural Resources, encompasses most of the Waimanu Valley, the adjacent bay and the trail corridor from neighboring Waipio Valley. Intermittently inhabited for centuries, Waimanu Valley has been uninhabited for over 40 years. Partial surveys have identified two major archaeological sites with complex cultural features. The reserve's water resources are among the few in the State that have not been diverted and developed for human use. With the headwaters of Waimanu Stream and tributaries developing from an adjoining State Natural Area reserve, an entire watershed and stream system is under reserve protection.

The lack of human influence since the tsunami of 1946 has allowed the vegetation and animal life to follow its own course. The vegetation is made up of both native and non-native species. The valley also provides habitat for the only land mammal native to the Hawaiian Islands, the endangered ope'ape'a or Hawaiian hoary bat. Aquatic life in the stream system includes five native fish species, four native invertebrates and the introduced Tahitian prawn.

II. Program Accomplishments

During the biennium, a right-of-entry agreement was signed with the Bernice Bishop estate that provides access into the estate's 90-acre parcel along the entire beach area of the reserve. Additionally, the 200-acre Department of Hawaiian Home Land (DHHL) parcel was reappraised. DHHL approved a 65-year lease-draft for its parcel, which surrounds the reserve. The DHHL parcel, most of which is wetlands, is a key landholding which the State of Hawaii must access in order to implement a management plan for the reserve.

A revised Reserve Management Plan was prepared and circulated to the appropriate state agencies for review. In addition, the Governor signed an Executive Order which converted Waimanu Valley from its forest reserve status into the NERR System.

III. Education Program

During the biennium, a contract was awarded to the University of Hawaii Sea Grant program to develop an education interpretation program for the reserve. Among the projects being considered under the contract are: a visitor survey, upgrading existing trails, developing informational signs and a brochure, and obtaining an oral history from former residents of the Valley. Work on the oral history has already begun.

IV. Evaluations

Final evaluation findings were issued on August 31, 1988. The review focused on two major concerns which were identified during the previous evaluation: the need for adequate control of the 200-acre DHHL parcel and an updated management plan for the reserve. The findings indicated that the state has made progress in these two areas. One ongoing issue identified in the findings is the lack of a federally-approved management plan with associated research and education elements.

WAQUOIT BAY
Massachusetts

Designated: 1988
Size: 2,199 acres
Biogeographic Region: Virginian
Acquisition Status: 92% complete

Federal Funding FY88: \$650,743
Federal Funding FY89: \$161,400



I. Background

Located in the towns of Falmouth and Mashpee in Barnstable County, the reserve includes areas of intense, moderate and low human impact. The boundary of the reserve encompasses several distinct water bodies and upland areas within and adjacent to the Waquoit Bay. It encompasses marsh, open water and upland fields and forest. Managed by the Massachusetts Department of Environmental Management, the reserve is one of only two confirmed localities in the commonwealth where the endangered plant Sandplain *Gerardia* is found.

II. Program Accomplishments

Renovations have begun for the reserve headquarters at the Swift Estate. The headquarters will include a visitors' center, administrative offices, laboratory, library, and overnight accommodations for researchers. State funds totalling more than \$20 million have been expended to acquire land within the boundaries of the reserve.

III. Research and Monitoring Programs

The reserve has one of the most extensive research programs within the NERR System due to the significance of the resources, as well as the reserve's close proximity to prestigious institutions of higher learning.

Among the many research projects currently underway are: the declines of eelgrass in estuarine reserves along the east coast; problems of pollution and disease; potential effects of sea level rise and development on the importance of wetlands; effects of eutrophication on growth and productivity of macroalgae in Waquoit Bay; continued studies of vegetation and nutrient changes in Waquoit Bay; and an osprey productivity project.

IV. Education Program

Using an NERRS education grant, a consultant is designing a program to increase public awareness by creating curriculum materials and a field guide for visitors. The reserve has also established a volunteer program to enhance public education activities and provide support for the research community. The volunteers serve on the reserve's Advisory Committee and three subcommittees.

IV. Evaluations

No evaluations were conducted during FY88 or FY89.

WEEKS BAY
Alabama

Designated: 1986
Size: 3,028 acres
Biogeographic Region: Louisianan
Acquisition Status: 100% complete

Federal Funding FY88: \$99,100
Federal Funding FY89: \$83,700



I. Background

Located along the eastern shore of Mobile Bay in Baldwin County, the reserve encompasses 3,028 acres of land and water in and around Weeks Bay. The bay is a small estuarine embayment comprised of open, shallow waters and forested wetlands. The forested wetlands are known as moist pine forest. The site, which is managed by the Alabama Department of Economic and Community Affairs (DECA), forms an extensive strip between floodplain swamps and upland pine-oak forest, and is diverse and rich in species.

The endangered Alabama shovelnose sturgeon is found in Weeks Bay. Three endangered snakes and the endangered Florida black bear are found within the reserve's boundaries. It is also home to a number of birds, including the brown pelican, bald eagle, osprey, peregrine falcon, snowy plover, and red-cockaded woodpecker.

II. Program Accomplishments

One of the newer reserves, Weeks Bay is still in its initial development phase. A nature trail, incorporating a shore-side observation deck and a raised catwalk over a wetlands habitat, was dedicated in 1988. A Reserve Manager was hired in March 1989. To establish an onsite presence, an office adjacent to the reserve was opened in the fall of 1989.

The reserve has been working with the local U.S. Army Corps of Engineers (Corps) office to prepare site plans for a visitor center and nature trail system. The Corps is donating site survey, engineering and architectural services for the initial plans. Construction is expected to begin in 1990.

III. Research and Monitoring Programs

During the biennium, NOAA funded four research projects to expand baseline information collected on the reserve under five earlier NOAA research grants.

IV. Education Program

The reserve offers presentations to teachers, school groups, and the general public. "Touch Lab" targets kindergartners through sixth graders. This project consists of preserved samples of species found in and around Weeks Bay with discussion of life history and hands-on time.

V. Evaluations

Final evaluation findings issued December 5, 1989, found that the state has made little progress in operating and managing the reserve. The findings concluded that full reserve operation has been hampered by the lack of onsite facilities and staff. Areas identified for improvement included: clarifying the roles of the state agencies involved in reserve management (DECA and the Alabama Department of Conservation and Natural Resource); revising the management plan to resolve numerous problems (i.e., defining needed land acquisition, future staffing requirements, funding sources, program planning and facility needs); and increasing coordination to allow for the Advisory Committee to adequately support reserve activities.

Accomplishments cited were the recent employment of a permanent full-time manager; acquisition of four parcels of land integral to the reserve; completion of a nature trail, parking lot, benches and a lecturn; collection of baseline data on existing flora, fauna, hydrology and nutrient levels; and improved information flow among Advisory Committee members.

WELLS
Maine

Designated: 1984
Size: 1,550 acres
Biogeographic Region: Acadian
Acquisition Status: 100% complete

Federal Funding FY88: \$203,200
Federal Funding FY89: \$357,700



I. Background

The reserve, located in southern Maine on the Atlantic coast and managed by the Maine State Planning Office, encompasses undeveloped marshes and transitional upland fields and forests, occurring along two contrasting watersheds -- the Little River estuary and the Webhannet River estuary. Two federally endangered species have been found within the reserve: the bald eagle and peregrine falcon. Five species of state concern are also found, including the piping plover, least tern, slender blue flag, eastern joe-pye weed, and arethusa.

II. Program Accomplishments

A Reserve Manager and Education Coordinator were hired during 1988. Renovation of the main house of the former Landholm Farm into a reserve visitor center was completed. The center incorporates administrative offices, a bookstore, quarters for visiting researchers, and public meeting rooms. Plans are underway to renovate a former barn into a laboratory and education facility. During the biennium, the final management plan for the reserve was revised to incorporate the state-established Reserve Management Authority. The plan is expected to be finalized by April 1990.

III. Research and Monitoring Programs

Sedimentation and hydraulic studies have been conducted on both the Webhannet and Little River estuaries. Other studies have compared productivity between the reserve's marsh systems and those of the rest of the Gulf of Maine. The Wells Reserve was one of four sites that hosted a coast-wide study that resulted in the isolation of the causal organism of eelgrass wasting disease. Enteric viruses occurring within the reserve estuaries have been sampled and catalogued. Investigation into fishery habitat requirements in northern high marshes is ongoing.

Regarding monitoring efforts, environmental characterization of the reserve has progressed to include inventories of vegetation, breeding birds and small mammals. Pilot programs

which commenced in 1989 are monitoring rainfall, freshwater runoff, salinity, tidal currents and tidal height within the Webhannet River estuary, as well as water quality in the tributaries of the Webhannet River, over the course of a year. Results of the studies will serve as a model for developing a long-term monitoring program at the reserve.

IV. Education Program

School programs introduce kindergarten students to basic concepts and each year add a new layer to their understanding; as adults they are prepared for the reserve's self-discovery program. Exhibits and docent led field trips provide the starting point for extension education activities. These activities are enhanced by printed trail guides, study guides, and lecture series.

V. Evaluations

Final evaluation findings issued December 6, 1988, indicated that the state is making progress in managing the reserve. Noteworthy accomplishments include the completion of an interpretation program and renovation of the visitor center. Recommendations included: revising the management plan to include a long-term state commitment for reserve management; and providing sufficient funding to meet projected programmatic needs.

APPENDIX A

STATUS OF STATE COASTAL ZONE MANAGEMENT PROGRAMS

<u>State</u>	<u>Actual or Estimated Federal Approval Date By Fiscal Year (end 9/30)</u>	<u>Comment and Status 9/30/89</u>
Washington	1976	Approved
Oregon	1977	Approved
California	1978	Approved
Massachusetts	1978	Approved
Wisconsin	1978	Approved
Rhode Island	1978	Approved
Michigan	1978	Approved
North Carolina	1978	Approved
Puerto Rico	1978	Approved
Hawaii	1978	Approved
Maine	1978	Approved
Maryland	1978	Approved
New Jersey	1978	Approved
(Bay and Ocean Shore Segment)		
Virgin Islands	1979	Approved
Alaska	1979	Approved
Guam	1979	Approved
Delaware	1979	Approved
Alabama	1979	Approved
South Carolina	1979	Approved
Louisiana	1980	Approved
Mississippi	1980	Approved
Connecticut	1980	Approved
Pennsylvania	1980	Approved
New Jersey (Remaining Section)	1980	Approved
Northern Marianas	1980	Approved
American Samoa	1980	Approved
Florida	1981	Approved
New Hampshire	1982	Approved
(Ocean and Harbor Segment)		
New York	1982	Approved
Virginia	1986	Approved
New Hampshire	1988	Approved
Ohio		Pending
Non-Participating		
Indiana	"	
Georgia	"	
Minnesota	"	
Illinois	"	
Texas	"	

APPENDIX B

ITEMIZATION OF ALLOCATION OF FUNDS AND A BREAKDOWN OF PROJECTS AND AREAS WHICH FUNDS WERE EXPENDED

STATE	SECTION 306*			SECTION 308			SECTION 309			SECTION 315			TOTAL***		
	1974	1987**	1988	1974	1987	1988	1974	1987	1988	1974	1987	1988	1989	1987-	1989
ALABAMA	5,861	561	569	4,080	0	0	0	0	0	0	0	99	84	12,478	
ALASKA	28,074	1,883	1,934	59,639	0	0	0	0	0	0	0	0	0	91,530	
AMERICAN SAMOA	4,140	561	458	226	0	0	0	0	0	0	0	0	0	5,385	
CALIFORNIA	30,231	1,883	1,934	8,943	0	0	0	0	0	0	0	0	0	42,991	
CONNECTICUT	7,987	736	735	1,769	0	0	200	100	0	0	0	0	0	11,527	
DELAWARE	6,931	540	548	1,978	0	0	0	0	0	0	0	10	0	10,007	
FLORIDA	16,406	1,883	1,934	4,213	0	0	339	0	0	0	4,544	19	147	29,485	
GEORGIA	1,857	0	0	1,357	0	0	0	0	0	0	1,808	0	473	5,495	
GUAM	4,814	0	912	343	0	0	0	0	0	0	0	0	0	6,069	
HAWAII	8,881	681	687	387	0	0	80	0	50	0	300	200	50	11,316	
ILLINOIS	1,709	0	0	0	0	0	131	108	140	0	0	0	0	2,088	
INDIANA	1,365	0	0	195	0	0	0	0	0	0	18	0	0	1,560	
LOUISIANA	16,785	1,883	1,934	79,982	0	0	0	0	0	0	1,552	185	290	100,602	
MAINE	13,529	1,476	1,474	2,093	150	0	0	80	75	0	788	33	90	20,904	
MARYLAND	15,900	1,883	1,934	2,346	0	0	855	705	80	0	2,461	681	194	24,614	
MASSACHUSETTS	14,214	1,181	1,180	4,898	0	0	214	0	0	0	0	0	0	25,023	
MICHIGAN	17,947	1,883	1,934	1,243	0	0	0	0	0	0	0	0	0	23,007	
MINNESOTA	1,076	0	0	0	0	0	0	0	0	0	0	0	0	1,076	
MISSISSIPPI	5,225	508	518	16,536	0	0	0	0	0	0	0	0	0	22,787	
NEW HAMPSHIRE	4,087	470	480	1,849	0	0	0	0	0	0	534	289	843	8,552	
NEW JERSEY	18,049	1,883	1,934	4,358	0	0	200	0	0	0	50	0	0	26,474	
NEW YORK	18,485	1,883	1,934	2,740	0	0	125	0	197	0	1,456	50	152	27,022	
NORTH CAROLINA	15,156	1,747	1,946	1,968	0	0	0	0	70	0	2,797	345	68	24,097	
NORTHERN MARIANAS	3,899	457	468	480	0	0	0	0	0	0	0	0	0	5,304	
OHIO	1,672	0	0	805	0	0	596	46	44	0	0	0	0	3,163	
OREGON	13,224	833	932	1,821	0	0	420	257	412	0	2,683	224	100	20,906	
PENNSYLVANIA	7,297	702	702	5,792	0	0	157	0	0	0	0	0	0	14,650	
PUERTO RICO	11,761	1,088	1,087	193	0	0	0	0	0	0	1,012	50	250	15,441	
RHODE ISLAND	8,730	574	582	2,304	0	0	0	50	0	0	1,336	0	20	13,596	
SOUTH CAROLINA	12,128	1,280	1,279	2,080	0	0	0	0	0	0	162	0	10	16,939	
TEXAS	4,183	0	0	34,556	0	0	0	0	0	0	0	0	0	38,739	
VIRGIN ISLANDS	4,521	491	460	361	0	0	0	0	0	0	0	0	0	5,833	
VIRGINIA	5,153	1,785	1,783	573	0	0	285	369	74	0	10	0	40	10,072	
WASHINGTON	19,051	1,872	1,870	2,388	0	0	200	0	0	0	1,924	59	89	27,453	
WISCONSIN	11,176	799	799	669	0	0	300	0	0	0	24	0	0	13,767	

* Includes 306A funds
 ** Includes Section 305 program planning funds
 *** Includes all Federal funding awarded since 1974 through FY 1989:
 (Marine Sanctuary funding is not included).
 (Dollars in Thousands)

APPENDIX C

CZMA SECTION 306A INFORMATION FROM FY 1985 THROUGH FY 1988
(DOLLARS ADJUSTED FOR INFLATION - 1988 \$)

STATE	306A PROJECTS	FEDERAL 306A \$	STATE 306A \$	FEDERAL CZMA AWARD	PERCENT OF AWARD
MICHIGAN	111	\$2,412,286	\$2,476,470	\$8,190,980	29
MAINE	48	1,383,439	3,788,518	6,704,460	21
NORTH CAROLINA	38	3,300,931	2,429,809	7,395,600	45
WISCONSIN	30	1,503,838	1,720,635	3,596,190	42
MISSISSIPPI	29	1,064,632	620,494	2,250,020	47
MARYLAND	26	979,138	608,385	8,190,980	12
NEW JERSEY	25	1,187,501	271,278	10,390,980	11
OREGON	22	460,013	321,642	3,768,160	12
PENNSYLVANIA	22	1,080,319	947,689	3,141,550	34
NEW HAMPSHIRE	17	611,091	1,414,071	2,505,760	24
SOUTH CAROLINA	17	434,000	419,531	6,417,480	7
WASHINGTON	15	745,255	198,519	8,179,980	9
NEW YORK	12	375,079	413,583	8,307,980	5
RHODE ISLAND	10	165,008	263,288	2,558,320	6
PUERTO RICO	9	205,000	93,925	4,882,480	4
CALIFORNIA	5	1,138,325	1,908,365	7,776,800	15
ALABAMA	5	122,373	133,036	2,417,690	5
LOUISIANA	5	92,700	164,800	8,190,980	1
VIRGINIA	2	76,000	76,000	4,831,570	2
DELAWARE	2	16,500	0	2,397,270	1
AMERICAN SAMOA	2	40,600	0	1,958,380	2
CONNECTICUT	1	18,073	1,353	3,149,700	1
N. MARIANAS	1	40,973	0	2,006,890	2
GUAM	1	48,150	0	1,976,320	2
VIRGIN ISLANDS	0	0	0	2,037,100	0
ALASKA	0	0	0	8,190,980	0
HAWAII	0	0	0	3,073,200	0
FLORIDA	0	0	0	8,190,980	0
MASSACHUSETTS	0	0	0	5,960,210	0
TOTALS	455	17,501,224	18,271,391	148,638,990	

APPENDIX D

CONSISTENCY APPEALS REPORT

<u>APPELLANT</u>	<u>STATE</u>	<u>NOTICE OF APPEAL FILED</u>	<u>DISPOSITION</u>
N.Y. OFFICE OF MENTAL HEALTH	NY	10/09/87	Dismissed 01/09/89
WESTVACO CORP	SC	10/22/87	Dismissed 02/04/88
FELIPE BELTRAN	PR	11/19/88	Dismissed 09/27/88
TELECINCO INC.	PR	01/04/88	Dismissed 02/24/89
DASPIT	MS	01/13/88	Dismissed 10/05/88
DAMIEN ZANETTI	PR	01/15/88	State found project consistent & returned to Zanetti 05/19/88
CAPACETE (BANK) OF PONCE)	PR	01/27/88	Dismissed 12/19/88
TIP TOP ASSOC.	SC	02/17/88	Dismissed 06/02/88
CLAUDE WHITE	SC	02/23/88	Dismissed 03/27/89
SUCESION A. BACHMANN	PR	03/18/88	Drafting opinion
TEXACO INC.	CAL	03/23/88	Findings 5/19/89
PAUL COPENHAGEN	NY	04/04/88	Dismissed 02/14/89

<u>APPELLANT</u>	<u>STATE</u>	<u>NOTICE OF APPEAL FILED</u>	<u>DISPOSITION</u>
CABO ROJO	PR	04/11/88 (revived)	Letter sent to appellant saying objection appears invalid
MIRE RIVER PROPERTIES	LA	04/19/88	Dismissed 12/21/88
DONALD BENSON	AK	04/28/88	Dismissed 11/04/88
PEDRO MONZON	PR	05/18/88	Preparing letter to Corps
EFRAIN M. IRIZARRY-IRIZARRY	PR	05/18/88	Preparing letter to Corps
CARMEN R. RODRIQUES-DETRES	PR	05/18/88	Preparing letter to Corps
MILTON IRIZARRY- IRIZARRY	PR	05/18/88	Preparing letter to Corps
GERMAN RODRIGUEZ	PR	05/18/88	Preparing letter to Corps
ISABEL M. NITTE- HOFFMAN	PR	05/18/88	Preparing letter to Corps
RENE IRIZARRY- AYMAT	PR	05/18/88	Preparing letter to Corps
LUIS E. BOOTHBY	PR	05/18/88	Preparing letter to Corps
VICENTE RODRIGUEZ- LUGO	PR	05/18/88	Preparing letter to Corps
NELSON MERCADO	PR	05/18/88	Preparing letter to Corps

<u>APPELLANT</u>	<u>STATE</u>	<u>NOTICE OF APPEAL FILED</u>	<u>DISPOSITION</u>
HIRAN TRABAL	PR	05/23/88	Preparing letter to Corps
REGINALD W. & GLENN G. GARNER	PR	05/27/88	Preparing letter to Corps
NE INDUSTRIAL PARK	NY	06/7/88	State withdrew objection 06/20/88
MANUEL VARGAS- VARGAS	PR	06/14/88	Preparing letter to Corps
GERMAN SEDA-PEREZ	PR	06/14/88	Preparing letter to Corps
LOLIN PAZ	PR	06/14/88	Preparing letter to Corps
CONOCO INC.	CA	07/05/88	Drafting decision
CHEVRON	CAL	07/05/88	Draft decision circulating
MICHAEL GALGANO	NY	07/14/88	First draft of decision completed
DSD DEVELOPERS	SC	07/29/88	Case settled on 9/21/88 before appeal processed
SHARON PADRILLA	PR	08/17/88	Preparing letter to Corps
CARLOS RODRIGUEZ	PR	08/17/88	Preparing letter to Corps
GENSTAR STONE PRODUCTS CO.	NJ	08/30/88	Dismissed 05/01/89
LONE RIDGE FARM (DAVIS MCNEILL)	SC	09/01/88	Dismissed 12/19/88

<u>APPELLANT</u>	<u>STATE</u>	<u>NOTICE OF APPEAL FILED</u>	<u>DISPOSITION</u>
MERCEDES MULET	PR	09/19/88	Preparing letter to Corps
LOS INDIOS	PR	09/26/88	Drafting opinion
RIGGINGS HOMEOWNERS ASSOCIATION (AUBREY CONSULTANTS)	NC	10/17/88	Dismissed 11/15/89
LJ HOOKER	SC	11/21/88	Withdrawn 3/27/89
CYNTHIA THOMPSON	SC	12/07/88	Dismissed 06/26/89
UNOCAL	FL	12/21/88	Awaiting Presidential Task Force Report before setting up reply brief schedule in 1/90
MOBIL EXPLORATION & PRODUCING U.S. INC.	FL	01/11/89	Final briefing schedule to be set in 1/90
INTN'L PAPER REALTY	SC	01/30/89	Considering threshold issue
GULF OIL DIVISION	CONN	02/06/89	Dismissed 12/21/89
CLAIRE PAPPAS	NY	02/06/89	Dismissed 05/23/89
JEFFREY SHAPIRO	CONN	02/14/89	Dismissed 11/22/89
W. HARRY CONE, JR.	SC	03/13/89	Dismissed 1/10/90
JORGE L. GUERRERO- CALDERON	PR	03/17/89	Public Comments closes 1/30/90

<u>APPELLANT</u>	<u>NOTICE OF APPEAL</u>		<u>DISPOSITION</u>
	<u>STATE</u>	<u>FILED</u>	
AMOCO	AK	04/03/89S	State and others filed briefs on 08/14/89
OAK BEACH INN	NY	06/03/89	Dismissed 10/31/89
LARRY BROWN	SC	06/09/89	Dismissed 12/14/89
DARO LAND HOLDING CO.	MD	06/19/89	Appellant's request for stay being processed
B.J. BULL	SC	06/20/89	Dismissed 9/27/89
JAMES DUSENBURY	SC	06/27/89	Dismissed 1/10/90
NEW YORK CITY	NY	07/24/89	Withdrawn 08/09/89
ALLAN FOREMAN	NC	07/31/89	Appellant's brief due 1/4/90
A. ELWOOD CHESTNUT	SC	08/14/89	Appellant's brief rec'd 11/28/89, State's reply due 12/28/89
JOSE R. PEREZ VILLAMIL	PR	08/28/89	Determining timeliness of appeal
GEORGE CHENAULT	SC	08/28/89	Dismissed 1/8/90
RITA RASCATI	CT	09/07/89	Dismissed 1/5/90
SHICKREY ANTON	SC	10/2/89	Appellant's brief due 1/25/90

<u>APPELLANT</u>	NOTICE OF APPEAL		<u>DISPOSITION</u>
	<u>STATE</u>	<u>FILED</u>	
HENRY CROSBY	SC	10/11/89	Appellant's brief due 1/17/90. Request for stay rec'd 1/3/90; recommendation being drafted.
ROGER W. FULLER	NC	12/11/89	Notice of Appeal included a request for a stay; recommendation being drafted

Friday
October 28, 1988

federal register

Part III

**Department of
Commerce**

**National Oceanic and Atmospheric
Administration**

**15 CFR Part 921
National Estuarine Reserve Research
System Regulations; Proposed Rule**

DEPARTMENT OF COMMERCE**National Oceanic and Atmospheric Administration****15 CFR Part 921**

[Docket No. 70874-7174]

National Estuarine Reserve Research System Regulations

AGENCY: Office of Ocean and Coastal Resource Management (OCRM), National Service (NOS), National Oceanic and Atmospheric Administration (NOAA), Department of Commerce.

ACTION: Proposed rule.

SUMMARY: The regulations revise existing rules for national estuarine sanctuaries in accordance with the Coastal Zone Management Reauthorization Act of 1985 (Pub. L. 99-272) and recommendations contained in the Office of Inspector General Report No. F-726-5-010, "Opportunities to Strengthen the Administration of the Estuarine Sanctuary Program." Effective with the signing of the Coastal Zone Management Act (CZMA) amendments on April 7, 1986, the name of the Estuarine Sanctuary Program changed to National Estuarine Reserve Research System; estuarine sanctuary sites are referred to as national estuarine research reserves. These regulations revise the process for designation of research reserves. Greater emphasis is placed on the use of reserves to address national estuarine research and management issues, and to make maximum use of the System for research purposes through coordination with other elements within NOAA and with other Federal and state agencies which are sponsoring estuarine research. Additional emphasis is also given to providing financial assistance to states to enhance public awareness and understanding of estuarine areas by providing opportunities for public education and interpretation. The regulations provide new guidance for delineating reserve boundaries and new procedures for arriving at the most effective and least costly approach to acquisition land. Clarifications in the total amount of financial assistance authorized for each national estuarine research reserve, and in criteria for withdrawing the designation of a reserve, have also been added.

DATE: Comments will be accepted until December 30, 1988. After the close of the comment period and review of the comments received, final regulations will be published in the **Federal Register**.

ADDRESS: Send comments to: Mr. Joseph Uravitch, Chief, Marine and Estuarine

Management Division; Office of Ocean and Coastal Management, NOS/NOAA; 1825 Connecticut Avenue NW., Washington DC 20235, (202) 673-5122.

FOR FURTHER INFORMATION CONTACT: Mr. Art Jeffers, (202) 673-5128.

SUPPLEMENTARY INFORMATION: NOAA is proposing revised regulations for implementing the National Estuarine Reserve Research System, pursuant to section 315 of the Coastal Zone Management Act, as amended (16 U.S.C. 1416). The System has been operating under National Estuarine Program regulations published June 27, 1984 (49 FR 26502). Based on experience in operating the System and on the Coastal Zone Management Act (CZMA) amendments effective in April 1986, a number of changes in operating procedures and policy are required. The proposed regulations implement these changes, which include:

I. Changing the Name and Emphasis of the Program

The CZMA amendments established the National Estuarine Program System (System). The System consists of (1) Each estuarine sanctuary designated before enactment of the Coastal Zone Management Reauthorization Act of 1985, and (2) each estuarine area designated as a national estuarine research reserve under subsection 921.30 of these regulations. The term **estuarine sanctuary** no longer appears in regulations; the term **research reserve** or **reserve** appears in its place.

The Mission Statement for the System is much the same as for the National Estuarine Sanctuary Program. However, the goals for the National Estuarine Reserve Research System stress the use of reserve sites for promotion and coordination of estuarine research on a national level as the highest priority and reason for establishing the System. The protection and management of estuarine areas and resources are clearly intended to support the research mission, not as ends in themselves. Consultation with other Federal and state agencies to promote use of one or more reserves within the System by such agencies when conducting estuarine research is also a clearly defined goal of the System. The regulations also emphasize using a reserve's natural resources and ecology to enhance public awareness and understanding of estuarine areas, and providing suitable opportunities for public education and interpretation. This education goal has been elevated to become one of the essential criteria for designation of a reserve.

II. Revision of the Procedures for Selecting, Designating and Operating National Estuarine Research Reserves

(A) *Revision of designation criteria.* The Coastal Zone Management Reauthorization Act of 1985 established, for the first time, statutory criteria for designating an area as a national estuarine research reserve. An area may be designated by the Secretary of Commerce if:

- "(1) The Governor of the coastal state in which the area is located nominates the area for that designation; and
- (2) The Secretary of Commerce finds that:

(A) The area is a representative estuarine ecosystem that is suitable for long-term research and contributes to the biogeographical and typological balance of the System;

(B) The law of the coastal state provides long-term protection for reserve resources to ensure a stable environment for research;

(C) Designation of the area as a reserve will serve to enhance public awareness and understanding of estuarine areas, and provide suitable opportunities for public education and interpretation; and

(D) The coastal state in which the area is located has complied with the requirements of any regulations issued by the Secretary to implement this section."

Some of these criteria for designation are either new or substantially more specific than those contained in the existing regulations. For example, the Governor in a coastal state must nominate an estuarine area for designation, and findings are required that the law of the coastal state provides long-term protection for reserve resources to ensure a stable environment for research and that designation of the area will serve to enhance public awareness and understanding of estuarine areas. The criteria in the existing regulations have been revised accordingly.

(B) *Revision of site selection criteria and procedures.* The criteria for selecting an estuarine area for designation as a national estuarine research reserve have been expanded to provide guidance for determining boundaries for the proposed site. The Office of Inspector General Report No. F-726-5-010 criticized the lack of specific guidelines for setting limits on boundaries around estuarine sanctuaries to ensure that only land essential to the mission of the program be included inside the sanctuary. References in the existing regulations to

ensure that the boundaries encompass an adequate portion of the key land and water areas of the natural system to approximate an ecological unit are too vague, particularly since terms are not defined. The proposed regulations define key land and water areas as a "core area" within the reserve which is so vital to the functioning of the estuarine ecosystem that it must be under a level of control sufficient to ensure the long-term viability of the reserve for research on natural processes. The determination of key land and water areas must be based on scientific knowledge of the area. The concept of a "buffer" area to protect the core area and provide additional protection for estuarine-dependent species has also been defined in the regulations. The buffer zone may include an area necessary for facilities required for research and interpretation, and additionally, to accommodate a shift of the core area as a result of biological, ecological or geomorphological change which reasonable could be expected to occur. States will be required to use scientific criteria to justify the boundaries selected for a proposed site.

The information requirements for NOAA approval of a proposed site under existing regulations were confusing and now have been clarified.

NOAA has recognized the need to conduct studies to develop a basic description of the physical, chemical, and biological characteristics of the site. As a result, states may now be eligible for Federal funding of these studies after NOAA approval of a proposed site.

(C) *Management plan development.* Once NOAA approves the proposed site and decides to proceed with designation, the state must develop a draft management plan. The contents of the plan, including the memorandum of understanding (MOU) between NOAA and the state, are specified in the regulations. The acquisition portion of the plan has been greatly expanded to implement recommendations in the Office of Inspector General Report No. F-726-5-010. It is proposed that states be required to justify the use of fee simple acquisition methods and make greater use of non-fee simple methods to conserve expenditure of funds. For each parcel, both in the core area and the buffer zone, states must determine, with appropriate justification: (1) The minimum level of control(s) required, (2) the level of existing state control, and (3) the level of additional state control(s) required; states must also examine all reasonable alternatives for attaining the additional level of control required, and perform a cost analysis of each, and

rank, in order of cost, the alternative methods of acquisition which were considered. The cost-effectiveness assessment must also compare short-term and long-term costs. The state shall give priority consideration to the least costly method(s) of attaining the minimum level of long-term control required.

(D) *Financial assistance awards for site selection and post site selection.* The first five types of awards under the National Estuarine Reserve Research System is for site selection and post-site selection, which includes preparation of a draft management plan (including MOU) and the collection of information necessary for preparation of the environmental impact statement. The maximum total Federal share of these awards has been raised to \$100,000. Of this amount, up to \$25,000 may be used to conduct the site selection process as described in § 921.11. After NOAA's approval of a proposed site and decision to proceed with the designation process, the state may expend: (1) Up to \$40,000 of this amount to develop the draft management plan and collect information for preparation of the environmental impact statement; and (2) up to the remainder of available funds to conduct studies to develop a basic description of the physical, chemical, and biological characteristics of the site.

(E) *Financial assistance awards for acquisition, development, and initial management.* The regulations divide eligibility for financial assistance awards for acquisition and development into two phases. In the initial phase, states are working to meet the criteria required for formal research reserve designation, i.e., establishing adequate state control over key land and water areas in accordance with the draft management plan and preparing a final management plan. In this pre-designation phase, funds are available for acquiring interest in land, which is the primary purpose of this award, and for minor construction (e.g., nature trails and boat ramps), preparation of architectural and engineering plans and specifications, development of the final management plan, and hiring a reserve manager and other staff as necessary to implement the NOAA approved draft management plan.

The length of time for this initial phase of acquisition and development may be up to three years. After the site receives Federal designation as a national estuarine research reserve, the state may request additional financial assistance to acquire additional property interests (e.g., for the buffer zone), for construction of research and

interpretive facilities, and for restorative activities in accordance with the approved final management plan.

The Coastal Zone Management Reauthorization Act of 1985 specifies that the amount of financial assistance provided with respect to the acquisition of land and waters, or interests therein, for any one national estuarine research reserve may not exceed 50 per centum of the costs of the lands, waters, and interests therein or \$4,000,000, whichever amount is less.

The amount of Federal financial assistance provided under the regulations for development costs directly associated with major facility construction (i.e., other than land acquisition) for any one national estuarine research reserve must not exceed 50 per centum of the costs of such construction or \$1,000,000, whichever amount is less.

(F) *Financial assistance awards for operation and management.* The amount of Federal financial assistance available to a state to manage the reserve and operate programs consistent with the mission and goals of the National Estuarine Reserve Research System has been raised to \$420,000. Of this amount, no more than \$70,000 may be requested in a twelve month period, allowing for a period of Federal assistance for operation of management assistance of six years or more. Up to ten percent of the total award (Federal and state) each year may be used for construction-type activities.

A time limit has been imposed on the expenditure of operations and management awards for personnel positions. The Federal portion of operations and management awards may be used for the support of any single staff position (e.g., reserve manager, assistant manager, research coordinator, education/interpretive coordinator, secretary/administrative assistant, custodial support, or their equivalents) for a period not exceeding three years. The intent of this provision is to ensure that the state makes a longterm commitment of resources to staff the reserve adequately, well in advance of the period when Federal funding for operation and management is terminated.

(G) *Financial assistance for research.* The CZM Reauthorization Act of 1985 specifically affects the conduct of the System's research program by establishing the requirement for developing Estuarine Research Guidelines and specifying what these guidelines shall include. The legislation also requires the Secretary of Commerce to require that NOAA, in conducting or

supporting estuarine research, give priority consideration to research that uses reserves in the System, and that NOAA consult with other Federal and state agencies to promote use of one or more reserves by such agencies when conducting estuarine research.

The research guidelines, which are referred to in regulations, but are not part of them, state that NOAA will provide research grants only for proposals which address research questions and coastal management issues that have highest national priority as determined by NOAA, in consultation with prominent members of the estuarine research community.

One significant addition to the regulations is that research awards are available on a competitive basis to any coastal state or qualified public or private person, thus making it possible for the first time for public or private persons, organizations or institutions to compete with coastal states and coastal state universities for NOAA research funding to work in research reserves.

(H) *Financial assistance awards for interpretation and education.* The CZM Reauthorization Act of 1985 authorizes the award of grants for the purposes of conducting educational and interpretive activities. To stimulate the development of innovative or creative interpretive and educational projects and materials which will enhance public awareness and understanding of estuarine areas, the regulations provide for funds to be available on a competitive basis to any coastal state entity. These funds are provided in addition to any other funds available to a coastal state under these regulations.

Categories of potential educational and interpretive projects include:

(1) Design, development and distribution/placement of interpretive or educational media (i.e., the development of tangible items such as exhibits/displays, publications, posters, signs, audio-visuals, computer software, and maps, which have an educational or interpretive purpose, and techniques for making available or locating information concerning reserve resources, activities, or issues);

(2) Development and presentation of curricula, workshops, lectures, seminars, and other structured programs or presentations for on-site facility or field use;

(3) Extension/outreach programs; or
(4) Creative and innovative methods and technologies for implementing interpretive or educational projects.

Interpretive and educational projects may be oriented to one or more research reserves or the entire System. Those projects which would benefit more than

one research reserve, and, if practical, the entire National Estuarine Reserve Research System, shall receive priority consideration for funding.

III. Other actions associated with the proposed rulemaking

(A) *Classification under executive order 12291.* NOAA has concluded that these regulations are not major because they will not result in:

- (1) An annual effect on the economy of \$100 million or more;
- (2) A major increase in costs or prices for consumers; individual industries; Federal, state, or local government agencies; or geographic regions; or
- (3) Significant adverse effects on competition, employment, investment, productivity, innovation or the ability of United States-based enterprises to compete with foreign-based enterprises in domestic or export markets.

These proposed rules amend existing procedures for identifying, designating, and managing national estuarine research reserves in accordance with the CZM Reauthorization Act of 1985. They will not result in any direct economic or environmental effects nor will they lead to any major indirect economic or environmental impacts.

(B) *Regulatory Flexibility Act analysis.* A Regulatory Flexibility Analysis is not required for this notice of proposed rulemaking. The regulations set forth procedures for identifying and designating national estuarine research reserves, and managing sites once designated. These rules do not directly affect "small government jurisdictions" as defined by Pub. L. 96-354, the Regulatory Flexibility Act, and the rules will have no effect on small businesses.

(C) *Paperwork Reduction Act of 1980.* This rule contains collection of information requirements subject to Pub. L. 96-511, the Paperwork Reduction Act (PRA), which have already been approved by the Office of Management and Budget (approval number 0648-0121) for use through October 31, 1989. Public reporting burden for the collections of information contained in this rule is estimated to average 2.012 hours per response for management plans and related documentation, 1.25 hours for performance reports, and 15 hours for annual reports and work plans. These estimates include the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of these collections of information, including suggestions for reducing this burden, to Richard

Roberts; Room 1235; Department of Commerce; Washington, DC; 20230; and to the Office of Information and Regulatory Affairs; Office of Management and Budget; Washington, DC; 20503.

(D) *Executive Order 12612.* This rule does not contain policies with sufficient Federalism implications to warrant preparation of a Federalism assessment under Executive Order 12612.

(E) *National Environmental Policy Act.* NOAA has concluded that publication of the proposed rules does not constitute a major Federal action significantly affecting the quality of the human environment. Therefore, an environmental impact statement is not required.

List of Subjects in 15 CFR Part 921

Administrative practice and procedure. Coastal zone. Environmental protection. Natural resources, and Wetlands.

Dated: October 21, 1988.

Thomas J. Maginnis,

Assistant Administrator for Ocean Services and Coastal Zone Management.

Federal Domestic Assistance. Catalog Number 11.420, National Estuarine Reserve, Research System.

For the reasons set forth in the preamble, it is proposed that 15 CFR Part 921 be amended by revising Subparts A through F and by adding Subparts G and H to read as set forth below. No changes are proposed to Appendix 1—Biogeographic Classification Scheme or Appendix 2—Typology of National Estuarine Research Reserves.

PART 921—NATIONAL ESTUARINE RESERVE SYSTEM REGULATIONS

Subpart A—General

- Sec.
- 921.1 Mission, goals and general provisions.
 - 921.2 Definitions.
 - 921.3 National Estuarine Reserve Research System Biogeographic Classification Scheme and Estuarine Typologies.
 - 921.4 Relationship to other provisions of the Coastal Zone Management Act.

Subpart B—Site Selection, Post Site Selection and Management Plan Development

- 921.10 General.
- 921.11 Site selection.
- 921.12 Post site selection.
- 921.13 Management Plan and Environmental Impact Statement development.

Subpart C—Acquisition, Development, and Preparation of the Final Management Plan

- 921.20 General.

Sec.
921.21 Initial acquisition and development awards.

Subpart D—Reserve Designation and Subsequent Operation

921.30 Designation of National Estuarine Research Reserves.
921.31 Supplemental acquisition and development awards.
921.32 Operation and management: Implementation of the Management Plan.
921.33 Boundary changes, amendments to the Management Plan, and addition of multiple-site components.

Subpart E—Performance Evaluation and Withdrawal of Designation

921.40 Evaluation of system performance.
921.41 Suspension of eligibility for financial assistance.
921.42 Withdrawal of designation.

Subpart F—Research

921.50 General.
921.51 Estuarine research guidelines.
921.52 Promotion and coordination of estuarine research.

Subpart G—Interpretation and Education

921.80 General.
921.81 Categories of potential interpretive and educational projects; evaluation criteria.

Subpart H—General Financial Assistance Provisions

921.70 Application information.
921.71 Allowable costs.
921.72 Amendments to financial assistance awards.

Authority: Section 315, Pub. L. 92-583, as amended; 86 Stat. 1280 (16 U.S.C. 1461).

Subpart A—General

§ 921.1 Mission, goals and general provisions.

(a) The mission of the National Estuarine Reserve Research System is the establishment and management, through Federal-state cooperation, of a national system of estuarine research reserves representative of the various regions and estuarine types in the United States. Estuarine research reserves are established to provide opportunities for long-term research, education, and interpretation.

(b) The goals of the System for carrying out this mission are to:

- (1) Ensure a stable environment for research through long-term protection of estuarine reserve resources;
- (2) Address coastal management issues identified as significant through coordinated estuarine research within the System;
- (3) Enhance public awareness and understanding of the estuarine environment and provide suitable opportunities for public education and interpretation;

(4) Promote Federal, state, public and private use of one or more reserves within the System when such entities conduct estuarine research; and

(5) Conduct and coordinate estuarine research within the System, gathering and making available information necessary for improved understanding and management of estuarine areas;

(c) National estuarine research reserves shall be open to the public. Multiple uses are allowed to the degree compatible with the research reserve's overall purpose as provided in the management plan (see § 921.12) and consistent with paragraphs (a) and (b), of this section. Use levels are set by the individual state and analyzed in the management plan. The research reserve management plan shall describe the uses and establish priorities among these uses. The plan shall identify uses requiring a state permit, as well as areas where uses are encouraged or prohibited. Consistent with resource protection and research objectives, public access may be restricted to certain areas within a research reserve.

(d) Certain manipulative research activities may be allowed on a limited basis, but only if specified in the management plan and only if the activity is consistent with overall reserve purposes and the reserve resources are protected. Manipulative research activities with a significant or long-term impact on reserve resources require the prior approval of the state and the National Oceanic and Atmospheric Administration (NOAA). Habitat manipulation for resource management purposes is not permitted within national estuarine research reserves.

(e) While the intent of establishing national estuarine research reserves is the protection of natural pristine estuarine sites for research, educational and interpretive purposes, NOAA recognizes that many estuarine areas have undergone ecological change as a result of human activities. Although restoration of degraded areas is not a primary purpose of the System, some restorative activities may be permitted in an estuarine research reserve as specified in the management plan.

(f) NOAA may provide financial assistance to coastal states, not to exceed 50 percent of all actual costs, to assist in the acquisition, development and operation of, and the conduct of educational or interpretive activities concerning, national estuarine research reserves (see Subpart H). NOAA may provide financial assistance to any coastal state or public or private person, not to exceed 50 percent of all actual costs, to support research and

monitoring within a national estuarine research reserve. Five types of awards are available under the National Estuarine Reserve Research System. The predesignation awards are for site selection, draft management plan preparation and conduct of basic characterization studies. The acquisition and development award is intended primarily for acquisition of interests in land and construction. The operation and management award provides funds to assist in implementing the research, educational, and administrative programs detailed in the research reserve management plan. At the conclusion of Federal financial assistance for operation and management, funding for the long-term operation of the research reserve becomes the responsibility of the state. The research award provides funds to conduct estuarine research and monitoring within the System. The educational and interpretive award provides funds to conduct estuarine educational and interpretive activities within the System.

(g) Lands already in protected status managed by other Federal agencies, state or local governments, or private organizations can be included within national estuarine research reserves only if the managing entity commits to long-term non-manipulative management. Federal lands already in protected status cannot comprise the key land and water areas of a research reserve (see § 921.11(c)(3)).

§ 921.2 Definitions.

(a) "Act" means the Coastal Zone Management Act, as amended, 16 U.S.C. 1451 *et seq.* Section 315 of the Act, 16 U.S.C. 1461, establishes the National Estuarine Reserve Research System.

(b) "Assistant Administrator" (AA) means the Assistant Administrator for Ocean Services and Coastal Zone Management, National Ocean Service, National Oceanic and Atmospheric Administration, U.S. Department of Commerce, or designee.

(c) "Coastal state" means a state of the United States in or bordering on, the Atlantic, Pacific, or Arctic Ocean, the Gulf of Mexico, Long Island Sound, or one or more of the Great Lakes. For the purposes of this title, the term also includes Puerto Rico, the Virgin Islands, Guam, the Commonwealth of the Northern Marianas, the Trust Territories of the Pacific Islands, and American Samoa (see 16 U.S.C. 1453(4)).

(d) "Estuary" means that part of a river or stream or body of water having unimpaired connection with the open sea, where the sea water is measurably

diluted with fresh water derived from land drainage. The term also includes estuary-type areas of the Great Lakes (see 16 U.S.C. 1453(7)).

(e) "National Estuarine Research Reserve" means an area that is a representative estuarine ecosystem suitable for long-term research, which may include all or the key land and water portion of an estuary, and adjacent transitional areas and uplands constituting to the extent feasible a natural unit, and which is set aside as a natural field laboratory to provide long-term opportunities for research, education, and interpretation on the ecological relationships within the area (see 16 U.S.C. 1453(8)). This includes those areas designated as national estuarine sanctuaries under section 315 of the Act prior to the date of the enactment of the Coastal Zone Management Reauthorization Act of 1985 and each area designated as a national estuarine research reserve pursuant to the provisions of these regulations.

§ 921.3 National Estuarine Reserve Research System Biogeographic Classification Scheme and Estuarine Typologies.

(a) National estuarine research reserves are chosen to reflect regional differences and to include a variety of ecosystem types. A biogeographic classification scheme based on regional variations in the nation's coastal zone has been developed. The biogeographic classification scheme is used to ensure that the national Estuarine Reserve Research System includes at least one site from each region. The estuarine typology system is utilized to ensure that sites in the System reflect the wide range of estuarine types within the United States.

(b) The biogeographic classification scheme, presented in Appendix 1, contains 27 regions. Figure 2 graphically depicts the biogeographic regions of the United States.

(c) The typology system is presented in Appendix 2.

§ 921.4 Relationship to other provisions of the Coastal Zone Management Act.

(a) The National Estuarine Reserve Research System is intended to provide information to state agencies and other entities involved in addressing coastal management issues. Any coastal state, including those that do not have approved coastal zone management programs under section 306 of the Act, is eligible for an award under the National Estuarine Reserve Research System (see § 921.2(c)).

(b) For purposes of consistency review by states with a federally approved coastal zone management program, the designation of a national estuarine research reserve is deemed to be a Federal activity, which, if directly affecting the state's coastal zone, must be undertaken in a manner consistent to the maximum extent practicable with the approved state coastal zone program as provided by section 307(c)(1) of the Act, and implementing regulations at 15 CFR Part 930, Subpart C. At the earliest practicable time, a state with a federally approved coastal zone management program shall consult with appropriate state officials concerning the consistency of the proposed national estuarine research reserve.

Subpart B—Site Selection, Post Site Selection and Management Plan Development

§ 921.10 General.

(a) A state may apply for Federal financial assistance for the purpose of site selection, preparation of documents specified in § 921.13 (draft management plan and environmental impact statement (EIS)) and the conduct of research necessary to complete basic characterization studies. The total Federal share of this group of predesignation awards may not exceed \$100,000, of which up to \$25,000 may be used for site selection as described in § 921.11. In the case of a multi-component national estuarine research reserve in which one or more components are proposed to be located within different states, this provision applies to each state. Financial assistance application procedures are specified in Subpart H.

(b) In selecting a site, a state may choose to develop a multiple-site research reserve reflecting a diversity of habitats in a single biogeographic region. A multiple-site research reserve also allows the state to develop complementary research and educational programs within the multiple components of its research reserve. Multiple-site research reserves are treated as one reserve in terms of financial assistance and development of an overall management framework and plan. Each individual component of a proposed multiple-site research reserve shall be evaluated both separately under § 921.11(c) and collectively within the context of the multi-component reserve as part of the site selection process. A state may propose to establish a multiple-site research reserve at the time of the initial site selection, or at any point in the development or operation of the

estuarine research reserve, even after Federal funding for the single component research reserve has expired. If the state decides to develop a multiple-site national estuarine research reserve after the initial acquisition and development award is made for a single site, the proposal is subject to the requirements set forth in § 921.33. Importantly, however, a state may not propose to add one or more components to an already designated research reserve if the operation and management of such research reserve has been found deficient or the research conducted is not consistent with the Estuarine Research Guidelines in accordance with the provisions of Subpart E. In addition, the total acquisition funding for a multiple-site research reserve remains limited to \$4,000,000 (see § 921.20). The funding for operation of multiple-site research reserve remains limited to \$420,000 (see § 921.32(c)).

§ 921.11 Site selection.

(a) A state may use up to \$25,000 in Federal funds to establish and implement a site selection process which is approved by NOAA.

(b) In addition to the requirements set forth in Subpart H, a request for Federal funds for site selection must contain the following programmatic information:

(1) A description of the proposed site selection process and how it will be implemented in conformance with the biogeographic classification scheme and typology (§ 921.3);

(2) An identification of the site selection agency and the potential management agency; and

(3) A description of how public participation will be incorporated into the process (see § 921.11(d)).

(c) As part of the site selection process, the state and NOAA shall evaluate and select the final site(s). NOAA has final authority in approving such sites. Site selection shall be guided by the following principles:

(1) The site's contribution to the biogeographical and typological balance of the National Estuarine Reserve Research System (see the biogeographic classification scheme and typology set forth in § 921.3 and Appendices 1 and 2);

(2) The site's ecological characteristics, including its biological productivity, diversity of flora and fauna, and capacity to attract a broad range of research and educational interests. The proposed site must be a representative estuarine ecosystem and should, to the maximum extent possible, be a natural system;

(3) Assurance that the site's boundaries encompass an adequate portion of the key land and water areas of the natural system to approximate an ecological unit and to ensure effective conservation. Boundary size will vary greatly depending on the nature of the ecosystem. Research reserve boundaries must encompass the area within which adequate control has or will be established by the managing entity over human activities occurring within the reserve. General, reserve boundaries will encompass two areas: key land and water areas (or "core area") and a buffer zone. Key land and water areas and a buffer zone will likely require significantly different levels of control (see § 921.13(a)(7)). The term "key land and water areas" refers to that core area within the reserve that is so vital to the functioning of the estuarine ecosystem that it must be under a level of control sufficient to ensure the long-term viability of the reserve for research on natural resources. Key land and water areas, which comprise the core area, are those ecological units of a natural estuarine system which preserve, for research purposes, a full range of significant physical, chemical and biological factors contributing to the diversity of fauna, flora and natural processes occurring within the estuary. The determination of which land and water areas are "key" to a particular reserve must be based on specific scientific knowledge of the area. A basic principle to follow when deciding upon key land and water areas is that they should encompass resources representative of the total ecosystem, and which if compromised could endanger the research objectives of the reserve. The term "buffer zone" refers to an area adjacent to or surrounding key land and water areas and essential to their integrity. Buffer zones protect the core area and provide additional protection for estuarine-dependent species, including those that are rare or endangered. When determined appropriate by the state and approved by NOAA, the buffer zone may also include an area necessary for facilities required for research and interpretation. Additionally, buffer zones should be established sufficient to accommodate a shift of the core area as a result of biological, ecological or geomorphological change which reasonably could be expected to occur. National estuarine research reserves may include existing Federal or state lands already in a protected status where mutual benefit can be enhanced. Importantly, however, NOAA will not approve a site for potential national

estuarine research reserve status that is dependent upon the inclusion of currently protected Federal lands in order to meet the requirements for research reserve status (such as key land and water areas). Such lands may only be included within a research reserve to serve as a buffer or for other ancillary purposes;

(4) The site's suitability for long-term estuarine research, including ecological factors and proximity to existing research facilities and educational institutions;

(5) The site's compatibility with existing and potential land and water uses in contiguous areas; and

(6) The site's importance to education and interpretive efforts, consistent with the need for continued protection of the natural system.

(d) Early in the site selection process the state must seek the views of affected landowners, local governments, other state and Federal agencies and other parties who are interested in the area(s) being considered for selection as a potential national estuarine research reserve. After the local government(s) and affected landowner(s) have been contacted, at least one public meeting shall be held in the area of the proposed site. Notice of such a meeting, including the time, place, and relevant subject matter, shall be announced by the state through the area's principal news media at least 15 days prior to the date of the meeting and by NOAA in the Federal Register.

(e) A state request for NOAA approval of a proposed site (or sites in the case of a multi-site reserve) must contain a description of the proposed site in relationship to each of the site selection principles (§ 921.11(c)) and the following information:

(1) An analysis of the proposed site based on the biogeographical scheme/typology discussed in § 921.3 and set forth in Appendices 1 and 2;

(2) A description of the proposed site and its major resources, including location, proposed boundaries, and adjacent land uses. Maps, including aerial photographs, are required;

(3) A description of the public participation process used by the state to solicit the views of interested parties, a summary of comments, and, if interstate issues are involved, documentation that the Governor(s) of the other affected state(s) has been contacted. Copies of all correspondence, including contact letters to all affected landowners must be appended;

(4) A list of all sites considered and a brief summary of the basis for not selecting the non-preferred sites; and

(5) A nomination of the proposed site(s) for designation as a National Estuarine Research Reserve by the Governor of the coastal state in which the area is located.

§ 921.12 Post site selection.

(a) At the time of the state's request for NOAA approval of a proposed site, the state may submit a request for up to \$40,000 of predesignation funds to develop the draft management plan and for the collection of the information necessary for preparation of the environmental impact statement. At this time, the state may also submit a request for the remainder of the predesignation fund for research necessary to complete a basic characterization of the physical, chemical and biological characteristics of the site approved by NOAA. The state's request for these post site selection funds must be accompanied by the information specified in Subpart H and, for draft management plan development and environmental impact statement information collection, the following programmatic information:

(1) A draft management plan outline (see § 921.13(a) below); and

(2) An outline of a draft memorandum of understanding (MOU) between the state and NOAA detailing the Federal-state role in research reserve management during the initial period of Federal funding and expressing the state's long-term commitment to operate and manage the national estuarine research reserve.

(b) The state is eligible to use the funds referenced in § 921.12(a) after the proposed site is approved by NOAA.

§ 921.13 Management plan and environmental impact statement development.

(a) After NOAA approves the state's proposed site and request to use remaining predesignation funds for draft management plan development and environmental impact statement development, the state shall develop a draft management plan, including an MOU. The plan will set out in detail:

(1) Research reserve goals and objectives, management issues, and strategies or actions for meeting the goals and objectives;

(2) An administrative section including staff roles in administration, research, education/interpretation, and surveillance and enforcement;

(3) A research plan, including a monitoring design;

(4) An education/interpretive plan;

(5) A plan for public access to the research reserve;

(6) A construction plan, including a proposed construction schedule, preliminary drawings and general descriptions of proposed developments. Information should be provided for proposed minor construction projects in sufficient detail to allow these projects to begin in the initial phase of acquisition and development. If a visitor center, research center or any other facilities are proposed for construction or renovation at the site, or restorative activities which require significant construction are planned, a detailed construction plan including preliminary cost estimates and architectural drawings must be prepared as a part of the final management plan; and

(7) An acquisition plan identifying the ecologically key land and water areas of the research reserve, ranking these areas according to their relative importance, and including a strategy for establishing adequate state control over these areas sufficient to provide protection for reserve resources to ensure a stable environment for research. This plan must include an identification of ownership within the proposed research reserve boundaries, including land already in the public domain; the method(s) which the state proposes to use—acquisition (including less-than-fee options) or the feasible alternatives—to establish adequate state control; an estimate of the fair market value of any property interest—fee or less-than-fee simple interest—which is proposed for acquisition; a schedule estimating the time required to complete the process of establishing adequate state control of the proposed research reserve; and a discussion of any anticipated problems. In selecting a preferred method(s) for establishing adequate state control over areas within the proposed boundaries of the reserve, the state shall perform the following steps for each parcel determined to be part of the key land and water areas (control over which is necessary to protect the integrity of the reserve for research purposes), and for those parcels required for research and interpretive support facilities or buffer purposes:

(i) Determine, with appropriate justification, the minimum level of control(s) required (e.g., management agreement, regulation, less-than-fee property interest, fee simple property acquisition, a combination of these approaches or other feasible alternative);

(ii) Identify the level of existing state control(s);

(iii) Identify the level of additional state control(s), if any, necessary to meet the minimum requirements

identified in paragraph (a)(7)(i) of this section;

(iv) Examine all reasonable alternatives for attaining the level of control identified in paragraph (a)(7)(iii) of this section, and perform a cost analysis of each; and

(v) Rank, in order of cost, the methods (including acquisition) identified in paragraph (a)(7)(iv) of this section.

An assessment of the relative cost-effectiveness of control alternatives shall include a reasonable estimate of both short-term costs (e.g., acquisition of property interests, regulatory program development including associated enforcement costs, negotiation, adjudication, etc.) and long-term costs (e.g., monitoring, enforcement, adjudication, management and coordination, etc.). In selecting a preferred method(s) for establishing adequate state control over each parcel examined under the process described above, the state shall give priority consideration to the least costly method(s) of attaining the minimum level of long-term control required. Generally, with the possible exception of buffer areas required for support facilities, the level of control(s) required for buffer areas will be considerably less than that required for key land and water areas. This acquisition plan, after receiving the approval of NOAA, shall serve as a guide for negotiations with landowners. A final boundary for the reserve shall be delineated as a part of the final management plan.

Note.—As discussed in § 921.11(c)(3), if Federally protected lands are to be included within the proposed research reserve, the state must demonstrate to NOAA that the site meets the criteria for national estuarine research reserve status independent of the inclusion of such protected lands.

(8) A resource protection plan detailing applicable authorities, including allowable uses, uses requiring a permit and permit requirements, any restrictions on use of the research reserve, and a strategy for research reserve surveillance and enforcement of such use restrictions, including appropriate government enforcement agencies;

(9) If applicable, a restoration plan describing those portions of the site that may require habitat modification to restore natural conditions; and

(10) A proposed memorandum of understanding (MOU) between the state and NOAA regarding the Federal-state relationship during the establishment and development of the national estuarine research reserve, and expressing a long-term commitment by the state to maintain effectively the

research reserve after Federal financial assistance for operation and management of the site has expired. In conjunction with the MOU and where possible under state law, the state will consider taking appropriate administrative or legislative action to ensure the long-term protection and operation of the national estuarine research reserve. The MOU shall be signed prior to research reserve designation. If other MOUs are necessary (such as with a Federal agency or another state agency), drafts of such MOUs also must be included in the plan.

(11) If the state has a federally approved coastal zone management program, documentation that the proposed national estuarine research reserve is consistent to the maximum extent practicable. See § 921.4(b).

(b) Regarding the preparation of an environmental impact statement (EIS) under the National Environmental Policy Act on a national estuarine research reserve proposal, the state shall provide all necessary information to NOAA concerning the socioeconomic and environmental impacts associated with implementing the draft management plan and feasible alternatives to the plan. Based on this information, NOAA will prepare the draft EIS.

(c) Early in the development of the draft management plan and the draft EIS, the state shall hold a meeting in the area or areas most affected to solicit public and government comments on the significant issues related to the proposed action. NOAA will publish a notice of the meeting in the Federal Register. The state shall be responsible for publishing a similar notice in the local media.

(d) NOAA will publish a Federal Register notice of intent to prepare a draft EIS. After the draft EIS is prepared and filed with the Environmental Protection Agency (EPA), a Notice of Availability of the DEIS will appear in the Federal Register. Not less than 30 days after publication of the notice, NOAA will hold at least one public hearing in the area or areas most affected by the proposed national estuarine research reserve. The hearing will be held no sooner than 15 days after appropriate notice of the meeting has been given in the principal news media and in the Federal Register by NOAA and the state, respectively. After a 45-day comment period, a final EIS will be prepared by NOAA.

Subpart C—Acquisition, Development and Preparation of the Final Management Plan

§ 921.20 General.

The acquisition and development period is separated into two major phases. After NOAA approval of the site, draft management plan and draft MOU, and completion of the final EIS, a state is eligible for an initial acquisition and development award(s). In this initial phase, the state should work to meet the criteria required for formal research reserve designation; e.g., establishing adequate state control over the key land and water areas as specified in the draft management plan and preparing the final management plan. These requirements are specified in § 921.30. Minor construction in accordance with the draft management plan may also be conducted during this initial phase. The initial acquisition and development phase is expected to last no longer than three years. If necessary, a longer time period may be negotiated between the state and NOAA. After research reserve designation, a state is eligible for a supplemental acquisition and development award(s). In this post-designation acquisition and development phase, funds may be used in accordance with the final management plan to construct research and educational facilities, complete any remaining land acquisition, and for restorative activities identified in the final management plan. In any case, the amount of Federal financial assistance with respect to the acquisition of lands and waters, or interests therein, for any one national estuarine research reserve may not exceed an amount equal to 50 per cent of the costs of the lands, waters, and interests therein or \$4,000,000, whichever is less.

§ 921.21 Initial acquisition and development awards.

(a) Assistance is provided to aid the recipient in:

- (1) Acquiring a fee or less-than-fee real property interest in land and water areas to be included in the research reserve boundaries (see § 921.13(a)(7));
- (2) Minor construction, as provided in paragraphs (b) and (c) of this section;
- (3) Preparing the final management plan; and
- (4) Up to the point of research reserve designation, initial management costs, e.g., for implementing the NOAA approved draft management plan, preparing the final management plan, hiring a reserve manager and other staff as necessary and for other management-related activities.

Application procedures are specified in Subpart H.

(b) The expenditure of Federal and state funds on major construction activities is not allowed during the initial acquisition and development phase. The preparation of architectural and engineering plans, including specifications, for any proposed construction, or for proposed restorative activities, is permitted. In addition, minor construction activities, consistent with paragraph (c) of this section also are allowed. The NOAA-approved draft management plan must, however, include a construction plan and a public access plan before any award funds can be spent on construction activities.

(c) Only minor construction activities that aid in implementing portions of the management plan (such as boat ramps and nature trails) are permitted during the initial acquisition and development phase. No more than five (5) percent of the initial acquisition and development award may be expended on such facilities. NOAA must make a specific determination, based on the final EIS, that the construction activity will not be detrimental to the environment.

(d) Except as specifically provided in paragraphs (a) through (c) of this section, construction projects, to be funded in whole or in part under an acquisition and development award(s), may not be initiated until the research reserve receives formal designation (see § 921.30).

Note.—The intent of these requirements and the phasing of the acquisition and development award(s) is to ensure that substantial progress in establishing adequate state control over and, if necessary, acquiring the key land and waters areas has been made and that a final management plan is completed before major sums are spent on construction. Once substantial progress in establishing adequate state control/acquisition has been made, as defined by the state in the management plan, other activities guided by the final management plan may begin with NOAA's approval.

(e) For any real property acquired in whole or part with Federal funds for the research reserve the state shall execute suitable title documents to include substantially the following provisions, or otherwise append the following provisions in a manner acceptable under applicable state law to the official land record(s):

- (1) Title to the property conveyed by this deed shall vest in the [recipient of the CZMA section 315 award or other federally approved state agency] subject to the condition that the designation of the [name of National Estuarine Reserve] is not withdrawn and the property remains part of the federally

designated [name of National Estuarine Research Reserve]. In the event that the property is no longer included as part of the research reserve, or if the designation of the research reserve of which it is part is withdrawn, then NOAA or its successor agency, after full and reasonable consultation with the State, may exercise the following rights regarding the disposition of the property:

(i) The recipient may retain title after paying the Federal Government an amount computed by applying the Federal percentage of participation in the cost of the original project to the current fair market value of the property;

(ii) If the recipient does not elect to retain title, the Federal Government may either direct the recipient to sell the property and pay the Federal Government an amount computed by applying the Federal percentage of participation in the cost of the original project to the proceeds from the sale (after deducting actual and reasonable selling and repair or renovation expenses, if any, from the sale proceeds), or direct the recipient to transfer title to the Federal Government. If directed to transfer title to the Federal Government, the recipient shall be entitled to compensation computed by applying the recipient's percentage of participation in the cost of the original project to the current fair market value of the property.

Note.—The intent of this requirement is to ensure that the official land record(s) associated with real property within a national estuarine research reserve acquired in whole or part with Federal funds includes an appropriate reference to the Federal interest in the property which would arise should such property: (1) Be used for a purpose other than as a national estuarine research reserve, or (2) be no longer included as a part of a federally designated national estuarine research reserve. Fair market value of the property must be determined by an independent appraiser and certified by a responsible official of the state, as provided by OMB Circular A-102 Revised, Attachment F, as amended or superseded, and NOAA's Uniform Relocation and Real Property Acquisition Policies.

(f) Upon instruction by NOAA, provisions analogous to those of § 921.21(e) shall be included in the documentation underlying less-than-fee-simple interests acquired in whole or part with Federal funds.

(g) The expenditure of Federal funds or non-Federal matching share funds to acquire a partial undivided interest (i.e., less-than-full or less than 100% of fee simple or less-than-fee-simple interest) in real property is not allowed. However, in the case where a state has

previously acquired a partial undivided interest in real property with non-Federal funds, if the remaining interest is subsequently acquired with Federal or non-Federal funds and such acquisition was identified as a part of an approved acquisition strategy, then the fair market value of such an existing partial undivided interest in real property may be allowable as match (*i.e.*, non-Federal share) for an acquisition and development award (see also the requirements of § 921.71). This prohibition does not apply to acquisition(s) of partial undivided interests which have been identified as a part of an acquisition strategy which has been approved by NOAA prior to the effective date of these regulations.

(h) Prior to submitting the final management plan to NOAA for review and approval, the state shall hold a public meeting to receive comment on the plan in the area affected by the estuarine research reserve. NOAA will publish a notice of the meeting in the *Federal Register*. The state shall be responsible for having a similar notice published in the local media.

Subpart D—Reserve Designation and Subsequent Operation

§ 921.30 Designation of National Estuarine Research Reserves.

(a) The AA shall designate an area as a national estuarine research reserve pursuant to section 315 of the Act, based upon written findings that the state has met the following requirements:

(1) The Governor of the coastal state in which the area is located has nominated the area for designation as a national estuarine research reserve;

(2) The area is a representative estuarine ecosystem that is suitable for long-term research and contributes to the biogeographical and typological balance of the System;

(3) Key land and water areas of the proposed research reserve, as identified in the management plan, are under adequate state control sufficient to provide long-term protection for reserve resources to ensure a stable environment for research;

(4) Designation of the area as a reserve will serve to enhance public awareness and understanding of estuarine areas, and provide suitable opportunities for public education and interpretation;

(5) A final management plan has been approved by NOAA;

(6) An MOU has been signed between the state and NOAA ensuring a long-term commitment by the state to the effective operation and implementation

of the national estuarine research reserve; and

(7) The coastal state in which the area is located has complied with the requirements of these regulations.

(b) NOAA will determine whether the designation of a national estuarine research reserve in a state with a federally approved coastal zone management program directly affects the coastal zone. If the designation is found to directly affect the coastal zone, NOAA will make a consistency determination pursuant to section 307(c)(1) of the CZMA and 15 CFR Part 930, Subpart C. The results of this consistency determination will be published in the *Federal Register* when a notice of designation is published. See § 921.30(c).

(c) NOAA will cause a notice of designation of a national estuarine research reserve to be placed in the *Federal Register*. The state shall be responsible for having a similar notice published in the local media.

(d) The term "state control" in § 921.30(a)(3) does not necessarily require that key land and water areas be owned by the state in fee simple. Less-than-fee interests and regulatory measures are encouraged where the state can demonstrate that these lands are adequately controlled consistent with the purposes of the research reserve (see also § 921.13(a)(7)).

§ 921.31 Supplemental acquisition and development awards.

After national estuarine research reserve designation, and as specified in the approved management plan, the state may request a supplemental acquisition and development award(s) for acquiring additional property interests identified in the management plan as necessary to enhance long-term protection of the area for research, for facility construction, for restorative activities identified in the approved management plan, and for administrative purposes. The amount of Federal financial assistance provided for development costs directly associated with facility construction other than land acquisition (*i.e.*, major construction activities) for any one national estuarine research reserve may not exceed \$1,000,000. In the case of a multi-component national estuarine research reserve in which all components are not located in one state, this provision applies to each involved state. Application procedures are specified in Subpart H. Land acquisition must follow the procedures specified in § 921.13(a)(7) and § 921.21 (e) and (f).

§ 921.32 Operation and Management: Implementation of the Management Plan.

(a) After the national estuarine research reserve is formally designated, the state is eligible to receive Federal funds to assist the state in the operation and management of the research reserve. The purpose of this Federally funded operation and management phase is to implement the approved final management plan and to take the necessary steps to ensure the continued effective operation of the research reserve after direct Federal support is concluded.

(b) State operation and management of national estuarine research reserves shall be consistent with the mission, and shall further the goals, of the National Estuarine Research Reserve System (see § 921.1).

(c) Federal funds of up to \$420,000, to be matched by the state on a 50/50 basis, are available for the initial operation and management of the national estuarine research reserve, including the establishment and initial operation of a basic environmental monitoring program. In the case of a multi-component national estuarine research reserve in which all components are not located within one state, this provision applies to each involved state. State financial responsibility for the operation and management of the research reserve is fully assumed at the conclusion of initial Federal funding for operation and management.

(d) Operation and management funds are subject to the following limitations:

(1) No more than \$70,000 in Federal funds may be expended in a twelve month award period (*i.e.*, Federal funds for operation and management may not be expended at a rate greater than \$70,000 per year);

(2) No more than ten percent of the total amount (state and Federal shares) of each operation and management award may be used for construction-type activities (*i.e.*, \$14,000 maximum per year); and

(3) The Federal share of operation and management awards may not be used for the support of any single research reserve position (*i.e.*, research reserve manager, research coordinator, assistant manager, education/interpretive coordinator, secretary/administrative assistant, custodial support, or their equivalents) for a period longer than three years.

Note.—The intent of this requirement is to ensure the state makes a commitment of basic staff resources to the project early in the operation and management phase. Given state financial responsibility for long-term

operation and management of the site as a national estuarine research reserve, phasing down Federal support for the basic management, program coordination and administrative personnel required for efficient operation and management of the research reserve is in the interest of both the Federal Government and state. Such a limitation on the uses of the Federal share of operation and management awards, while continuing to allow state support of such personnel as a part of the state share, will aid in avoiding "all or nothing" situations otherwise faced by state agencies and legislatures at the time Federal funding expires for initial operation and management.

§ 921.33 Boundary changes, amendments to the Management Plan, and addition of multiple-site components.

(a) Changes in research reserve boundaries and major changes to the final management plan, including state laws or regulations promulgated specifically for the research reserve, may be made only after written approval by NOAA. If determined to be necessary, NOAA may require public notice, including notice in the *Federal Register* and an opportunity for public comment. Changes in the boundary involving the acquisition of properties not listed in the management plan or final EIS require public notice and the opportunity for comment; in certain cases, an environmental assessment may be required. Where public notice is required, NOAA will place a notice in the *Federal Register* of any proposed changes in research reserve boundaries or proposed major changes to the final management plan. The state shall be responsible for publishing an equivalent notice in the local media. See also requirements of §§ 921.4(b) and 921.13(a)(11).

(b) As discussed in § 921.10(b), a state may choose to develop a multiple-site national estuarine research reserve after the initial acquisition and development award for a single site has been made. Public notice of the proposed addition will be placed by NOAA in the *Federal Register*. The state shall be responsible for publishing an equivalent notice in the local media. An opportunity for comment, in addition to the preparation of either an environmental assessment or environmental impact statement on the proposal, will also be required. An environmental impact statement, if required, shall be prepared in accordance with § 921.13 and shall include an administrative framework for the multiple-site research reserve and a description of the complementary research and educational programs within the research reserve. If NOAA determines, based on the scope of the project and the issues associated with the additional site, that an

environmental assessment is sufficient to establish a multiple-site research reserve, then the state shall develop a revised management plan which, concerning the additional component, incorporates each of the elements described in § 921.13(a). The revised management plan shall address goals and objectives for all components of the multi-site research reserve and the additional component's relationship to the original site(s).

Subpart E—Performance Evaluation Withdrawal of Designation

§ 921.40 Evaluation of system performance.

(a) Following designation of a national estuarine research reserve pursuant to § 921.30, periodic performance evaluations shall be conducted concerning the operation and management of each national estuarine research reserve, including the research being conducted within the reserve and education and interpretive activities. Evaluations may assess performance in all aspects of research reserve operation and management or may be limited in scope, focusing on selection issues of importance. Performance evaluations in assessing research reserve operation and management may also examine whether a research reserve is in compliance with the requirements of these regulations, particularly whether:

- (1) The operation and management of the research reserve is consistent with and furthers the mission and goals of the National Estuarine Reserve Research System (see § 921.1), and
- (2) A basis continues to exist to support any one or more of the findings made under § 921.30(a).

(b) Generally, performance during the operation and management phase supported by Federal financial assistance will be evaluated on a biennial schedule. Following the conclusion of Federal financial assistance for the support of research reserve operation and management, evaluations shall be conducted at least once every four years. More frequent evaluations may be scheduled as determined to be necessary by NOAA.

(c) Performance evaluations will be conducted by Federal officials. When determined to be necessary, Federal and non-Federal experts in natural resource management, estuarine research, interpretation or other aspects of national estuarine research reserve operation and management may be requested by NOAA to participate in performance evaluations.

(d) Performance evaluations will be conducted in accordance with the

procedural and public participation provisions of the CZMA regulations on review of performance at 15 CFR Part 928 (i.e., § 928.3(b) and § 928.4).

(e) To ensure effective Federal oversight of each research reserve within the National Estuarine Reserve Research System after Federal support for a reserve's operation and management is concluded, the state is required to submit an annual report on operation and management of the research reserve during the immediately preceding state fiscal year. This annual report must be submitted within a sixty day period following the end of the state fiscal year. The report shall detail program successes and accomplishments, referencing the research reserve management plan and, as appropriate, the work plan for the previous year. A work plan, detailing the projects and activities to be undertaken over the coming year to meet the goals and objectives of the research reserve as described in the management plan and the state's role in ongoing research reserve programs, shall also be included. Inadequate annual reports will trigger a full-scale performance evaluation.

§ 921.41 Suspension of eligibility for financial assistance.

(a) If a performance evaluation under § 921.40 reveals that the operation and management of the research reserve is deficient, or that the research being conducted within the reserve is not consistent with the Estuarine Research Guidelines referenced in Subpart F, the eligibility of the research reserve for Federal financial assistance as described in these regulations may be suspended until the deficiency or inconsistency is remedied.

(b) NOAA will provide the state with a written notice of the deficiency or inconsistency. This notice will explain the finding, propose a solution or solutions, provide a schedule by which the state should remedy the deficiency or inconsistency, and state whether the state's eligibility for Federal financial assistance has been suspended in whole or part. In this notice the state shall also be advised that it may comment on this finding and meet with NOAA officials to discuss the results of the performance evaluation and seek to remedy the deficiency or inconsistency.

(c) Eligibility of a research reserve for financial assistance under these regulations shall be restored upon written notice by NOAA to the state that the deficiency or inconsistency has been remedied.

(d) If, after a reasonable time, a state does not remedy a deficiency in the operation and management of a national estuarine research reserve which has been identified pursuant to a performance evaluation under § 921.40(a), such outstanding deficiency shall be considered a basis for withdrawal of designation (see § 921.42).

§ 921.42 Withdrawal of designation.

(a) Designation of an estuarine area as a national estuarine research reserve may be withdrawn if a performance evaluation conducted pursuant to § 921.40 reveals that:

(1) The basis for any one or more of the findings made under § 921.30(a) in designating the research reserve no longer exists;

(2) A substantial portion of the research conducted within the research reserve, over a period of years, has not been consistent with the Estuarine Research Guidelines referenced in Subpart F; or

(3) A state, after a reasonable time, has not remedied a deficiency in the operation and management of a research reserve identified pursuant to an earlier performance evaluation conducted under § 921.40.

(b) If a basis is found under § 921.42(a) for withdrawal of designation, NOAA will provide the state with a written notice of this finding. This notice will explain the basis for the finding, propose a solution or solutions and provide a schedule by which the state should correct the deficiency. In this notice, the state shall also be advised that it may comment on the finding and meet with NOAA officials to discuss the finding and seek to correct the deficiency.

(c) If, within a reasonable period of time, the deficiency is not corrected in a manner acceptable to NOAA, a notice of intent to withdraw designation, with an opportunity for comment, will be placed in the Federal Register.

(d) The state shall be provided the opportunity for an informal hearing before the AA to consider NOAA's finding of deficiency and intent to withdraw designation, as well as the state's comments on and response to NOAA's written notice pursuant to § 921.42(b) and Federal Register notice pursuant to § 921.42(c).

(e) Within 30 days after the informal hearing, the AA shall issue a written decision regarding the designation status of the national estuarine research reserve. If a decision is made to withdraw research reserve designation, the procedures specified in § 921.21(e) regarding the disposition of real property acquired in whole or part with Federal funds shall be followed.

Subpart F—Research

§ 921.50 General.

(a) To stimulate high quality research within designated national estuarine research reserves, NOAA may provide financial support for research which is consistent with the Estuarine Research Guidelines referenced in § 921.51. Research funded under this Subpart must be conducted within research reserves with approved final management plans. Research funds are primarily used to support management-related research that will enhance scientific understanding of the research reserve ecosystem, provide information needed by reserve managers and coastal management decisionmakers, and improve public awareness and understanding of estuarine ecosystems and estuarine management issues. Research projects may be oriented to specific research reserves; however, research projects that would benefit more than one research reserve in the National Estuarine Reserve Research System are encouraged.

(b) Federal research funds under this Subpart are not intended as a source of continuous funding for a particular project over time. Research funds may be used to support start-up costs for long-term projects if an applicant can identify an alternative source of long-term research support.

(c) Research funds are available on a competitive basis to any coastal state or qualified public or private person. A notice of available funds will be published in the Federal Register. Research funds are provided in addition to any other funds available to a coastal state under the Act. Federal research funds must be matched equally by the recipient, consistent with § 921.71(e)(4) ("allowable costs").

§ 921.51 Estuarine research guidelines.

(a) Research within the National Estuarine Reserve Research System shall be conducted in a manner consistent with Estuarine Research Guidelines developed by NOAA.

(b) The Estuarine Research Guidelines are being developed separately from these regulations and will be made available as administrative guidance to each national estuarine research reserve and any interested public or private individual. A summary of the Estuarine Research Guidelines will be published in the Federal Register as a part of the notice of available funds discussed in § 921.50(c).

(c) The Estuarine Research Guidelines:

(1) Include a mechanism for

identifying and establishing priorities among the coastal management issues that should be addressed through a coordinated research effort;

(2) Identify national estuarine research priorities and other NOAA criteria for selecting research proposals to be funded under this Subpart;

(3) Establish common research principles and objectives to guide the development of research programs at each national estuarine research reserve;

(4) Identify, to the extent practicable consistent research methodologies which will improve comparability of data, allow for the broadest application of research results, and encourage the maximum use of the National Estuarine Reserve Research System for research purposes;

(5) Establish performance standards upon which the effectiveness of the research efforts, and the value of research reserves in addressing coastal management issues identified as priorities through the mechanism referenced in § 921.51(c)(1), may be measured; and

(6) Examine alternative sources of funds for estuarine research and recommend methods for encouraging the use of these alternative sources of funds for conducting estuarine research within the National Estuarine Reserve Research System with particular emphasis on the procedures established under § 921.52.

(d) The Estuarine Research Guidelines shall be reviewed periodically as determined to be necessary by NOAA or at least once every four years. This review will include an opportunity for comment by the estuarine research community.

§ 921.52 Promotion and coordination of estuarine research.

(a) NOAA will promote and coordinate the use of the National Estuarine Reserve Research System for research purposes.

(b) NOAA will, in conducting or supporting estuarine research other than that authorized under section 315 of the Act, give priority consideration to research that uses the National Estuarine Reserve Research System.

(c) NOAA will consult with other Federal and state agencies to promote use of one or more research reserves within the National Estuarine Reserve Research System when such agencies conduct estuarine research.

Subpart G—Interpretation and Education**§ 921.60 General.**

(a) To stimulate the development of innovative or creative interpretive and educational projects and materials to enhance public awareness and understanding of estuarine areas, NOAA may fund interpretive and educational activities. Interpretive and educational projects funded under this Subpart must be conducted within research reserves with approved final management plans.

(b) Educational and interpretive funds are available on a competitive basis to any coastal state entity. These funds are provided in addition to any other funds available to a coastal state under the Act. Federal interpretation and educational funds must be matched equally by the recipient, consistent with § 921.71(e)(4) ("allowable costs").

§ 921.61 Categories of potential interpretive and educational projects; evaluation criteria.

(a) Proposals for interpretive or educational projects will be considered under the following categories:

(1) Design, development and distribution/placement of interpretive or educational media (*i.e.*, the development of tangible items, such as exhibits/displays, publications, posters, signs, audio/visuals, computer software and maps which have an educational or interpretive purpose; and techniques for making available or locating information concerning research reserve resources, activities, or issues);

(2) Development and presentation of curricula, workshops, lectures, seminars, and other structured programs or presentations for facility or field use;

(3) Extension/outreach programs; or

(4) Creative and innovative methods and technologies for implementing interpretive or educational projects.

(b) Interpretive and educational projects may be oriented to one or more research reserves or to the entire system. Those projects which would directly benefit more than one research reserve, and, if practicable, the entire National Estuarine Reserve Research System, shall receive priority consideration for funding.

(c) Proposals for interpretive and educational projects in national estuarine research reserves will be evaluated in accordance with criteria listed below:

- (1) Educational or interpretive merits;
- (2) Relevance or importance to reserve management or coastal decision-making;

(3) Educational quality (e.g., soundness of approach, experience related to methodologies);

(4) Importance to the National Estuarine Reserve Research System;

(5) Budget and Institutional Capabilities (e.g., reasonableness of budget, sufficiency of logistical support); and

(6) In addition, in the case of long-term projects, the ability of the state or the grant recipient to support the project beyond this initial funding.

Subpart H—General Financial Assistance Provisions**§ 921.70 Application information.**

(a) Only a coastal state may apply for Federal financial assistance awards for preacquisition, acquisitions and development, operation and management, and education and interpretation. Any coastal state or public or private person may apply for Federal financial assistance awards for estuarine research. If a state is participating in the national Coastal Zone Management Program, the applicant for an award under section 315 of the Act shall notify the state coastal management agency regarding the application.

(b) An original and two copies of the formal application must be submitted at least 120 working days prior to the proposed beginning of the project to the following address: Office of Ocean and Coastal Resource Management, National Ocean Service, National Oceanic and Atmospheric Administration, Universal Building, 1825 Connecticut Avenue, NW., Suite 714, Washington, DC 20235. The Application for Federal Assistance Standard Form 424 (Non-construction Program) constitutes the formal application for site selection, post-site selection, operation and management, research, and education and interpretive awards. The Application for Federal Financial Assistance Standard Form 424 (Construction Program) constitutes the formal application for land acquisition and development awards. The application must be accompanied by the information required in Subpart B (predesignation), Subpart C and § 921.31 (acquisition and development), and § 921.32 (operation and management) as applicable. Applications for development awards for construction projects, or restorative activities involving construction, must include a preliminary engineering report. All applications must contain back up data for budget estimates (Federal and non-Federal shares), and evidence that the application complies with the Executive

Order 12372, "Intergovernmental Review of Federal Programs." In addition, applications for acquisition and development awards must contain:

(1) State Historic Preservation Office comments;

(2) Written approval from NOAA of the draft management plan for initial acquisition and development award(s); and

(3) A preliminary engineering report for construction projects, or restorative activities involving construction.

Note: Information on preparing a preliminary engineering report (PER) is provided in "Engineering and Construction Guidelines for Coastal Energy Impact Program Applicants" (42 FR 64830 (1977)).

§ 921.71 Allowable costs.

(a) Allowable costs will be determined in accordance with applicable OMB Circulars and guidance for Federal financial assistance, the financial assistance agreement, these regulations, and other Department of Commerce and NOAA directives. The term "costs" applies to both the Federal and non-Federal shares.

(b) Costs claimed as charges to the award must be reasonable, beneficial and necessary for the proper and efficient administration of the financial assistance award and must be incurred during the award period, except as provided under preagreement costs, paragraph (d) of this section.

(c) Costs must not be allocable to or included as a cost of any other Federally-financed program in either the current or a prior award period.

(d) Costs incurred prior to the effective date of the award (preagreement costs) are allowable only when specifically approved in the financial assistance agreement. For non-construction awards, costs incurred more than three months before the award beginning date will not be approved. For construction and land acquisition awards, NOAA will evaluate preagreement costs on a case-by-case basis.

(e) General guidelines for the non-Federal share are contained in OMB Circular A-102, Attachment F. The following may be used by the state in satisfying the matching requirement:

(1) *Site Selection and Post Site Selection Awards.* Cash and in-kind contributions (value of goods and services directly benefiting and specifically identifiable to this part of the project) are allowable. Land may not be used as match.

(2) *Acquisition and Development Awards.* Cash and in-kind contributions are allowable. In general, the fair market

value of lands to be included within the research reserve boundaries and acquired pursuant to the Act, with other than Federal funds, may be used as match. However, the fair market value of real property allowable as match is limited to the fair market value of a real property interest equivalent to, or required to attain, the level of control over such land(s) identified by the state and approved by the Federal Government as that necessary for the protection and management of the national estuarine research reserve. Appraisals must be performed according to Federal appraisal standards as detailed in NOAA regulations and the "Uniform Appraisal Standard for Federal Land Acquisitions." The fair market value of privately donated land, at the time of donation, as established by an independent appraiser and certified by a responsible official of the state (pursuant to OMB Circular A-102 Revised, Attachment F, as amended or superseded) may also be used as match. Land, including submerged lands already in the state's possession, in a fully-protected status consistent with the purposes of the National Estuarine Reserve Research System, may be used as match only if it was acquired starting within a one-year period prior to the award of preacquisition or acquisition funds and with the intent to establish a national estuarine research reserve. For state lands not in a fully-protected status (e.g., a state park containing an easement for subsurface mineral rights), the value of the development right or foregone value may be used as match if acquired by or donated to the state for inclusion within the research reserve. A state may initially use as match land valued at greater than the Federal share

of the acquisition and development award. The value in excess of the amount required as match for the initial award may be used to match subsequent supplemental acquisition and development awards for the national estuarine research reserve (see also § 921.20). Costs related to land acquisition, such as appraisals, legal fees and surveys, may also be used as match.

(3) *Operation and Management Awards.* Generally, cash and in-kind contributions (directly benefiting and specifically identifiable to this phase of the project), except land, are allowable. However, for the fourth and any subsequent operation and management awards (see § 921.32), if a statutory basis for long-term operation and management of the national estuarine research reserve (specific to or including specific reference to that research reserve) has not been enacted by the state and state funds adequate for the support of a research reserve manager or the equivalent have not been appropriated or otherwise demonstrated to be available, then allowable costs for match are limited to non-Federal supported personnel service (e.g., state employees) necessary for direct support of research reserve operation and management as outlined in the federally approved final management plan. (See § 921.32(d)(3)).

(4) *Research, Education and Interpretive Awards.* Cash and in-kind contributions (directly benefiting and specifically identifiable to the scope of work), except land, are allowable. For research awards, costs incurred in conducting a part of a research project "off-site" (i.e., outside research reserve boundaries) are not allowable, with the

exception of non-Federal costs incurred as part of a project meeting the following conditions:

(i) NOAA has previously approved the entire research effort both on and off-site and, specifically, the scope of work encompassed by the proposed off-site research and the manner in which it addresses a NOAA national estuarine research priority, a priority coastal management issue, and the mission and one or more goals of the National Estuarine Reserve Research System;

(ii) The information gathered will address a critical management or resource information issue within the research reserve;

(iii) The methodology proposed for the off-site research is such that, if this research, or aspect of a larger research project, were to be conducted within the boundaries of research reserve, such methodology could reasonably be expected to result in long-term negative impacts on research reserve resources or management;

(iv) The research reserve is to be used as a control area for manipulative research to be conducted in the area proposed for off-site research; and

(v) The Federal share of the research project will not be used to support any part of the off-site research.

§ 921.72 Amendments to financial assistance awards.

Actions requiring an amendment to the financial assistance award, such as a request for additional Federal funds, revisions of the approved project budget or original scope of work, or extension of the performance period must be submitted to NOAA on Standard Form 424 and approved in writing.

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BILLING CODE 3510-06-M

315 FUNDING

I. Acquisition Awards

- A. Name of Reserve: Chesapeake Bay (Maryland)
 - B. Acreage: n/a Purpose: (pre-acquisition)
 - C. Parties Involved: n/a
 - D. Status: Expires April 1990.
 - E. Federal Funds: \$32,500
-

- A. Name of Reserve: Delaware (proposed)
 - B. Acreage: n/a Purpose: (site selection)
 - C. Parties Involved: n/a
 - D. Status: Expired December 1989
 - E. Federal Funds: \$10,000
-

- A. Name of Reserve: North Carolina
 - B. Acreage: 16 acres, 36 acres
 - C. Parties Involved: Crossleys; Bellamy-Wright
 - D. Status: Expired December 1989. Two Acquisitions Completed.
 - E. Federal Funds: \$250,000
-

- A. Name of Reserve: South Carolina (proposed)
- B. Acreage: n/a Purpose: Site Nomination
- C. Parties Involved: n/a
- D. Status: Expires January 1990
- E. Federal Funds: \$10,000/

- A. Name of Reserve: South Slough
 - B. Acreage: 278 acres
 - C. Parties Involved: n/a
 - D. Status: Completed 1988
 - E. Federal Funds: \$27,000
-

- A. Name of Reserve: Waimanu (Hawii)
 - B. Acreage: 200 acres
 - C. Parties Involved: Hawaiian Home Lands and Department of
Land and Natural Resources
 - D. Status: Pending
 - E. Federal Funds: \$200,000
-

- A. Name of Reserve: Great Bay
 - B. Acreage: 161 acres
 - C. Parties Involved: Private Owners
 - D. Status: Ongoing to June 30, 1990
 - E. Federal Funds: \$250,000
-

- A. Name of Reserve: Great Bay
- B. Acreage: 72 acres (house, barn, garage plus the land)
- C. Parties Involved: Private Owner
- D. Status: Ongoing to December 1990
- E. Federal Funds \$675,000

II. Development Awards

- A. Name of Reserve: Elkhorn Slough
 - B. Purpose: Construction of Administration Building
 - C. Federal Funds: \$75,000
-

- A. Name of Reserve: Hudson River (New York)
 - B. Purpose: Interpretive Center and Exhibit Design
 - C. Federal Funds: \$125,000
-

- A. Name of Reserve: Jobos Bay
 - B. Purpose: Construction and Development of Jobos Bay
Reserve Visitor Center
 - C. Federal Funds: \$250,000
-

- A. Name of Reserve: North Carolina
 - B. Purpose: Exhibits and Signs for Reserve Components
 - C. Federal Funds: \$10,000
-

- A. Name of Reserve: Old Woman Creek (Ohio)
 - B. Purpose: Construction of Equipment Storage Facility
 - C. Federal Funds: \$10,000
-

- A. Name of Reserve: Padilla Bay
- B. Purpose: Revision of the Reserve's Management Plan
- C. Federal Funds: \$150,000

- A. Name of Reserve: South Slough
 - B. Purpose: Improve Access to Tidal Areas and Trail Improvement
 - C. Federal Funds: \$50,000
-

- A. Name of Reserve: Tijuana River
 - B. Purpose: Construction of Visitor Center
 - C. Federal Funds: FY 88 \$284,021
-

- A. Name of Reserve: Tijuana River
 - B. Purpose: Construct Garage/Workshop; Expand Pacific Estuarine Research Reserve Facility
 - C. Federal Funds: FY 89 \$67,000
-

- A. Name of Reserve: Waquoit Bay (Massachusetts)
 - B. Purpose. Architectural/Engineering Design and Construction Associated with Rehabilitation of Swift Estate
 - C. Federal Funds: \$500,000
-

- A. Name of Reserve: Wells (Maine)
- B. Purpose: Revision of Reserve Management Plan; purchase of Estuarine Research Laboratory Equipment.
- C. Federal Funds: \$125,000

- A. Name of Reserve: Wells (Maine)
 - B. Purpose: Construction of Public Comfort Stations
(Restrooms) in Reserve Interpretive Facility;
Stabilization of Reserve Public Meeting/
Education Facility
 - C. Federal Funds: \$200,000
-

III. Operations Awards

- A. Name of Reserve: Apalachicola
 - B. Status: Extended to September 1991
 - C. Federal Funds: \$50,000
-

- A. Name of Reserve: Chesapeake Bay (Maryland)
 - B. Status: Expires April 1990
 - C. Federal Funds: \$20,000
-

- A. Name of Reserve: Elkhorn Slough
 - B. Status: Completed
 - C. Federal Funds: \$50,000
-

- A. Name of Reserve: Great Bay
 - B. Status: Ongoin
 - C. Federal Funds: \$50,000
-

- A. Name of Reserve: Hudson River (New York)
- B. Status: Expires March 31, 1990
- C. Federal Funds: \$50,000

A. Name of Reserve: Jobos Bay

B. Status: Completed

C. Federal Funds: \$50,000

A. Name of Reserve: North Carolina

B. Status: Expired October 1989

C. Federal Funds: \$50,000

A. Name of Reserve. Tijuana River

B. Status: Extended thru July 1990

C. Federal Funds: FY 88 12,500

A. Name of Reserve: Waimanu

B. Status: Active

C. Federal Funds: \$50,000

A. Name of Reserve: Waquoit Bay (Massachusetts)

B. Status: Expires Septebmer 30, 1990

C. Federal Funds: \$50,000

A. Name of Reserve: Waquoit Bay (Massachusetts)

B. Status: Expired December 31, 1989

C. Federal Funds: \$37,500

A. Name of Reserve: Weeks Bay

B. Status: Ongoing

C. Federal Funds: \$50,000

- A. Name of Reserve: Wells (Maine)
 - B. Status: January 1, 1988 - December 31, 1988 -
Manager's Salary and Benefits; Travel;
Equipment; Supplies; Contractual; Postage
 - C. Federal Funds: \$50,000
-

- A. Name of Reserve: Wells (Maine)
 - B. Status: January 1, 1989 - December 31, 1989 -
Manager's Salary and Benefits; Travel;
Computer Equipment; Office Supplies;
Postage
 - C. Federal Funds: \$50,000
-

IV. Fiscal Year 1988 Research Funding

- A. Name of Reserve: Apalachicola
- B. Project Title: Effects Of Near-term Sedimentologic
Evolution on The Lifetime Of Estuarine
Resources
- C. Recipient: Florida State University
- D. Federal Funding: \$ 29,398

- A. Name of Reserve: Elkhorn Slough
- B. Project Title: Ecological History Of Elkhorn Slough:
A Model for Wetland Enhancement And
Management
- C. Recipient: Elkhorn Slough Foundation
- D. Federal Funding: \$ 28,900
-

- A. Name of Reserve: Elkhorn Slough
- B. Project Title: Ecotypic Variation In Growth Physiology
of the Temperate Seagrass Zostera marina
- C. Recipient: Elkhorn Slough Foundation
- D. Federal Funding: \$ 39,716
-

- A. Name of Reserve: MULTISITE (Wells, Waquoit Bay,
Narragansett Bay, North Carolina System)
- B. Project Title: Declines Of Eelgrass In Estuarine
Research Reserves Along The East Coast,
USA: Year 2
- C. Recipient: University Of New Hampshire
- D. Federal Funding: \$ 39,210
-

- A. Name of Reserve: North Carolina
- B. Project Title: Effects Of Feral Horses On The
Production, Distribution, Abundance, And
Stability Of Salt Marsh Plants: Year 2
- C. Recipient: University Of North Carolina
- D. Federal Funding: \$ 28,199

- A. Name of Reserve: Old Woman Creek
B. Project Title: The Importance Of Groundwater Advection
On sediment-water Chemical Exchange
C. Recipient: Case Western Reserve University
D. Federal Funding: \$ 36,498
-

- A. Name of Reserve: Padilla Bay
B. Project Title: Ammonium Production In And Benthic
Nitrogen Fluxes From Sediments of the
Intertidal Eelgrass Bed And Mudflat
C. Recipient: University Of Washington
D. Federal Funding: \$ 38,913
A. Name of Reserve: South Slough
B. Project Title: The Structure Of Benthic University Of
Oregon Estuarine Communities Associated
With Dense Crassostrea gigas
C. Recipient: University of Oregon
D. Federal Funding: \$ 31,547

- A. Name of Reserve: Sough Slough
- B. Title: The Structure of Benthic Estuarine Communities
Associated with Dense Suspended Population of the
Introduced Oyster Crosstree Giges
- C. Description/results: Measuring Quantative Oyster and
Salmon and Potential Funding Within
an Estuary System
- D. Status: Ongoing. June 1989 - June 1990
- E. Federal Funds: \$37,204
-

- A. Name of Reserve: South Slough
- B. Title: Investigating the Fate and Effects of
Tributyltin Compounds in South Slough
and Adjoining Joe Ney Slough
- C. Description/results:
- D. Status: Completed. Final Report Due March 1990
- E. Federal Funds: \$30,155
-

- A. Name of Reserve: South Slough
- B. Project Title: Investigating The Fate And Effects Of
Tributyltin Compounds In South Slough
And Adjoining Joe Ney Slough
- C. Recipient: Department of Environmental Quality
- D. Federal Funding: \$ 30,155

A. Name of Reserve: Tijuana River
B. Project Title: The Integration Of Simulation And Salt
Marsh Monitoring For Improved
Management: Year 2
C. Recipient: San Diego State University
D. Federal Funding: \$ 31,568

A. Name of Reserve: Tijuana River
B. Project Title: Response Of Fish And Benthic
Invertebrates To Substrate Disturbance
And Wastewater Inflow: Year 2
C. Recipient: San Diego State University
D. Federal Funding: \$ 22,874

A. Name of Reserve: Waquoit Bay
B. Project Title: Nutrient Transport From Uplands Into
Waquoit Bay: Sources And Effects On
Eelgrass Beds
C. Recipient: Boston University
D. Federal Funding: \$ 33,012

A. Name of Reserve: Waquoit Bay
B. Project Title: Comparison Of Young-of-the-Year Nekton
Growth and Survivorship In Seagrass Beds
And Marshes
C. Recipient: University of Massachusetts
D. Federal Funding: \$ 28,800

- A. Name of Reserve: Waquoit Bay
- B. Project Title: A Model Estuarine Ecosystem; Effects Of
Sea Level Rise And Development On
Wetland Evolution & Coastal
Eutrophication
- C. Recipient: Woods Hole Oceanographic Institution
- D. Federal Funding: \$ 33,931
-

- A. Name of Reserve: Weeks Bay
- B. Project Title: Relationship Between Estuarine Fish
Community Structure And Physicochemical
And Biological Habitat Characteristics
- C. Recipient: Auburn University
- D. Federal Funding: \$ 24,740
-

- A. Name of Reserve: Weeks Bay
- B. Project Title: Zooplankton Community Composition,
Species Abundance And Grazing Impact:
Habitat Differences
- C. Recipient: Marine Environmental Sciences Consortium
- D. Federal Funding: \$ 24,396

- A. Name of Reserve: Wells
- B. Project Title: Are Critical Habitats Determined By
Life-history Strategies Or Habitat
Availability?
- C. Recipient: University Of Massachusetts
- D. Federal Funding: \$ 28,200

Total Funding for Research in the NERRS for FY88: \$530,057
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V. Fiscal Year 1989 Research Funding

- A. Name of Reserve: Apalachicola
- B. Project Title: Zooplankton population dynamics and
productivity of estuaries: the
importance of resting stages.
- C. Recipient: Florida State University
- D. Federal Funding: \$ 23,437

-
- A. Name of Reserve: Chesapeake Bay (MD)
 - B. Project Title: Variability in sealevel rise and its
effect on marsh development: the
Monie Bay Estuarine Research Reserve
 - C. Recipient: The Johns Hopkins University
 - D. Federal Funding: \$ 35,000

- A. Name of Reserve: Chesapeake Bay (MD)
- B. Project Title: Marine sulfate inputs and the degradation of coastal marsh soils: biogeochemical enhancement of marsh loss?
- C. Recipient: University of Maryland, Horn Point Envi.
- D. Federal Funding: \$ 67,120
-

- A. Name of Reserve: Elkhorn Slough
- B. Project Title: Eelgrass revegetation in Elkhorn Slough: A model for management of submerged aquatic vegetation resources
- C. Recipient: Stanford University
- D. Federal Funding: \$ 45,000
-

- A. Name of Reserve: Multisite (Wells, Waquoit Bay, Narragansett Bay, North Carolina)
- B. Project Title: Declines in eelgrass in Estuarine Research Reserves along the East Coast, USA: Problems of pollution and disease. Year 3
- C. Recipient: University of New Hampshire
- D. Federal Funding: \$ 45,309

A. Name of Reserve: North Carolina
B. Project Title: Sediment dynamics in Currituck Sound: Baseline study and historical reconstruction to evaluate impacts of tidal-inlet opening.
C. Recipient: North Carolina State University
D. Federal Funding: \$ 38,472

A. Name of Reserve: Old Woman Creek
B. Project Title: Fate and transport of mercury in a Great Lakes Estuary.
C. Recipient: University of Michigan
D. Federal Funding: \$ 39,991

A. Name of Reserve: Padilla Bay
B. Project Title: An analysis of herbivory in an eelgrass meadow in Padilla Bay
C. Recipient: University of Washington (Fisheries Research Institute)
D. Federal Funding: \$ 18,273

A. Name of Reserve: South Slough
B. Project Title: Management of the hydraulic regime
of diked tidal wetlands in South
Slough, Oregon
C. Recipient: Portland State University
D. Federal Funding: \$ 26,694

A. Name of Reserve: South Slough
B. Project Title: The structure of benthic estuarine
communities associated with dense
suspended populations of the
introduced oyster Crassostrea gigas:
Year 2
C. Recipient: University of Oregon (Oregon
Institute of Marine Biology)
D. Federal Funding: \$ 37,204

A. Name of Reserve: Tijuana River
B. Project Title: Linkages among estuarine habitats
and with the watershed: effects of
urban runoff & sewage on water
quality
C. Recipient: San Diego State University
D. Federal Funding: \$ 18,281

A. Name of Reserve: Tijuana River
B. Project Title: Effects of urban runoff & sewage on
fish and invertebrates in Tijuana
River: linkages between channel &
marsh habitats
C. Recipient: San Diego State University
D. Federal Funding: \$ 19,445

A. Name of Reserve: Tijuana River
B. Project Title: Responses of vegetation to varying
water regimes and discharges in the
Tijuana River Estuary
C. Recipient: San Diego State University
D. Federal Funding: \$ 8,934

A. Name of Reserve: Waquoit Bay
B. Project Title: Comparison of young-of-the-year
nekton growth and survival in
seagrass beds and marshes: Year 2
C. Recipient: University of Massachusetts
D. Federal Funding \$33,300

A. Name of Reserve: Waquoit Bay
B. Project Title: The potential effects of sea level rise and development on the importance of wetlands and benthic denitrification in reducing the input of groundwater transported nitrogen to coastal waters
C. Recipient: Woods Hole Oceanographic Inst.
D. Federal Funding: \$ 38,995

A. Name of Reserve: Waquoit Bay
B. Project Title: Continued studies of vegetation and nutrient changes in Waquoit Bay
C. Recipient: Boston University
D. Federal Funding: \$ 39,068

A. Name of Reserve: Weeks Bay
B. Project Title: Relationship between estuarine fish community structure and physicochemical and biological habitat characteristics: Year 2
C. Recipient: Auburn University
D. Federal Funding: \$ 29,503

A. Name of Reserve: Weeks Bay
B. Project Title: Estuarine modeling: A management tool in the Coastal Zone
C. Recipient: University of Alabama
D. Federal Funding: \$ 39,655

A. Name of Reserve: Weeks Bay
B. Project Title: The habitat utilization, population dynamics, reproductive biology, and trophic ecology of the blue crab Callinectes sapidus in Weeks Bay, AL
C. Recipient: University of Alabama
D. Federal Funding: \$ 14,547

A. Name of Reserve: Wells
B. Project Title: Are critical habitats determined by life-history strategies or habitat availability? Year 2
C. Recipient: University of Massachusetts
D. Federal Funding: \$ 32,700

Total Funding for Research in the NERRS for FY89: \$ 715,590

- A. Name of Reserve: Apalachicola
B. Project Title: Video Production
C. Federal Funds: \$28,676
D. Award Period: 7/1/89 - 11/30/90
E. Purpose: Provide funding to the Florida Department of Natural Resources to produce two videos on the Apalachicola Reserve
-

- A. Name of Reserve: Elkhorn Slough
B. Project Title: Development and Construction of Interpretive Displays/Exhibits
C. Federal Funds: \$150,000
D. Award Period: 7/1/87 - 6/30/89
E. Purpose: To solicit proposals for the development of an interpretive exhibit plan for the Elkhorn Slough NERR. Plan will encompass designs for exhibits and interior of the Reserve visitor center, an open-air barn, and development of a design identity for trail signs and outdoor areas.

- A. Name of Reserve: Elkhorn Slough
- B. Project Title: Volunteer Training-Education
- C. Federal Funds: \$22,202
- D. Award Period: 7/1/88 - 6/30/89 (Requested an extension through 6/30/90)
- E. Purpose: Will establish a volunteer enrichment and continuing education program to refine the initial training program.
-

- A. Name of Reserve: Great Bay
- B. Project Title: Great Bay Estuarine Research Reserve:
A Living Laboratory
- C. Federal Funds: \$23,229
- D. Award Period: 8/1/89 - 2/28/91
- E. Purpose: To use the Great Bay Reserve as a living laboratory for public involvement by creating a Great Bay Floating Laboratory Program and a citizens' monitoring project.

- A. Name of Reserve: Jobos Bay
- B. Project Title: An Estuarine Education Program for
Elementary School Teachers
- C. Federal Funds: \$21,215
- D. Award Period: 9/15/87 - 6/30/89
- E. Prupose: Design and implementation of estuarine
education program for elementary
school teachers.
-

- A. Name of Reserve: North Carolina
- B. Project Title: Publication and Evaluation of
Educational Material
- C. Federal Funds: \$16,533/\$18,475
- D. Award Period: 8/1/88 - 7/31/89
- E. Purpose: Provide for the publication and
evaluation of estuarine education
materials produced under a previous
operation and management grant.

- A. Name of Reserve: Old Woman Creek
- B. Project Title: Evaluation of the Effectiveness of
Some On-campus Components of the Old
Woman Creek National Estuarine
Sanctuary Education Program
- C. Federal Funds: \$9,999
- D. Award Period: 3/1/86 - 1/31/88
- E. Purpose: To assess the magnitude and nature of
the education impact of Old Woman Creek
Visitor Center and on-site education
program.
-

- A. Name of Reserve: Old Woman Creek
- B. Project Title: Education Components to Enhance the
NERR at Old Woman Creek and Other
Estuarine Reserves in the System
- C. Federal Funds: \$22,052
- D. Award Period: 3/15/87 - 4/30/90
- E. Purpose: Develop education components for the
NERRS program.

- A. Name of Reserve: Old Woman Creek
- B. Project Title: "An Educational Audio-Visual Display
at Old Woman Creek National Estuarine
Research Reserve"
- C. Federal Funds: \$13,618
- D. Award Period: 8/1/89 - 7/31/90
- E. Purpose: To facilitate a more visual and
interactive approach to describing
changes in the weather and its impact
on an estuarine environment.
-

- A. Name of Reserve: Padilla Bay
- B. Project Title: Estuarine Education Program -
Level II
- C. Federal Funds: \$20,400
- D. Award Period: 10/1/80 - 9/30/89 (requested extension
to 12/21/89)
- E. Purpose: Provide teacher training, program
evaluation, and class visitation for
over 2,000 students at the Reserve
(grades 4-8). Will focus on
estuarine ecology and values, provide
for curriculum printing and
distribution.

- A. Name or Reserve: Padilla Bay
- B. Project Title: Estuarine Educational Curriculum
Program Development for High School
Grades -- Level III.
- C. Federal Funds: \$27,450
- D. Award Period: 10/1/89 - 9/30/91
- E. Purpose: Develop an estuarine curriculum aimed
at the high school level. Purchase
hardware compatible with the NOAA HAZMAT
format for the Padilla Bay Reserve.
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- A. Name of Reserve: Rookery Bay
- B. Project Title: Project Outreach
- C. Federal Funds: \$25,044
- D. Award Period: 3/1/89 - 6/30/90
- E. Purpose: Expand educational publications and
develop curriculum package for
secondary school teachers and students
at the Rookery Bay Reserve.

- A. Name of Reserve: Rookery Bay
- B. Project Title: Learning Through Research:
Integration of Education and Research
Objectives Through Students'
Participation in an Estuarine Fish
Study at Rookery Bay"
- C. Federal Funds: \$48,288
- D. Award Period: 9/1/89 - 11/30/90
- E. Purpose: Integrate education and research goals
at Rookery Bay Reserve through the
participation of college and high
school faculty and advanced students
in the development and implementation
of a fish population study in
Rookery Bay.

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- A. Name of Reserve: South Slough
- B. Project Title: Education Projects and OMNET Hookup
- C. Federal Funds: \$35,800
- D. Award Period: 8/1/89 - 9/30/90
- E. Purpose: Communicate pertinent information
about estuaries to the largest
possible audience by providing
additional personnel to work with
the staff through development of an
internship program.

- A. Name of Reserve: Waquoit Bay
 - B. Project Title: "Coastal Resources Education
Discovering an Estuarine Ecosystem
 - C. Federal Funds: \$20,000
 - D. Award Period: 9/2/88 - 8/31/89 (Extension has been
requested through 12/89)
 - E. Purpose: Launching an educational program for
the Southeast Massachusetts region.
-

- A. Name of Reserve: Wells
- B. Project Title: Educational Development Funds for
the Wells NERR
- C. Federal Funds: \$10,000
- D. Award Period: 7/1/88 - 6/30/89 - an extension has
been requested through 12/89.
- E. Purpose: Development of educational materials
to interpret the trail system in
Reserve. The materials will be made
available to the public and school
groups.

US Department of Commerce
NOAA Coastal Services Center Library
2234 South Hobson Avenue
Charleston, SC 29405-2413

VI. Education Awards

- A. Name of Reserve: Apalachicola
- B. Project Title: Project Estuary: The System (Phase I),
Human Involvement (Phase II).
Operation/Training
- C. Federal Funds: \$76,096
- D. Award Period: 6/1/87 - 7/31/89
- E. Purpose: Development and presentation of lessons
on the Apalachicola River and Bay
Estuarine System for 7th to 12th grade
students. Provide teachers with model
training and prepared lessons on the
Estuarine System

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- A. Name of Reserve: Apalachicola
- B. Project Title: "Estuarine Pathways"
- C. Federal Funds: \$18,798
- D. Award Period: 10/1/88 - 3/31/90
- E. Purpose: To provide funding to the Florida
Department of Natural Resources to
provide teacher training and develop
elementary-level activity packets.
A continuation of Project Estuary.

