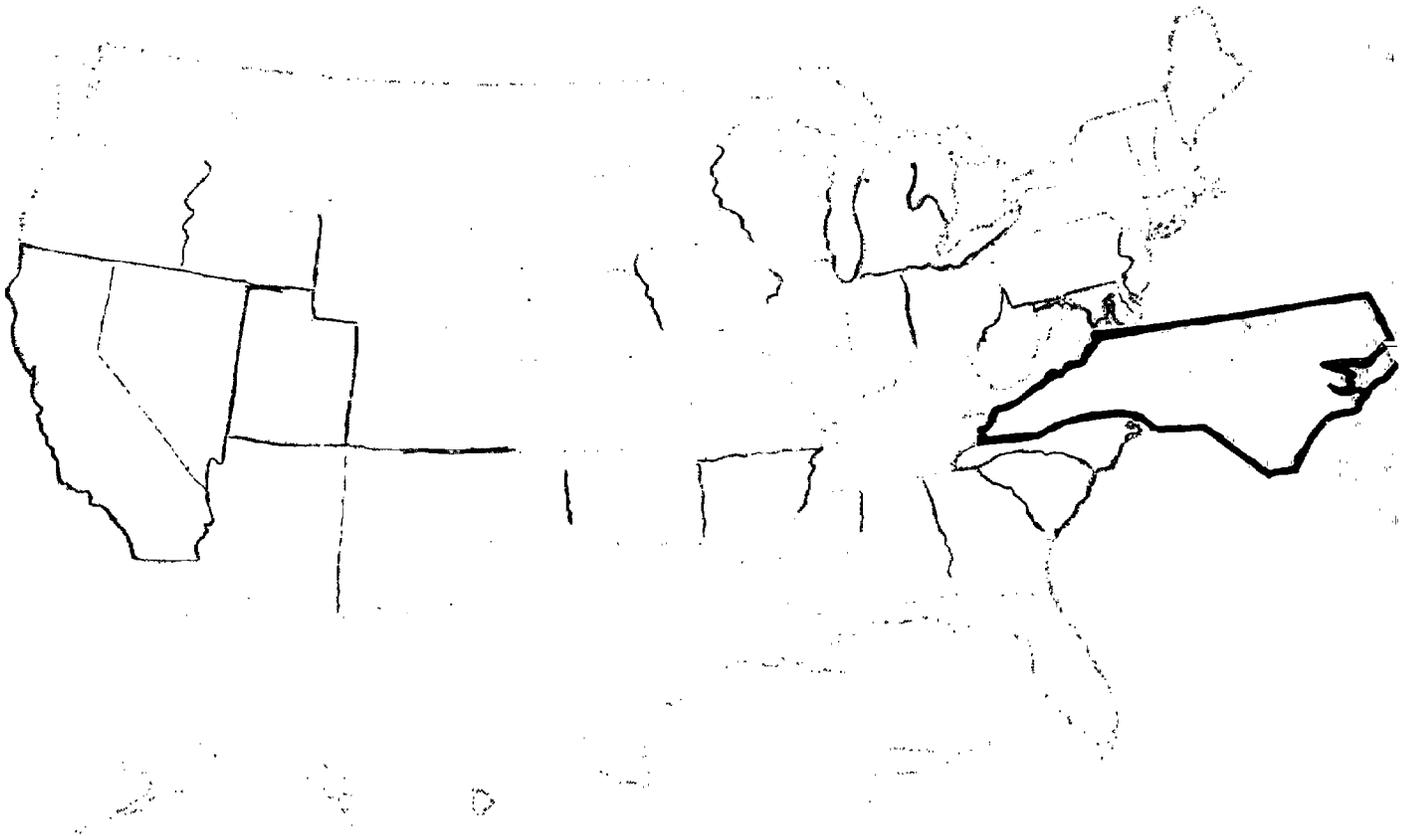


North Carolina:

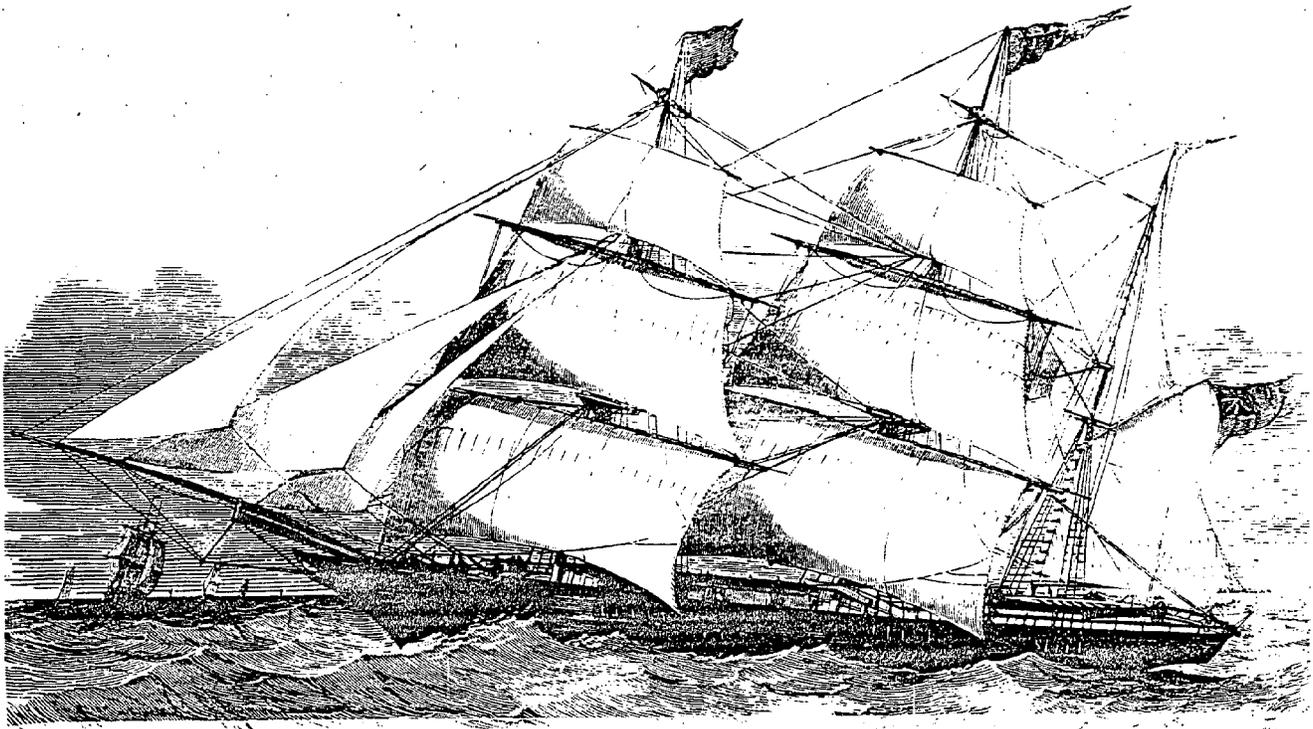
A State - Federal Partnership
in the Management of Coastal
and Marine Resources



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THE COAST OF NORTH CAROLINA

North Carolina's coast has played a major role in the history and economic development of the State. The coast is dominated by the Outer Banks, a chain of barrier islands that protect the largest estuarine complex on the East Coast. Through centuries of storms and shipwrecks, the islands have developed a distinctive culture. Some are popular resorts and others have retained the primitive, quiet charm associated with 18th century maritime life. Two national seashore areas guarantee that nearly one half of this great coastal resource will be preserved for future generations.

The story of the Outer Banks is of searing summer sun, salt spray, shifting sands, changing tides, the powerful sea, and violent storms, for these are the forces that shape these islands and the plants, animals, and people who live there. The story of the Outer Banks is also about human struggle and courage, war and piracy, tragedy and triumph.

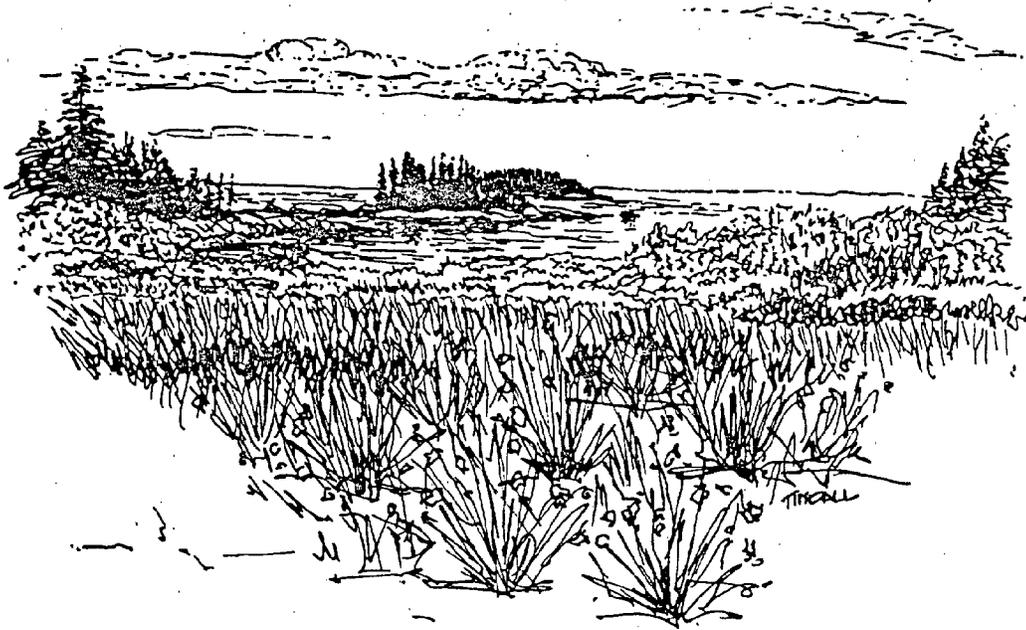
In 1587 Sir Walter Raleigh sent three ships to Roanoke Island to establish the first English colony in America. The settlement vanished and the "Lost Colony" remains a mystery today. North Carolina's coastal

heritage also includes: pirates, such as notorious Blackbeard and Calico Jack; Revolutionary War battles, such as Wilmington, the scene of the Stamp Act resistance and Lord Cornwallis' Headquarters during the winter of 1780-1781; and Kitty Hawk, where the Wright Brothers made the first flight of a powerdriven airplane.

Since the earliest explorations, the Outer Banks were dangerous to coastal shipping. More than 600 ships have met with disaster there since 1526. The 10-mile Diamond Shoals area, almost the mid-point of the Outer Banks, is known as the "Graveyard of the Atlantic." Lands of the Outer Banks are constantly shifting due to wind and wave action, and the moving sands frequently uncover one of the shipwrecks.

Concern over ship losses resulted in construction of the first federal lighthouse at Cape Hatteras in 1802. The lighthouse, the tallest such structure in the United States, was reactivated by the Coast Guard in 1950. Today its 800,000 candlepower electric light flashes every 7 1/2 seconds, reaching more than 20 miles out to sea. Presently six lighthouses remain on the Outer Banks along with several abandoned Life Saving Stations which are preserved to remind us of the Outer Banks' heroic heritage.

1738-1802



COASTAL ZONE MANAGEMENT: THE FEDERAL PROGRAM

North Carolina and many other coastal states have experienced the pressures of population and industrial growth and the related impacts on coastal natural resources. In 1972 Congress passed the Coastal Zone Management Act (CZMA) in response to public concern about balancing needs for preservation and development in coastal areas. In 1980 Congress amended the Act and reauthorized the Program through 1985. The Office of Coastal Zone Management (OCZM), part of the Department of Commerce's National Oceanic and Atmospheric Administration, is responsible for carrying out federal laws aimed at protecting, restoring and developing our coastal resources. Through Section 306 of the CZMA, OCZM provides financial and technical assistance to coastal states to prepare and implement their coastal management programs. These programs must address the policy objectives of the Act, including protection of valuable natural coastal resources, better management of development in coastal areas, enhanced recreational access to the coasts, and improved coordination and simplification of government decisionmaking. Twenty-six states now have approved coastal zone management programs. These approved programs cover 83,046 miles or 87 percent of the shoreline.

Section 308 of the Coastal Zone Management Act provides for grants, loans, and loan guarantees to help communities plan for services and public facilities to accommodate growth caused by energy development. Section 308, the Coastal Energy Impact Program

(CEIP) assists communities in coping with the social, economic, and environmental consequences of coastal energy development. CEIP provides the funds to address impacts resulting from the development of oil, gas, coal, and alternative energy sources such as solar, wind, biomass, and ocean thermal energy conversion. Under CEIP, local governments may use grants and loans to plan for and provide new or expanded public facilities and services which may be needed as a result of coastal energy activities. Assistance is also available to avoid the loss of environmental or recreational resources. The CEIP also administers OCS State Participation Grants. These 70 percent federal/30 percent state match grants enable states and local governments to participate in the OCS development process.

Section 315 of the Act provides funds to states to assist them in the preservation and management of valuable estuarine sanctuaries. The Office of Coastal Zone Management also administers Title III of the Marine Protection, Research and Sanctuaries Act of 1972, to provide assistance to states to protect special marine areas.

The Office of Coastal Zone Management works in coordination with the National Office of Sea Grant and the National Marine Fisheries Service to provide North Carolina with financial and technical assistance to manage critical coastal resources.

COASTAL ZONE MANAGEMENT: THE STATE PROGRAM

North Carolina's concern for the protection and wise development of its coast is deeply rooted in history. The first European settlement in North America was located on one of North Carolina's coastal islands. Throughout the colonial and revolutionary periods the center of population remained near the coast, convenient to the major routes of commerce, coastal bays, and rivers. Since that time agricultural and industrial growth has taken place rapidly in inland areas. Coastal development has been slow, centered around recreation and fishing. In the 1960's the coastal region was suddenly faced with major increases in tourism, second home development, and related commercial activities. This rapid growth increased pressure on fragile resources such as coastal marshland, estuarine areas, and fisheries population. North Carolinians, concerned with the loss of critical coastal resources, passed the Coastal Area Management Act (CAMA) in April 1974. This law focused on protection of fragile coastal resources and initiated land use planning at the local level.

Building upon CAMA, the State developed a program that met the objectives of the federal program which provides funds for state program development and implementation, as well as federal agency consistency. The North Carolina Coastal Management Program was approved on September 1, 1978, by NOAA's Assistant Administrator for Coastal Zone Management on behalf of the Secretary of Commerce. The Program's objectives and management approach include policy formulation, development of local land use plans, financial and technical assistance to localities, and permitting activities governing development in sensitive areas.

The State has received a total of \$2,749,000 in planning grants and \$5,733,600 in implementation funds. These funds from the Office of Coastal Zone Management were matched by \$2,710,800 in state and local funds.

The Department of Natural Resources and Community Development was designated by the Governor as the lead agency for administering the North Carolina Program with its Office of Coastal Management responsible for program implementation.

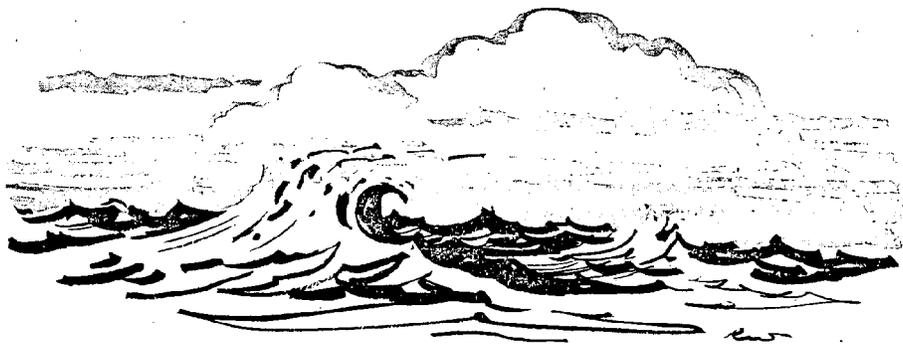
The Coastal Area Management Act established both a regulatory and planning program. Policy direction for both is provided by the Coastal Resources Commission, a 15 member group of citizens appointed by the Governor. The planning program involves mandatory local land use plans adopted by

local governments. The Commission sets guidelines for the plans, approves plans adopted by localities, and prepares the plan itself should the local government fail to do so. Presently there are approved land use plans for all 20 coastal counties and some 48 coastal municipalities.

The regulatory program applies in areas designated as Areas of Environmental Concern (AEC's). The designated AEC's include coastal wetlands, estuarine shorelines and waters, public trust waters, ocean beaches, erosion and floodprone areas, inlet lands, small surface water supply watersheds, public water supply well fields, and certain fragile natural resource areas. These resources are the most sensitive and critical areas in coastal North Carolina. They cover all water areas and about 3 percent of the land area of the 20 coastal counties. Activities in AEC's require either a major or minor coastal development permit. Permits for "major development," which is generally large scale action in a wetland area, are issued by the Department of Natural Resources and Community Development. About 200 major permits are processed each year and the average review period is 60-65 days. All other development activity is considered "minor development" and the corresponding permits are issued by local permitting officers who are designated by local governments and approved by the Commission. About 750 minor permits are processed each year and the average review period is 18 days. Currently there are 57 local permitting officers who have been trained by the Office of Coastal Management.

The North Carolina Program emphasizes expedited and coordinated governmental decision-making at all levels. Four field offices have been established which provide pre-application counselling for permit applicants so that any controversial or potentially time delaying aspects are resolved prior to formal application. A total of five state and federal permits may be requested on one permit application. A Corps of Engineers general permit agreement has been initiated for most CAMA projects. The agreement with the Corps should lead to significantly reduced permitting time. Close cooperation has been maintained with the FEMA Flood Insurance Program to assure compatibility of standards, including building codes.

North Carolina's Coastal Management Program, one of the best in the Nation, provides an excellent framework for the protection and wise development of coastal resources.



COASTAL HAZARDS

The Outer Banks and the islands off the coast of North Carolina are especially vulnerable to the dangers of high winds and floods resulting from hurricanes.

Statistically, major hurricanes hit North Carolina's coast once every 10 years, with great hurricanes striking once every 50 years. These storms can produce winds over 150 miles per hour, storm tides 10 to 25 feet above normal, and shoreline recession of up to 350 feet. Given these storms and a gradual sea level rise, most of the state's coast is experiencing long-term erosion. Typical erosion rates average 2 to 3 feet a year. This occurs along 48 percent of the coast. Other parts of the coast, roughly 18 percent, have an erosion rate of greater than 5 feet per year. These coastal hazards create a situation in which the location and design of development is critical to the protection of life and property.

With these development constraints in mind, North Carolina has developed a model approach to hazard mitigation which includes setbacks in especially hazardous areas and permitting in other areas. Ocean hazard areas have been designated as Areas of Environmental Concern. These areas include ocean erodible areas (experiencing high rates of erosion), high hazard flood areas (those which are subject to flooding and wave action in a 100-year storm), and inlet hazard areas (adjacent to inlets and subject to rapid erosion or accretion). Regulations govern development in these areas including minimum oceanfront setbacks, dune protection requirements, and limits on erosion control structures for new development. In other less hazardous areas development is subject to construction standards and to limits on growth inducing public facilities such as roads, bridges, and sewer and water lines.

To date, North Carolina's efforts at managing oceanfront development have been successful. Development is being located outside of the most hazardous areas. In less dangerous, but still hazardous areas, development is being carried out at more appropriate densities, is better constructed, and is not destroying important natural features such as protective dunes. Public costs resulting from poor development, disaster relief, flood insurance, infrastructure repair, and erosion control, will be lower. Public access to ocean beaches is being improved. In addition, there is a strong management program in place to address emerging issues, such as post-disaster reconstruction policies.





BEACH ACCESS

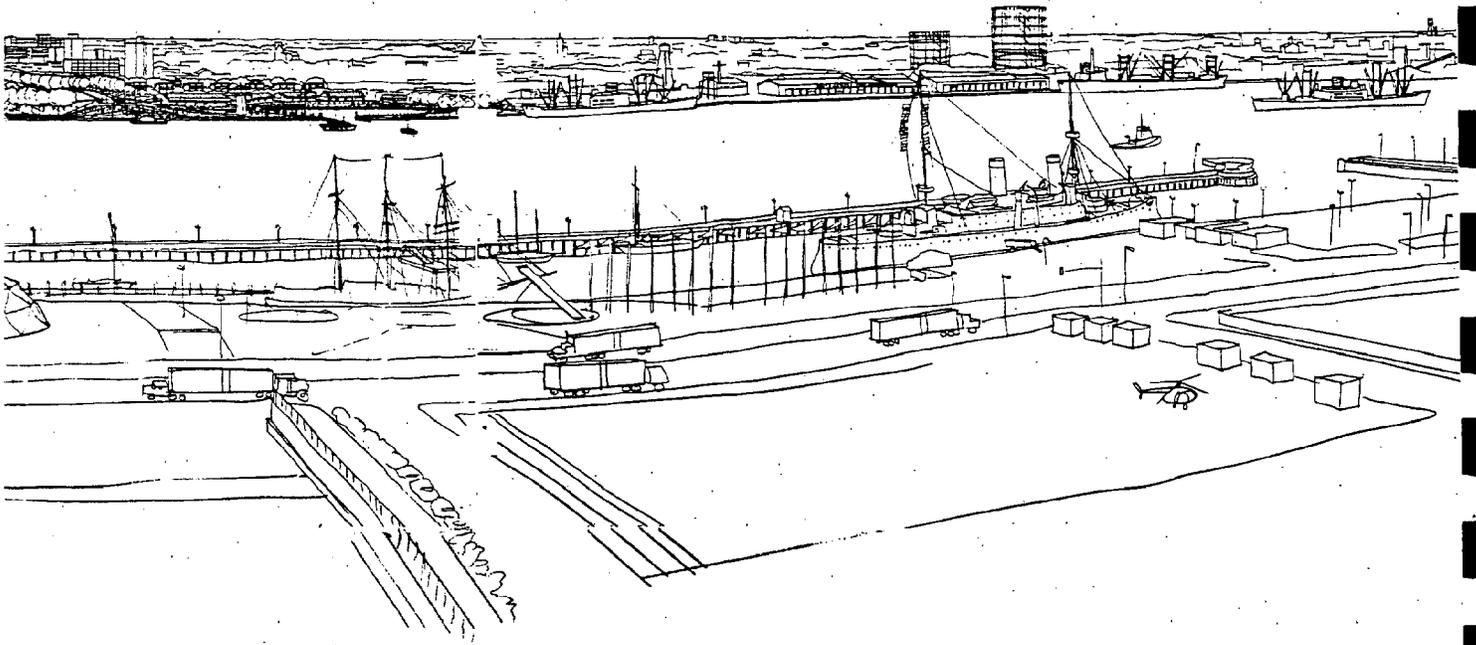
North Carolina has 308 total miles of ocean shoreline of which 148 miles are in public ownership. This public beach area, primarily contained within the National Seashores, provides large stretches of recreational beach. The Park Service has provided access to these areas through the construction of parking lots, roadways, crosswalks, and walkways across the dunes. However, public access to the 160 miles of the coast not publicly owned is limited. These beach areas are closer to centers of population and are under pressure for private home and commercial development as well as recreational use.

During 1981, new legislation was enacted which established a new state beach access acquisition program. The law requires that priority for land acquisition be given to "lands which, due to adverse effects of coastal natural hazards, such as past and potential erosion, flooding, and storm damage, are unsuitable for the placement of permanent structures..." The 1981 state capital improvement budget included a \$1 million appropriation for implementation of the beach access program.

Each land use plan in coastal North Carolina must address public access. In 1979, Holden Beach and Surf City access inventories identified existing and possible future access and parking areas. A soundfront community, Cape Carteret, investigated the possibility of obtaining an ocean access point in a nearby oceanfront community.

Five public access projects are being carried out under program implementation funding in 1981. The locations are identified on the map on page 9.

- In Craven County a plan is under design to provide interpretive trails through wooded areas and pedestrian access to the waterfront. This plan includes a public use pier.
- The County of Currituck is developing a plan to provide access to public waters and coordinate implementation of CAMA policies. The plan will include site feasibility analysis, fiscal planning, and a user analysis.
- In the Town of Holden Beach, the U.S. Army Corps of Engineers has redrawn easement lines along the Atlantic Intracoastal Waterway, opening some areas for public access.
- Potential public access is being identified along the Lockwoods Folly and Shallotte Inlets.
- An open space and public access plan is being developed for Topsail Beach. This project includes a study of facilities to improve marshlands, estuarine waters, inlet lands, and oceanfront areas.



WATERFRONT REDEVELOPMENT

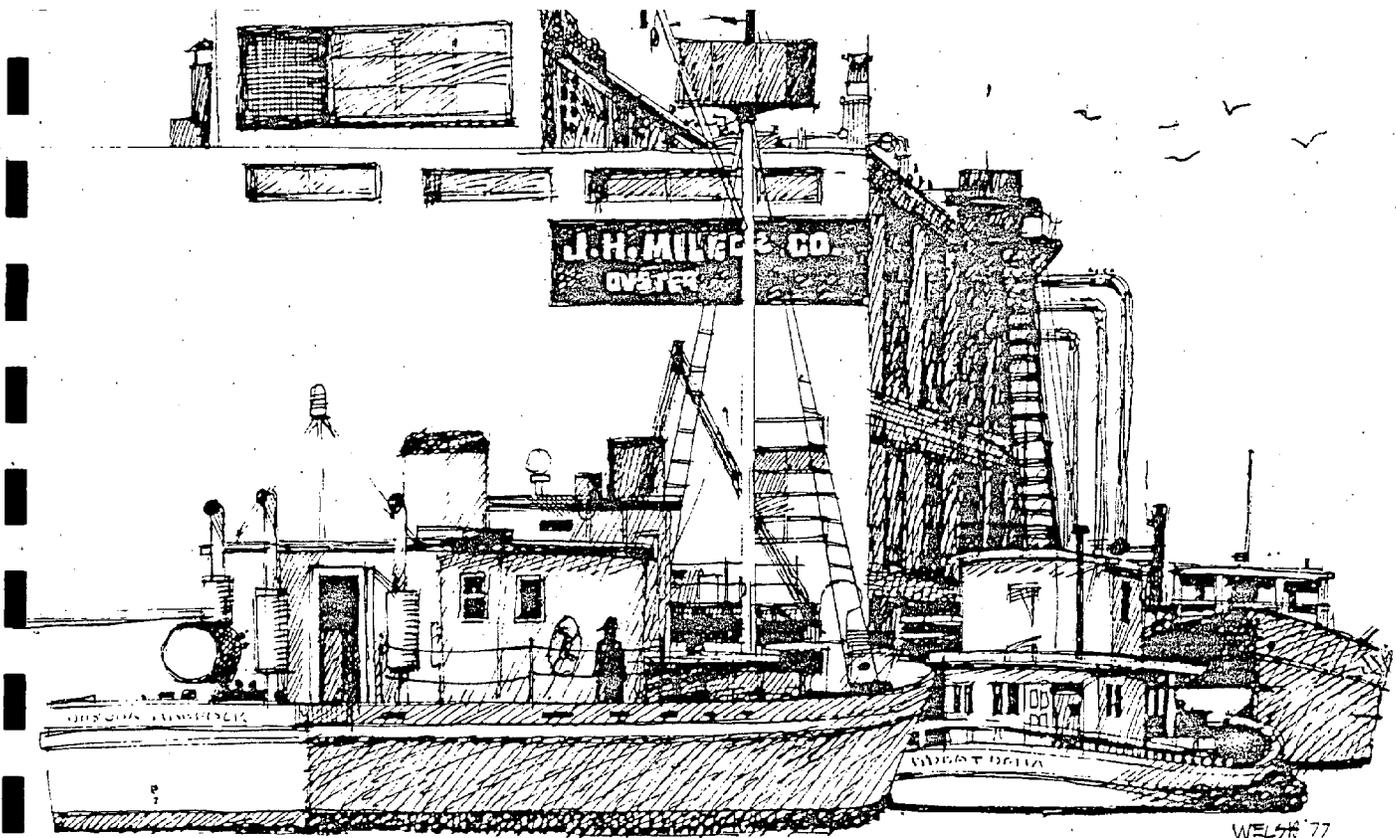
North Carolina's historic waterfronts and ports are being restored to preserve their historic and cultural characteristics. These areas present unique opportunities to reuse older structures and expand operations in established port areas. The North Carolina Program provides assistance in the redevelopment of deteriorating urban waterfronts and ports, and preservation and restoration of historic, cultural, and aesthetic coastal features. This is accomplished by establishing Areas of Environmental Concern and providing for coastal access in land use plans. State consistency procedures include coordination with the appropriate state agencies, and are effectively utilized to preserve archaeological and historical features.

In 1980 a waterfront revitalization study was conducted in Morehead City, the state's second largest port. Onslow County undertook a study to develop a linear park along the county waterfront.

In 1981 seven projects, totaling \$33,160 in federal aid, address historic preservation and the redevelopment of urban waterfronts. Among those are the following:

- The Town of Plymouth is developing a waterfront redevelopment plan for the downtown area. The plan will provide both the business community and local government a starting point for development of the waterfront. The Town Council of Plymouth is preparing an historic district ordinance that will help protect the architectural and historic character of Plymouth.

- Atlantic Beach is developing a plan and method for implementing the redevelopment of the town's beachfront and commercial area. Landowners will be identified, their market interests determined, and public goals set out regarding beach access, bathing, and parking.
- In 1978, the City of Wilmington received one of the first urban waterfront planning grants from the Office of Coastal Zone Management to do a site design and feasibility study for the Market Plaza area -- the centerpiece for the City's ambitious waterfront planning effort. The City is now preparing an analysis of existing conditions in a city-owned 45-acre tract located along the Cape Fear River. Once the analysis is complete, a redevelopment plan will be prepared for the tract.
- The Town of Windsor is developing design criteria for its proposed historic zoning district. The criteria will provide the Historic Properties Commission specific guidelines by which to evaluate each request and issue required certificates of appreciation.



FISHERIES

The fishing industry has traditionally been an important aspect of North Carolina's coastal economy. In 1980 the gross annual income from fishing activities was approximately \$200 million. Estuarine-dependent species of fish and shellfish currently make up over 90 percent of the total value of North Carolina's commercial catch. The North Carolina Program focuses on the protection and improvement of the estuarine areas. On the state level, the Division of Marine Fisheries works closely with the Office of Coastal Management to identify environmentally-sensitive areas such as primary nursery areas and to produce stock assessments and statistics. Some of these activities have been supported by the Coastal Fisheries Assistance Program grants provided by OCZM.

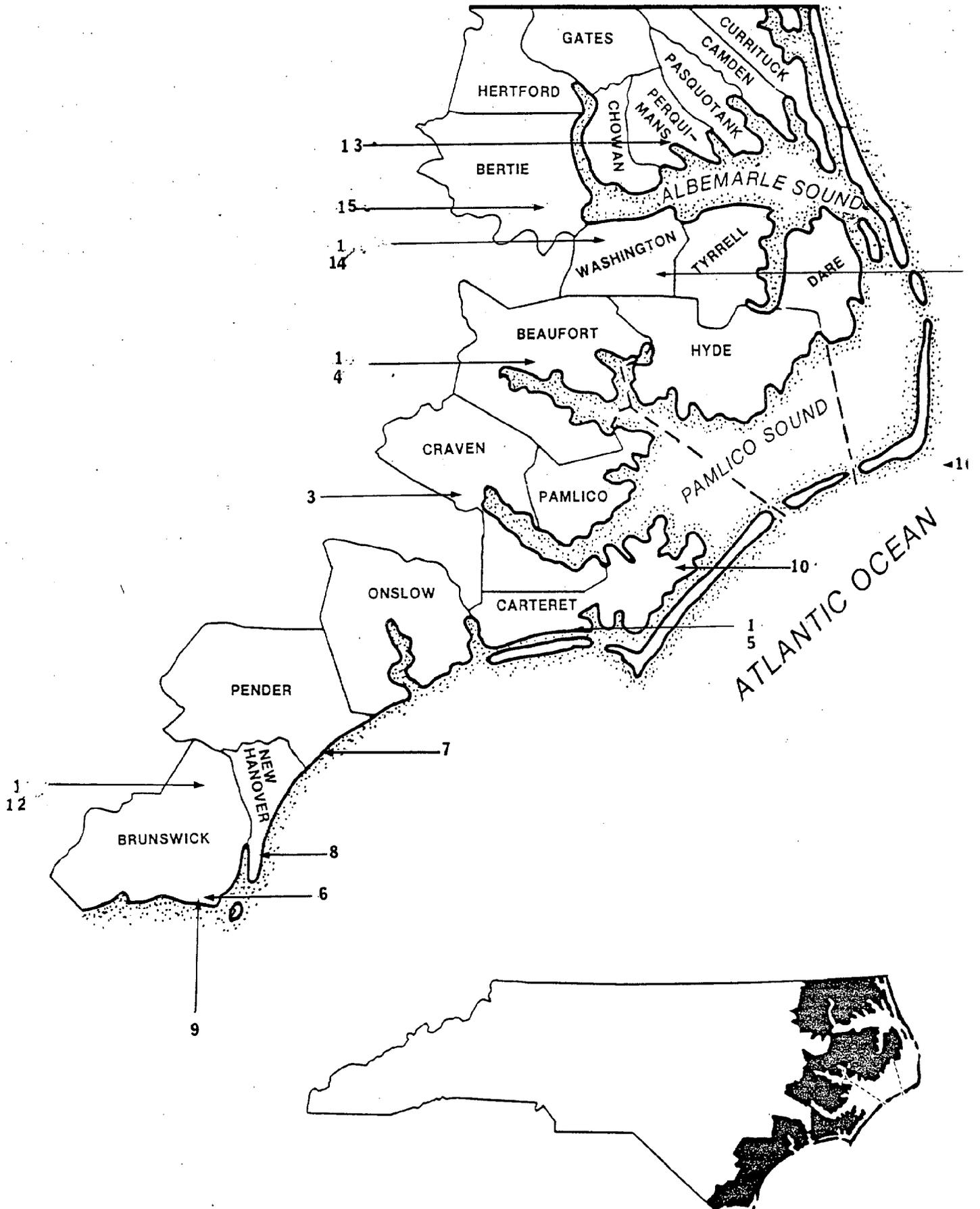
NOAA's National Marine Fisheries Service (NMFS) works in cooperation with North Carolina officials to conserve and manage marine fishery resources and facilitate development of commercial and recreational fisheries. In FY 1981, over \$500,000 in federal funds were awarded to the North Carolina Division of Marine Fisheries. Activities include consumer education, financial assistance for fishing vessel construction, seafood marketing, and artificial reef development. NMFS conducts marine recreational fishing surveys to determine participation and catch and to collect social and economic data. NMFS Southeast Fisheries Center maintains a research laboratory in Beaufort. This laboratory does research on fishery habitat requirements, reef fish, menhaden, and herring. NMFS law enforcement officers cooperate with North Carolina officials in the enforcement of the Marine Mammal, Endangered Species, and Lacey Acts.

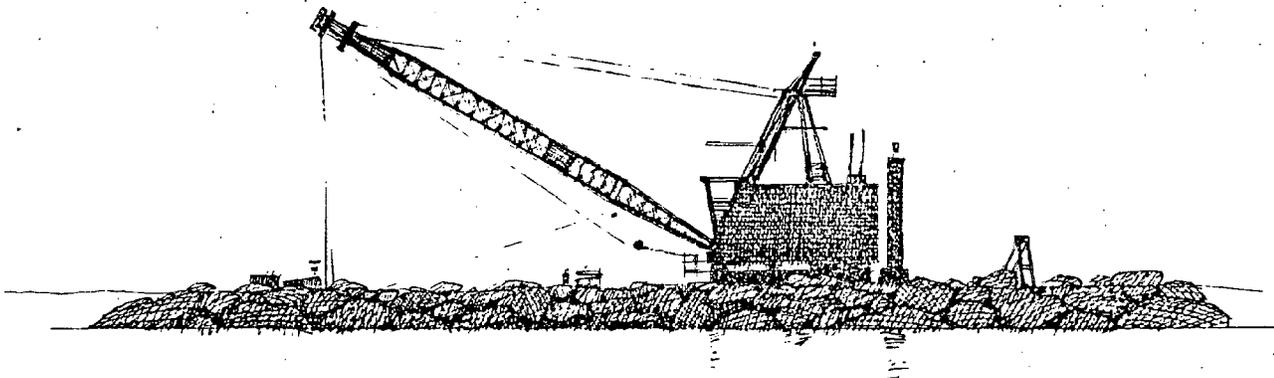
FEDERAL FUNDING FOR NORTH CAROLINA'S COASTAL MANAGEMENT PROGRAM

ISSUE AREAS	SELECTED PROJECTS	PROJECT COST	TOTAL FY 81	TOTAL FED.
<u>RESOURCE PROTECTION:</u>				
*1.	Waterfront and Coastal Waters Monitoring and Enforcement Washington, Wilmington, Morehead City	\$ 3,600		
o	LPO training courses in Permit Assistance (Coastal Counties)	5,578		
o	Improvement of Minor Permit Processing (Statewide)	5,578		
o	Technical Support on AEC Standards, Delineation (Statewide)	18,438		
o	Policy Development (Statewide)	43,773		
o	Large Scale Land Clearing Studies (Statewide)	20,000		
o	Maritime Forest Inventory and Analysis (Statewide)	20,000		
o	Northern Tier Counties Natural Area Inventories (Regional)	8,000		
o	Development of Regulations to Protect Critical Aquifer Recharge Area (New Hanover County)	4,000		
o	New River Estuary Pollution Analysis (Onslow County)	4,884		
o	Natural Areas Inventories in Peat-Impacted Counties	24,000		
*2.	Peat Mining Impacts on Lake Phelps & Mitigation Plan	12,000		
o	Environmental Geologic Atlas of the N.C. Coastal Zone (Statewide)	84,000		
o	Impacts of Energy Development on Fisheries of the Albemarle-Pamlico Peninsula	33,414		
o	OCS State Participation Grant (Statewide)	109,500		
			\$396,765	
<u>COASTAL STORM HAZARDS:</u>				
o	Delineation and Mapping of AEC's (Statewide)	\$ 15,324		
o	Revision and Development of AEC Standards (Statewide)	55,303		
			\$ 70,627	
<u>COASTAL DEVELOPMENT/ENERGY AND MINING:</u>				
o	Analysis of Known Mineral Deposits and Impacts (Pamlico County)	\$ 4,000		
o	Impacts of Alternative Transportation Modes for Shipping Energy Feed Stocks and Products with Emphasis on Support Base Requirements for OCS Activity (Statewide)	20,000		
*3.	Impacts of Coal Transportation through New Bern Area	8,000		
*4.	Impacts of Coal Transportation through Wilmington	12,500		
*5.	Impacts of Coal Transportation through Morehead City	16,000		
			\$ 60,500	
<u>PUBLIC ACCESS:</u>				
o	Waterfront Access Plan and Design (Craven County)	\$ 2,950		
o	Courthouse Waterfront Access Park (Currituck County)	1,600		
*6.	Shoreline Access - Holden Beach	2,000		
*7.	Open Space and Public Access Plan - Topsail Beach	3,500		
*8.	Design & Installation of Access Signs - Carolina Beach	5,000		
*9.	Pedestrian Access Walk - Long Beach	32,692		
o	Beach Access Program (Statewide)	20,000		
			\$ 67,742	
<u>URBAN WATERFRONT AND PORT DEVELOPMENT:</u>				
*10.	Waterfront Redevelopment Plan - Atlantic Beach	\$ 6,400		
*11.	Waterfront Redevelopment Plan - Town of Plymouth	5,200		
*12.	Urban Waterfront Redevelopment Study - City of Wilmington	10,000		
*13.	Historic District Ordinance - Town of Hertford	2,560		
*14.	Historic District Ordinance - Town of Plymouth	2,560		
*15.	Historic District Ordinance - Town of Windsor	2,600		
			\$ 29,320	
<u>MARINE SANCTUARY PROGRAM:</u>				
*16.	MONITOR Marine Sanctuary	\$126,800		\$ 220,350
<u>PUBLIC AND LOCAL GOVERNMENT INVOLVEMENT:</u>				
o	Land Use Plans and Updates, Local Government Public Involvement	\$434,707		
<u>COASTAL MANAGEMENT COORDINATION</u>				
			\$ 83,664	
<u>ADMINISTRATION INCLUDING PERMIT SIMPLIFICATION AND CONSISTENCY REVIEW</u>				
			\$724,131	
<u>CEIP ADMINISTRATION</u>				
			\$ 68,654	
<u>CEIP PROJECTS AND ADMINISTRATION</u>				
				\$1,789,000
<u>COASTAL MANAGEMENT PLANNING FUNDS (1974 - 1978)</u>				
				\$2,749,000
<u>COASTAL MANAGEMENT IMPLEMENTATION FUNDS (1978 - 1980)</u>				
				\$5,764,000
			TOTAL FEDERAL FUNDS:	\$10,302,000

* Shown on Map on p. 9.

SELECTED COASTAL PROJECTS





THE COASTAL ENERGY IMPACT PROGRAM

The Coastal Energy Impact Program helps local communities to plan for the consequences of coastal energy development. North Carolina has been receiving CEIP assistance since 1978. The coastal management program and CEIP are run as a single unit, administered by the Office of Coastal Management, Department of Natural Resources and Community Development (DNRDC). OCS Participation Grants are administered by the Office of Marine Affairs, Department of Administration. Close coordination between the two Departments is maintained through the state OCS task force.

Under state CEIP regulations, coastal management goals and policies are considered in every stage of the development and review of CEIP projects. Major coastal concerns identified by the state include energy impacts resulting from peat mining and OCS activity. The transfer and storage of petroleum products and coal are also likely to affect coastal areas. Presently 10 projects totaling close to \$377,300 are being funded across the state. The distribution of CEIP projects is shown on the map on page 9.

North Carolina has utilized CEIP funding for peat-related projects since 1979. It has taken the lead among South Atlantic states in developing baseline data on the effects of peat mining. According to U.S. Department of Energy estimates, peat deposits in North Carolina rank seventh in the Nation with

1.2 million acres. The vast majority of the deposits are located in Hyde, Dare, Tyrrell, and Washington Counties. North Carolina has designed a process to identify hydrologic, environmental, and recreational impacts and has developed short and long-term mitigation techniques. Additional studies have examined the effects of mining on water movement from Lake Phelps and on ground water recharge. Current peat-related projects include the following:

- ° Inventories of natural areas are being compiled for Dare-Mainland, Hyde, Washington, and Pamlico Counties. This project is being conducted by DNRDC and will provide systematic surveys to identify and map natural areas possessing ecological resources of national, state, and regional importance. All significant natural areas will be fully described in reports and maps for each county and ranked by priority for preservation.
- ° Washington County is continuing to identify and evaluate the impacts of peat mining on Lake Phelps. This lake, the second largest natural freshwater lake in the state, is particularly sensitive to the effects of peat mining. The County plans to develop policies and draft local ordinances to mitigate the impact of the mining.



◦ Additional CEIP funding will help to complete a project that analyzes the impacts of peat mining on fisheries in the Albemarle/Pamlico Peninsula. When this project originated in early 1980, only 205 acres were under permit for peat mining in North Carolina. Now over 20,000 acres have been permitted, and it is estimated that several hundred thousand acres may eventually be mined.

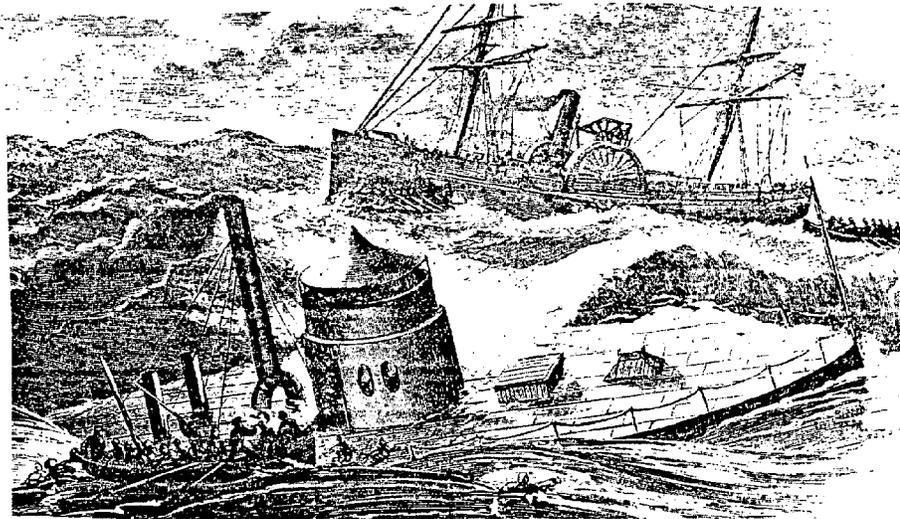
CEIP funds are being used to identify original and cost-effective approaches to the problem of beach access. These projects are taking place in small communities where many types of new coastal energy facilities are being developed. Three examples follow:

- A project to design, manufacture, and install beach access signs is underway in Carolina Beach in New Hanover County. This area is near Wilmington where proposed new energy facilities include an oil refinery, several coal export facilities, and an OCS onshore support base. The new signs will enable visitors to locate the 38 public access points--one third of the existing access areas in the county.
- The Town of Long Beach in Brunswick County, also near Wilmington, has developed an imaginative approach to beach access which will encourage pedestrian access in lieu of vehicular access. A pedestrian scenic walkway has been developed that is far more direct than existing routes. The walkway will connect the main residential area to a central beach access point. The walkway design minimizes impact on the marsh and canal that it crosses.

◦ At the University of North Carolina's Center for Urban and Regional Studies, a beach access program is being developed for the entire coast. This project will examine existing access, project future needs, and formulate a program to meet those needs.

Several CEIP projects will mitigate the impacts of coal transportation.

- A study of the impacts of coal trains is underway in New Bern. The study addresses noise and vibration, effects on foundations of historic buildings, interference with emergency vehicles, downtown revitalization, and surface access to downtown. Location and costs of alternative rail routes are being studied.
- In Wilmington, officials are studying the potential impacts associated with coal transport through the City and its urban environs to a proposed coal export facility at the state port area. Measures to ameliorate impacts are being developed. Specific problems to be covered are surface traffic conflicts, interruption of emergency services, coal dust, increased auto emission, and noise.
- An analysis of the impacts of coal transport is underway in Morehead City. The impacts include noise, surface traffic, emergency services, downtown business, and the effects on the water and sewer systems in areas where pipelines cross under tracks. Mitigation measures will be recommended.



THE NATIONAL MARINE SANCTUARY PROGRAM

Title III of the Marine Protection, Research and Sanctuaries Act

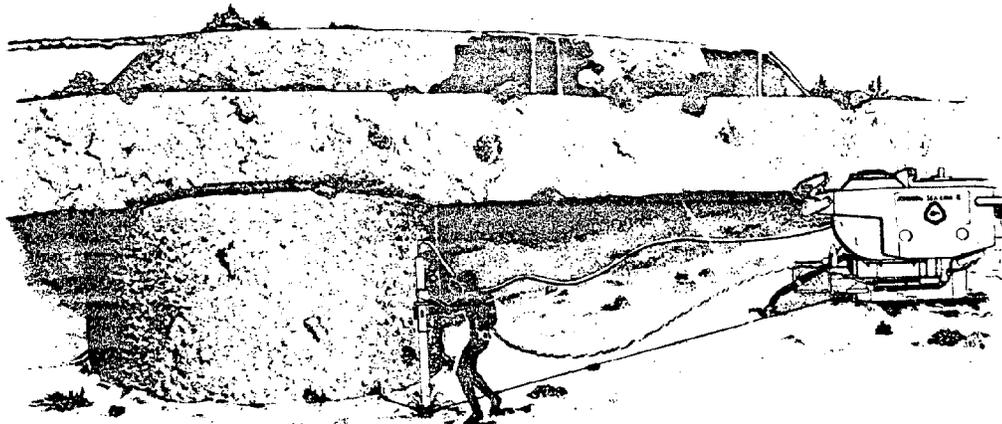
The National Marine Sanctuary Program protects special areas in the coastal waters of the United States to enhance resource protection through the implementation of a comprehensive management plan. The purpose of the plan is to promote and coordinate research, to expand scientific knowledge of significant marine resources, and to provide for maximum compatible public and private use of special marine areas.

OCZM provides funds to assist in the management of marine sanctuaries, to enforce regulations to protect unique resources, and to develop education and public awareness programs. To date, six national sanctuaries have been designated. One is in North Carolina--the MONITOR Marine Sanctuary.

The launching of the MONITOR in 1862 signalled an end to wooden warships in the U.S. Navy. The U.S.S. MONITOR's operational career lasted just 11 months before she was lost in stormy seas. During that time she participated in one of the most celebrated sea battles of the Civil War.

The first battle of ironclad warships in American naval history took place in March 1862 near Norfolk, Virginia. The Confederacy's vessel, the VIRGINIA (originally the MERRIMAC), had already destroyed two Union ships and heavily damaged another before engaging the MONITOR in battle. For more than four hours the two ships fired upon each other but neither sustained significant damage.

Their initial engagement could only be called a stand-off, but a balance of naval power between the Union and the rebel South was struck. As long as they remained the only iron warships afloat, neither side was willing to risk another major encounter. The MONITOR was on her way to an assault on Confederate defenses at Charleston, South Carolina, when she foundered off the coast of Cape Hatteras during a fierce winter storm.



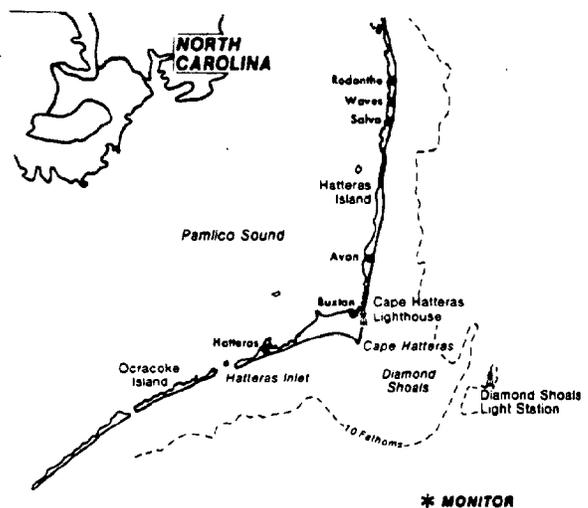
The turret, displaced during sinking, supports the port quarter of the inverted hull. (Drawing by Joan Jannaman)

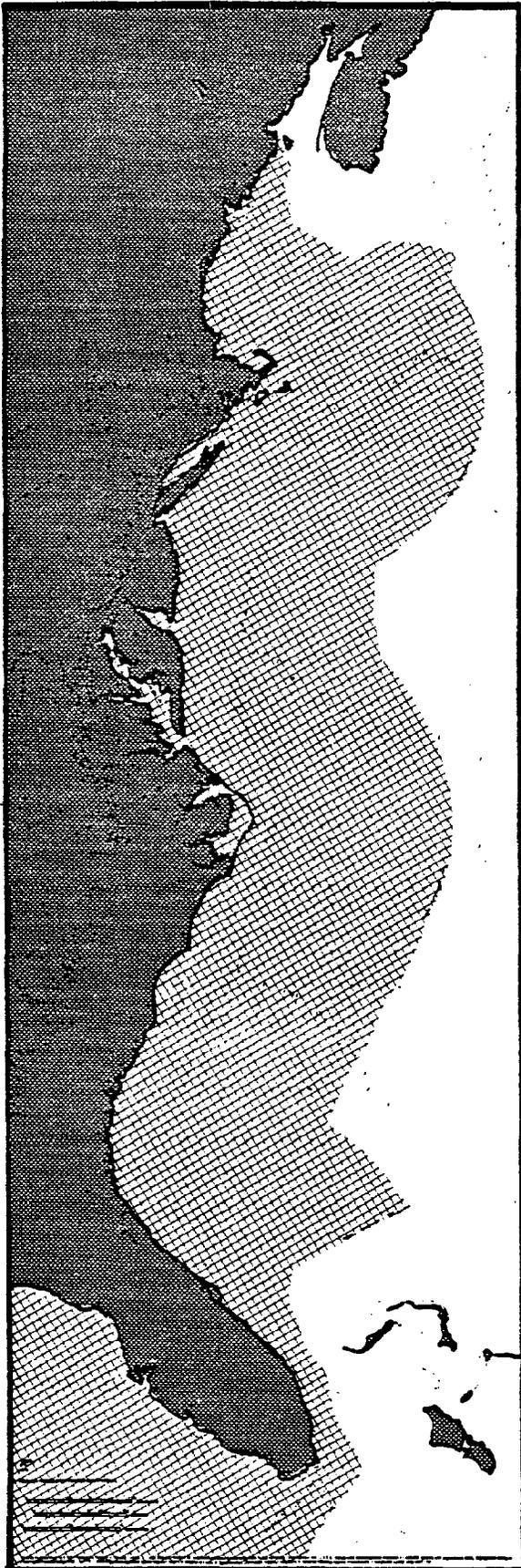
The remains of this historic warship were located and identified off the coast of Cape Hatteras by an interdisciplinary scientific group in 1973. Announcement of the discovery led to considerable interest in the further investigation and recovery of artifacts. On January 30, 1975, the wreck of the iron-clad Civil War vessel, the U.S.S. MONITOR, was designated the nation's first marine sanctuary. Its designation will ensure preservation for future research.

OCZM, NOAA, and the State of North Carolina cooperatively manage the site of the MONITOR. The State Department of Cultural Resources, Division of Archives and History, provides for onsite management, an annual review of current research proposals, review and recommendations to OCZM for action on permit applications, a record of sanctuary research, status of ongoing projects, and coordination with the U.S. Coast Guard regarding surveillance and enforcement. OCZM responsibilities include development of sanctuary goals and objectives and the overall management plan, supervision of onsite implementation of the plan, funding, and issuance of permits.

In addition, the Curator for the Navy provides curatorial services for the MONITOR, cataloguing the artifacts recovered and distributing these relics to approved researchers and for public display. NOAA also maintains an ad hoc federal committee consisting of representatives from the Coast Guard, Department of the Interior, U.S. Navy, the Smithsonian, the Advisory Council on Historic Preservation, and the National Trust for Historic Preservation who provide advice and technical assistance.

For the 1982 summer visitation season, the onsite manager is opening three exhibits on the MONITOR. One exhibit will be housed at each of the state's three Marine Resource Centers--Manteo, Bogue Banks, and Kure Beach.





OCEAN RESOURCES COORDINATION
AND ASSESSMENT

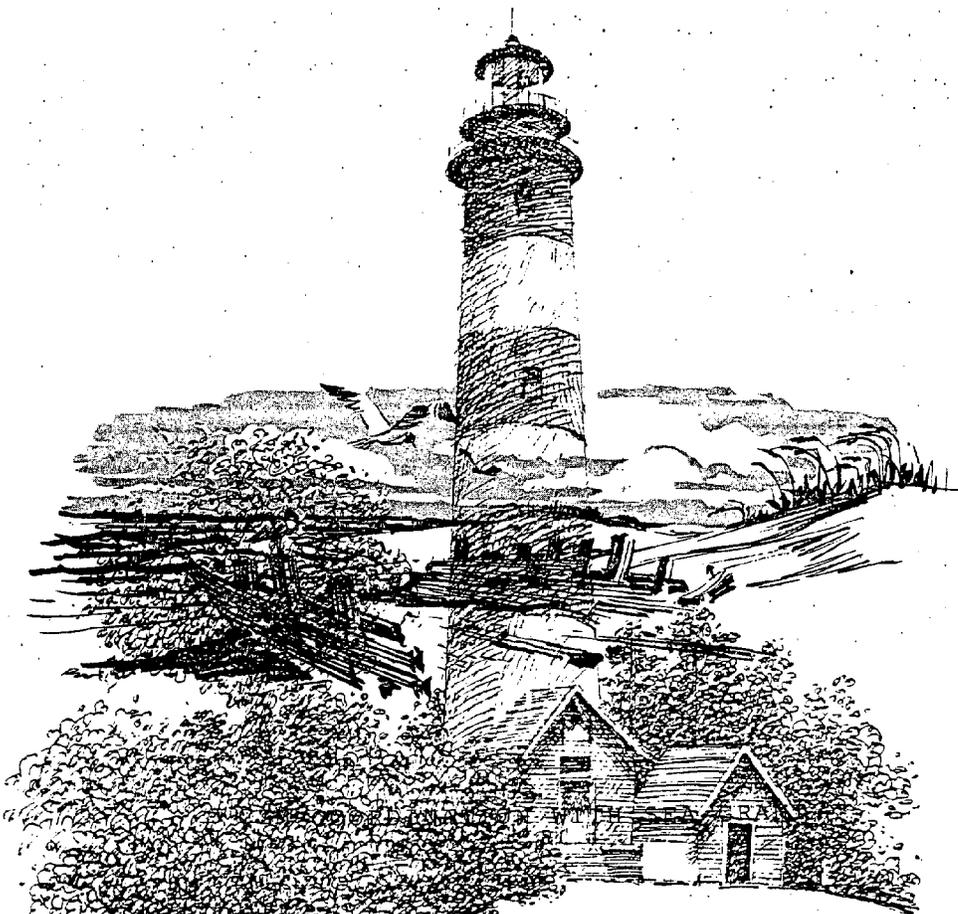
A significant expansion in the scope of OCZM occurred in 1978, when the Office undertook broader ocean resource assessment responsibilities. OCZM's Ocean Resources Coordination and Assessment Program (ORCA) was created in recognition that the problems of multiple uses of the coastal zone are moving seaward. This program develops policy in two important areas--marine transportation and Outer Continental Shelf oil and gas exploration and development--which are likely to have significant effects on other ocean and coastal resources.

Of particular interest to North Carolina are ORCA's strategic assessment projects. ORCA has initiated a series of these assessments which focus on large coastal and ocean regions of the U.S. The purpose is to identify ocean resource use compatibilities and potential conflicts before they occur. Each product produces a data base of physical environments, living environments, marine species, economic activities, and jurisdictions. In addition, information is collected on the boundaries of state coastal management zones, regional fishery management councils, and existing protected areas.

East Coast Strategic Assessment Project



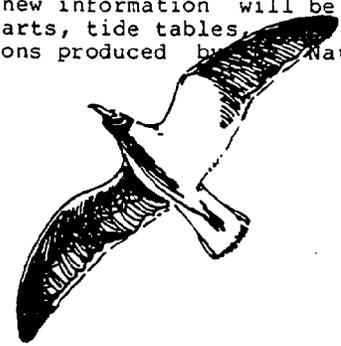
Area of Assessment



The National Sea Grant Program was established in 1966 to provide for institutions engaged in marine research, education, and advanced service programs. It also supports individual projects in marine research and development, and sponsors education of ocean scientists and engineers, marine technicians, and other specialists at selected colleges and universities. The Sea Grant Program operates a marine advisory service office to disseminate knowledge from Sea Grant research to the coastal community, and users of the service, their community response and needs back to the researchers.

The Sea Grant College Program is administered by the University of North Carolina and supports projects at several other North Carolina state and private institutions. The Sea Grant Marine Advisory Service office in Raleigh. Seventeen other weather facilities act with the State Office of Coastal Management through regular discussions on issues of mutual concern, research, and by joint sponsorship of activities of Marine Advisory Service personnel stationed along the North Carolina coast to work with state and local officials in such issues as seabed pollution, standards, and other hazardous areas. The program's technical and educational services and information to coastal residents and local officials.

Research supported by Sea Grant has provided information directly applicable to coastal management. For example, areas subject to flooding during storm tides can be estimated using a model developed by a Sea Grant researcher. Building codes are being modified for coastal areas using results from Sea Grant shoreline stabilization and protection are possible in selected areas because of Sea Grant research. CZM, EPA, and other agencies are cooperating with state and local agencies to study specific data and problems in addition to the weather service. Climatic Center gathers data from the National Earth Satellite Service, military services, and international sources. The Office of Sea Grant have jointly conducted NOAA activities to solve coastal management problems. One example is a project to develop a Truesdale inventory of barrier islands and reefs. The operational development of those islands and reefs from this work will be used by management agencies and planners in NOAA planning for parts of the East coast. hydrographic surveys off the North Carolina coast to acquire the latest data for seagoing commerce and recreational boating. This new information will be added to nautical charts, tide tables, coast pilot publications produced by the National Ocean Survey.





NOAA SUPPORTS NORTH CAROLINA

In addition to the Office of Coastal Zone Management, the National Marine Fisheries Service, and the Office of Sea Grant, other NOAA Programs provide services to North Carolina.

The National Weather Service has six facilities--Weather Service offices in Asheville, Cape Hatteras, Charlotte, Greensboro, and Wilmington; and a Weather Forecast Office in Raleigh. Seventeen other weather facilities are maintained by the Federal Aviation Administration and the Coast Guard across the State.

Asheville is the site of the Environmental Data and Information Service's National Climatic Center. It is the largest climatic center in the world and is the collection center and custodian of all U.S. weather records. The Climatic Center receives and processes over 30 million meteorological

observations annually and disseminates data and summaries, including satellite data and products. In addition to the Weather Service, the Climatic Center gathers data from the National Earth Satellite Service, military services, and international sources.

NOAA's Office of Research and Development maintains a Meteorology Laboratory in Research Triangle Park which provides meteorology research and operational support to the U.S. Environmental Protection Agency.

NOAA Ships MT. MITCHELL and PEIRCE are conducting hydrographic surveys off the North Carolina coast to acquire the latest data for seagoing commerce and recreational boating. This new information will be added to nautical charts, tide tables, and coast pilot publications produced by the National Ocean Survey.

US Department of Commerce
NOAA Coastal Services Center Library
2234 South Hobson Avenue
Charleston, SC 29405-2413

FOR ADDITIONAL INFORMATION:

North Carolina Programs

- State Coastal Management Program and Coastal Energy Impact Program

Office of Coastal Management
Department of Natural Resources and
Community Development
P.O. Box 27687
Raleigh, North Carolina 27611
Tel: 919/733-2293

- State OCS Participation Grants Program

Office of Marine Affairs
Department of Administration
Coble-Helms House
417 N. Blount Street
Raleigh, North Carolina 27611
Tel: 919/733-2290

- Marine Sanctuaries

Department of Cultural Resources
Division of Archives and History
Archeology & Historic Preservation Section
Archeology Branch
421 N. Blount Street
Raleigh, North Carolina 27611
Tel: 919/733-7342

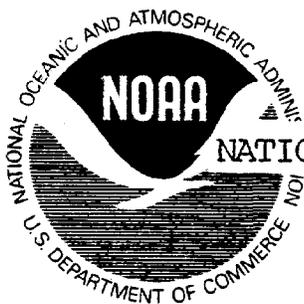
Federal Coastal Programs

- CZM, Sanctuaries, CEIP, ORCA

Office of Coastal Zone Management, NOAA
3300 Whitehaven Street, NW
Washington, D.C. 20235
Tel: 202/634-4232

NOAA Programs

National Oceanic and Atmospheric
Administration
6010 Executive Blvd.
Rockville, Maryland 20852
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U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
OFFICE OF COASTAL ZONE MANAGEMENT

