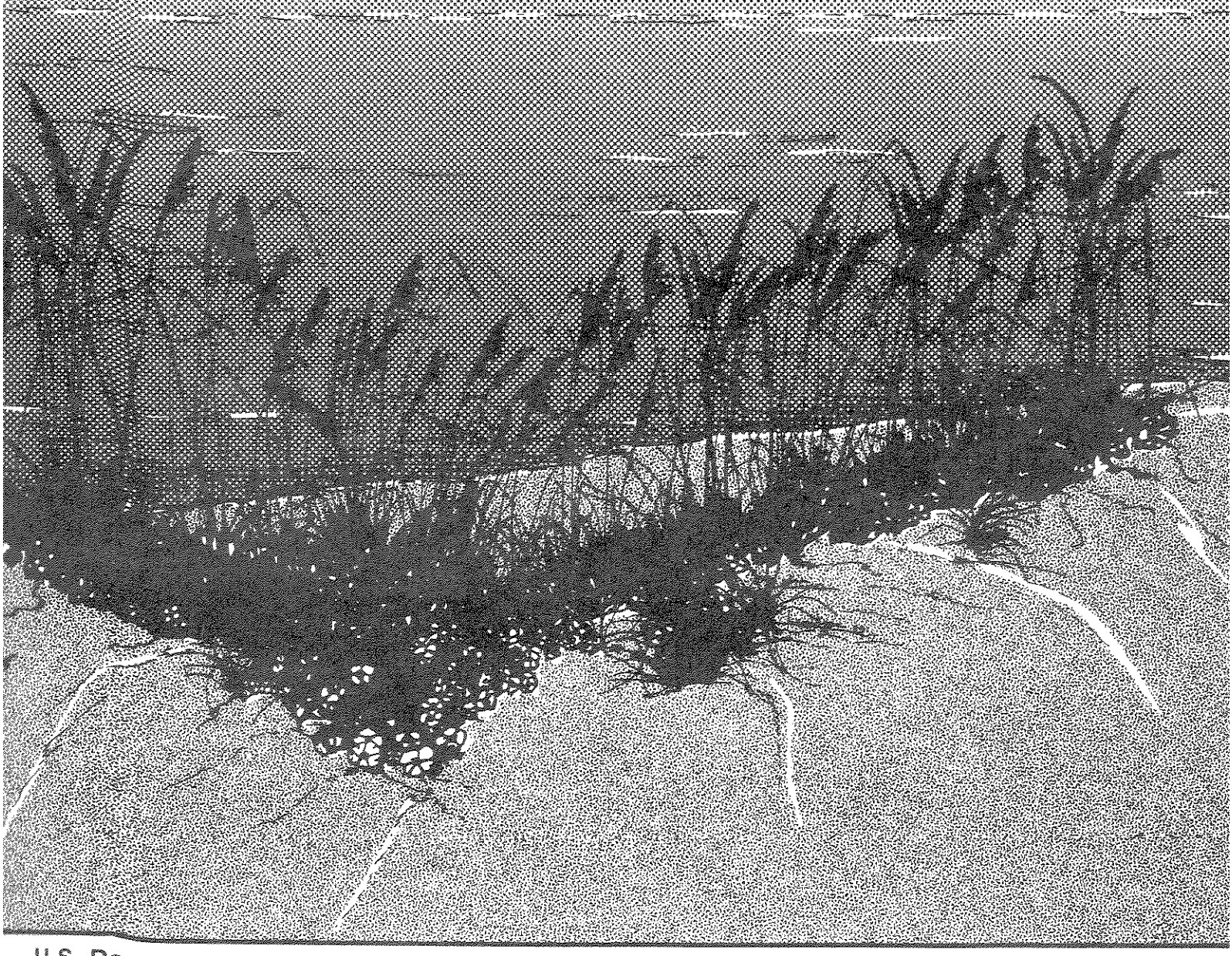
REPORT TO CONGRESS: COASTAL BARRIER RESOURCES SYSTEM

Executive Summary



U.S. Department of the Interior

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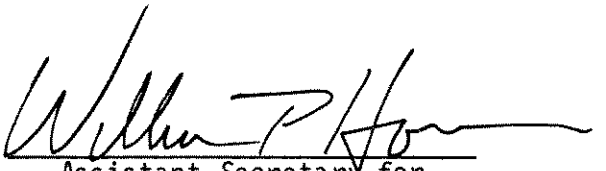
COASTAL BARRIER RESOURCES SYSTEM

EXECUTIVE SUMMARY

Mapped, edited, and published by the Coastal Barriers Study Group

United States Department of the Interior

1988



Assistant Secretary for
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CONTENTS

INTRODUCTION

The Coastal Barrier Resources Act (CBRA) of 1982 (Public Law 97-348) established the Coastal Barrier Resources System (CBRS), a system of undeveloped coastal barriers along the Atlantic and Gulf of Mexico coasts. Section 10 of the CBRA (16 U.S.C. 3509) requires the Department of the Interior, in consultation with the States in which CBRS units are located, to prepare and submit a report to Congress which contains:

(1) recommendations for the conservation of fish, wildlife, and other natural resources of the CBRS;

(2) recommendations for additions to, or deletions from, the CBRS, and for modifications to the boundaries of CBRS units;

(3) a summary of the comments received from the Governors of the States, State coastal zone management agencies, other government officials, and the public regarding the CBRS; and

(4) an analysis of the effects, if any, that general revenue sharing grants made under Section 102 of the State and Local Fiscal Assistance Amendments of 1972 have had on undeveloped coastal barriers.

This Report to Congress has been prepared as a 22-volume compendium with 4 appendixes. It was compiled under the direction of the Assistant Secretary for Fish and Wildlife and Parks by the Coastal Barriers Study Group, a task force of professionals representing the National Park Service, U.S. Fish and Wildlife Service, U.S. Geological Survey, and other Departmental offices. Volume 1 of the report describes the CBRS and discusses and presents recommendations on conservation and management alternatives for the CBRS. It also includes a description of the coastal barrier definition and delineation criteria used in DOI's study and recommendations and an analysis of the impacts of general revenue sharing funds in the CBRS. Volume 1 is a revised version of the document released in March 1985 ("Coastal Barrier Resources System Draft Report to Congress"). Volumes 2-22 of the report contain background information about each State's or Territory's coastal barriers and coastal programs, maps of undeveloped coastal barriers, and recommendations for specific additions to, deletions from, or modifications of the boundaries of the CBRS in those States or Territories. Appendix A is a report on shoreline change and wetland loss in the CBRS and Appendixes B, C, and D are reports containing preliminary and general information about the coastal barriers of the Great Lakes, Hawaii and American Samoa, and the Pacific Coast, respectively. This Executive Summary outlines the major findings in the entire report and presents the Department of the Interior's general recommendations for changes in the CBRS and conservation of its natural resources.

DESCRIPTION OF COASTAL BARRIERS

The coastal barriers of the Atlantic Ocean and Gulf of Mexico coasts make up one of the longest and best defined chains of coastal barriers in the world.

From Maine to south Texas, coastal barriers stretch like protective ribbons along 2,700 miles of our Nation's shoreline. These barriers absorb ocean energies, buffering associated wetlands and the mainland from daily waves and tides and occasional hurricanes and northeasters.

Coastal barrier habitats and their associated wetlands support a tremendous variety of organisms. Millions of fish, shellfish, birds, mammals, and other wildlife depend on barriers and their wetlands for vital feeding, spawning, nesting, nursery, and resting habitat. Often the highest diversity of wildlife on coastal barriers is found at the edge between marshland and upland or land and water.

People, too, seem to prefer this land-water interface. Many of the major resorts on the Atlantic coast--such as Atlantic City, Virginia Beach, and Miami--are located on coastal barriers. The coastal region, in fact, is the focus of many competing demands, including National defense, commerce, energy development, real estate development, recreation, and conservation. Pressures for certain uses of coastal habitats can lead to significant deterioration of coastal barrier resources. Construction and development, alteration of primary dunes, beach stabilization measures, maintenance of navigation channels, and groundwater extraction and contamination are all examples of human activities that can disrupt natural coastal processes and the ecological functions of coastal barriers.

Undeveloped sandy coastal barriers exist in a state of dynamic equilibrium as they constantly respond to the varying assaults of wind and water. Sand is shared between offshore sand bars, the barrier beach, the dunes, and, over the longer term, the entire land mass of the barrier. As sand is eroded from one part of the barrier, it is deposited somewhere else. During storms, the barrier retreats from the direct attack of the ocean through the overwash process. Large storm waves push through the dunes and sometimes across entire islands, depositing fans of sediment behind the dunes or in the soundside marshes. The overwash process also permits barriers to survive the worldwide rise in sea level by somersaulting backwards up the coastal plain.

Clearly, such a dynamic environment is a difficult place for people to live. Structures built too close to the shoreline are quickly threatened by an eroding beach. Hurricanes and northeasters can threaten property virtually anywhere on a barrier. Traditional beach stabilization structures such as groins, jetties, seawalls, and bulkheads interfere with the natural sand-sharing process; in the longer run, they may degrade or destroy the beach and even the barrier itself. Without associated coastal barriers, large population centers on the mainland would be threatened by the direct assaults of the sea.

Increased affluence and Federal subsidies are among the primary causes for the extensive development of our beaches in the past four decades. Populations in Coastal States are growing rapidly, at a rate well over three to four times the National average. Today one out of every two Americans in the continental United States lives within an hour's drive of the coast. As development and investments increase, the need to protect those investments also intensifies.

Protection of coastal development is not only complex, but costly as well. There are now over seven million people exposed to potential hurricane storm surges and flooding along the Atlantic and gulf coasts (Kusler 1983). Average annual property losses due to hurricanes rose from $250 million during the decade between 1951 and 1960, to over $400 million in the decade between 1961 and 1970. Hurricane Alicia in 1983 caused over $750 million in damages to commercial, residential, and public facilities in the Galveston, Texas, area (Platt 1985). Hurricanes Danny, Elena, Gloria, Juan, and Kate cost an estimated $1 billion in Federal payouts over the Atlantic and gulf coasts in 1985 (Federal Emergency Management Agency; pers. comm.).

From 1981 to 1985, about 23% (16 of 67) of the presidentially declared disasters involved coastal flooding and about 49% ($265 of $539 million) of the Federal disaster aid obligations were attributable to coastal damage (Platt 1985). The National Flood Insurance Program (NFIP) is one of the largest single financial obligations the U.S. carries. The NFIP insures over 2 million eligible properties with coverage in force of about $150 billion (Federal Emergency Management Agency, pers. comm.). Of this total, about 70% are in coastal communities (Platt 1985). The NFIP regards as coastal communities cities, towns, and counties having a portion of their areas on the coast. It is estimated that the costs to the Federal Government of extending its current development programs to the remaining undeveloped coastal barriers would be more than five times greater than the costs of public acquisition (Miller 1981).

Cost considerations such as these, along with environmental and safety concerns, led to the enactment of the Coastal Barrier Resources Act (CBRA) in 1982. This legislation was specifically designed to restrict federally subsidized development of undeveloped coastal barriers along the Atlantic and gulf coasts in order to:

(1) minimize the loss of human life,
(2) reduce the wasteful expenditure of Federal revenues, and
(3) reduce damage to fish and wildlife habitat and other valuable natural resources of coastal barriers.

The CBRA prohibits, within the undeveloped, unprotected coastal barriers of the Coastal Barrier Resources System (CBRS), most expenditures of Federal funds which encourage development. The intent of the CBRA is to remove from undeveloped coastal barriers Federal incentives for new development, such as National Flood Insurance, structural stabilization projects, and Federal assistance for construction of sewer systems, water supply systems, airports, highways, and bridges.

BACKGROUND ON THE CBRA

The Coastal Barrier Resources Act was the culmination of several years of study by Congress and the Department of the Interior (DOI) of Federal programs and how they affect the development of coastal barriers. Studies initiated by the DOI in 1977 assessed options for modifying about 40 Federal programs affecting

coastal barriers, including the National Flood Insurance Program. The results of these studies were released in a draft Environmental Impact Statement (EIS) in January 1980. Congressional action followed to redirect partially the economic risk of development back to the private sector.

Section 341 of the Omnibus Budget Reconciliation Act of 1981 (OBRA) amended the National Flood Insurance Act of 1968 to prohibit the issuance of new Federal flood insurance coverage after October 1, 1983, for any new construction or substantial improvements of structures located on undeveloped coastal barriers. The OBRA gave the Secretary of the Interior a twofold responsibility: (1) to designate coastal barriers based on a definition provided in the OBRA, and (2) to report to Congress with recommendations (if any) relating to the term "coastal barrier."

In accordance with the OBRA, the Secretary submitted a report to Congress on August 13, 1982. The definitions and delineation criteria and a listing of 188 units proposed for designation as undeveloped coastal barriers were published in the August 16, 1982, Federal Register (47(158):35696-35715). The Secretary's report to the Congress endorsed the general definitions and delineation criteria contained in the OBRA, and recommended that implementation of the OBRA proceed. The action recommended in this August 1982 report to Congress was identical to the Proposed Action of the 1980 EIS.

After the Secretary delivered his 1982 report to Congress but before final OBRA implementation, the Congress enacted the CBRA which established the 186 units in the CBRS and prohibited all new Federal expenditures and financial assistance within the CBRS, with certain specific exceptions. Section 10 of the CBRA requires this report and is discussed in the following portion of this introduction. Section 11 of the CBRA repealed Section 341 of the OBRA, eliminating the requirement that the DOI make final designations of undeveloped coastal barrier units where only Federal flood insurance would be prohibited.

A Final Environmental Statement (FES) on undeveloped coastal barriers was issued in May 1983, seven months after the CBRA was enacted. It assessed the environmental consequences of four alternatives considered in the planning process between January 1980 and October 1982. A large part of the High Level Protection Alternative (the Proposed Action) was incorporated into the CBRA. The definitions used in the CBRA are consistent with the definitions used in the OBRA and the delineations of undeveloped coastal barriers in the existing CBRS are generally consistent with those proposed by the Secretary of the Interior in his August 1982 OBRA report to the Congress.

While the CBRA reflects the Proposed Action in the FES in terms of geographic coverage, it expands the Federal prohibition from just Federal flood insurance to include all Federal programs that expend funds or provide financial assistance in support of development, unless specifically exempted or permitted by the CBRA. The High Level Protection Alternative was written pursuant to enactment of the CBRA and in cognizance of the Section 10 requirement to prepare this report. Subsequently, the DOI prepared a supplemental Legislative Environmental Impact Statement (LEIS) to assess the specific environmental and economic impacts of the DOI's recommendations to Congress.

The draft supplemental LEIS was released for public comment on February 1, 1988 (Federal Register 53(20):2792). Comments were accepted through March 17, 1988. The LEIS considered two alternatives: the Proposed Action (essentially the recommendations contained in this report), and No Action. Under the Proposed Action, more than 790,000 acres, of which about 39,000 acres is fastland, would be added to the CBRS along the Atlantic and Gulf of Mexico coasts. Under the No Action alternative, no changes would be made in the existing CBRS.

CBRA SECTION 10 REPORT

On December 5, 1983, the DOI published an outline of the studies it was undertaking to prepare the Section 10 Report in the Federal Register (48(234): 54543-54545). The DOI accepted public comments on this study plan through February 1, 1984.

In the Spring of 1985, the DOI issued a draft inventory of undeveloped coastal barriers on all U.S. coastlines and a draft text report on conservation alternatives for the CBRS. These documents were made available for public review as part of the information-gathering process; they did not include recommendations but rather provided a range of alternatives that could be used as the basis for recommendations to Congress.

On September 30, 1985, the DOI closed the public comment period on the report and inventory. The DOI received over 2,300 comments on the documents. A wide variety of viewpoints were expressed on the possibility of expanding the CBRS to include other coastlines, protected barriers, secondary barriers, and expanded aquatic habitat. A variety of opinions were also expressed on the conservation alternatives.

In addition to soliciting written public comments through the Federal Register, Departmental representatives met with State and local officials, and attended 26 public meetings or workshops. Various options for expansion were evaluated to increase the DOI's understanding of coastal barriers and their locations and status around the Nation. After reviewing the public comments received and the information gathered, the DOI formulated proposed recommendations to Congress.

In March 1987, the DOI issued a second draft report containing proposed recommendations to Congress. Public comments on the draft report and proposed recommendations were solicited and accepted for a 90-day period, closing June 23, 1987. More than 6,150 individuals commented. Opinions were expressed on every proposed recommendation in the draft executive summary and on many of the proposed recommendations concerning modifications of existing CBRS units and proposed new units. Comments on individual existing or proposed CBRS units are summarized in the appropriate State volume (Volumes 2-22). A summary of the comments on the general issues presented in this executive summary appears in Table 1. The official State or Territory positions on each of the general issues appear in Table 2. Each issue is discussed in greater detail in the following sections and in Volume 1.

RECOMMENDATIONS FOR ADDITIONS TO OR DELETIONS FROM THE CBRS

As discussed previously, the coastal barriers included in the CBRS in 1982 were delineated based on definitions and delineation criteria developed by the DOI for the OBRA. As the scientific understanding of coastal barriers has grown and the functional requirements of a good definition have become more obvious, however, the definitions and delineation criteria used by the DOI to inventory barriers have also evolved. The definitions and criteria used to delineate the proposed changes to the CBRS are presented in Volume 1 (Chapter 5) of the report. The major changes in these definitions and delineation criteria primarily affect the undeveloped and unprotected coastal barriers in the Florida Keys, Puerto Rico and the Virgin Islands, associated aquatic habitat, secondary barriers, "otherwise protected" barriers, and military and Coast Guard lands. Each is discussed further below.

DEFINITION OF COASTAL BARRIERS

Section 3(1)(A) of the CBRA defines a coastal barrier as a depositional feature (such as a bay barrier, tombolo, barrier spit, or barrier island) that--(i) consists of unconsolidated sedimentary materials, (ii) is subject to wave, tidal, and wind energies, and (iii) protects landward aquatic habitats from direct wave attack.

Although coastal barriers generally consist entirely of unconsolidated sediments composed of sand or gravel, sediments can sometimes include silt and clay, cobbles, or larger rocks or be consolidated. The DOI has identified areas that contain carbonate-cemented deposits (such as the Florida Keys), that consist primarily of silt and clay (such as fringing mangroves and cheniers), and that contain discontinuous outcrops of bedrock or coarse glacial deposits that nevertheless function as coastal barriers. A complete discussion of these areas appears in Volume 1. To allow the definition of coastal barriers to be expanded to include these areas, an amendment to the CBRA to delete the reference to unconsolidated materials is necessary.

Recommendation: The DOI recommends that the definition of coastal barriers in Section 3(1)(A) of the CBRA be amended by deleting subparagraph (i). The DOI also recommends that all undeveloped unprotected coastal barrier areas meeting DOI definitions be added to the CBRS and that any coastal barrier areas not meeting DOI definitions that were erroneously included in the CBRS in 1982 be deleted from the CBRS. As mentioned earlier, individual recommendations for additions to or deletions from the CBRS in each State or Territory are contained in the 21 State and Territory atlases (Volumes 2-22 of the report). A summary of these recommendations appears in Table 3.

GEOGRAPHIC SCOPE

When the CBRA was enacted in 1982, Congress only included coastal barriers on the Atlantic Ocean and Gulf of Mexico coastlines in the CBRS. The legislative history does not clearly indicate whether Congress intended to expand the CBRS

eventually to include other coastlines. During 1983-85, however, the Coastal Barriers Study Group gathered preliminary information about undeveloped coastal barriers on all U.S. coastlines. Although this endeavor resulted in draft maps and a large amount of data, additional studies and consideration are necessary before the DOI can make specific recommendations about the undeveloped coastal barriers along the Pacific Coast, Great Lakes, Alaska, Hawaii, and American Samoa. Because Congressional intent is unclear and there is so much controversy surrounding expansion to other coastlines (see Volume 1 for further discussion), the DOI does not plan to complete the studies of other coastlines unless Congress enacts legislation directing it to do so.

Undeveloped and unprotected coastal barriers in the Florida Keys, Puerto Rico and the Virgin Islands were not included in the CBRS in 1982. These barriers border the Atlantic Ocean and are subject to the same dynamic forces and development pressures as other Atlantic coastal barriers. These coastal barriers fully qualify for addition to the CBRS under DOI's expanded definitions (see previous recommendation).

Recommendation: The DOI recommends that the undeveloped, unprotected coastal barriers of the Florida Keys, Puerto Rico, and the Virgin Islands be added to the CBRS. The DOI also recommends that the additions to the CBRS in the Florida Keys do not include Highway 1 because it is the only means of entry to and exit from the islands and should be exempted for safety reasons.

ASSOCIATED AQUATIC HABITATS

The CBRA defines an "undeveloped coastal barrier" to include all associated aquatic habitats: "adjacent wetlands, marshes, estuaries, inlets, and nearshore waters." This definition reflects the specific conservation purposes of the CBRA to protect the fish, wildlife, and other natural resources of coastal barriers. All such associated aquatic habitats are inseparable parts of the coastal barrier ecosystem. The original units of the CBRS, however, include only minimum aquatic habitat because the 1982 Congressional designations were based on Departmental delineations for a prohibition on just the sale of Federal flood insurance as required by the OBRA. Those delineations focused on the undeveloped fastland portion of the barriers where residential development might occur.

Coastal barriers protect the aquatic habitats between the barrier and the mainland. These habitats are critically important to many fish and wildlife, including most of the Nation's commercial fish and shellfish harvest. The barrier and its associated habitats are one ecological system and the health and productivity of the entire ecosystem depends on the rational use of all the component parts.

"Associated aquatic habitat" includes all wetlands (e.g., tidal flats, swamps, mangroves, and marshes), lagoons, estuaries, coves between the barrier and the mainland, inlets, the nearshore waters seaward of the coastal barrier including the sand-sharing system and, in some tropical areas, the coral reefs associated with nearshore mangroves. Under normal weather conditions, only aquatic habitats immediately adjacent to coastal barriers are exposed to direct wave

attack. Major coastal storms, however, routinely affect the entire landward aquatic habitat. Such habitat survives major storms because coastal barriers receive the brunt of the ocean's energies. Storm waves break on the barrier beach, leaving a diminished storm wave to travel into the wetland. At the same time, the wetland stores storm flood waters, easing the flood pressure on the mainland. For this report, the associated aquatic habitat is considered to comprise the entire area subject to diminished wind, wave, and tidal energy during a major storm because of the presence of the coastal barrier. It is delineated to include up to a 1-mile expanse of open water or a 5-mile expanse of marsh behind a barrier, including those Coastal Plain remnants seaward of the continuous Pleistocene landmass.

Recommendation: The DOI recommends that all aquatic habitats associated with the existing CBRS units and those included in the recommended new units be added to the CBRS.

NAVIGATION CHANNELS

In the 1987 Draft Report, the recommended additions of associated aquatic habitat included several Federal navigation channels maintained by the U.S. Army Corps of Engineers. Many commenters, including some State and local governments, expressed concern about the impacts of this on plans to deepen channels to accommodate larger vessels.

Recommendation: The DOI has adjusted the recommended boundaries of several individual units to exclude major shipping channels, such as the Brownsville Ship Channel. Furthermore, DOI recommends specifically excluding all existing Federal navigation channels, including the Intracoastal Waterway, by reference to allow widening and deepening, or study thereof, of such channels.

The environmental effects of channel improvements are assessed through appropriate Federal and State regulatory programs; these programs generally also serve the purposes of the CBRA.

SECONDARY BARRIERS

Secondary barriers are located in large, well-defined bays (e.g., Narragansett Bay, Chesapeake Bay) or in lagoons on the mainland side of coastal barrier systems if a suitable sediment source and sufficient wind, wave, and tidal energies exist. They are maintained primarily by waves generated internally by wind rather than open ocean waves. Consequently, they are generally smaller and more ephemeral than barriers along the coast of the Atlantic Ocean or Gulf of Mexico. Nonetheless, these secondary barriers are formed of unconsolidated sediments just like most oceanic coastal barriers, and more importantly, they also protect critical fish and wildlife habitat and provide substantial protection for the mainland during major storms.

Recommendation: The DOI recommends that secondary barriers be added to the CBRS.

OTHERWISE PROTECTED COASTAL BARRIERS

Congress excluded from the CBRS undeveloped coastal barriers that are "included within the boundaries of an area established under Federal, State, or local law, or held by a qualified organization as defined in Section 170(h)(3) of the Internal Revenue Code of 1954, primarily for wildlife refuge, sanctuary, recreational, or natural resource conservation purposes" (hereinafter referred to as "otherwise protected" areas). About one-third (34%) of the Atlantic and gulf coast falls into this otherwise protected category.

In his 1982 "Report to Congress on Undeveloped Coastal Barriers," the Secretary recommended that otherwise protected areas be included in the CBRS to ensure that private property owners within the boundaries of these areas not be granted Federal flood insurance. Most of the federally subsidized development that occurs in otherwise protected areas, however, is necessary to provide public access and accommodate visitors.

More than 95% of the beach-oriented recreational use of federally protected areas occurs on coastal barriers. All nine units of the National Park System on the Atlantic Ocean and Gulf of Mexico coasts that provide a significant amount of beach recreation, for example, are located on coastal barriers, with the exception of certain beaches on Cape Cod. These coastal barriers supported a total of 30 million visits in 1984, up from 22.5 million visits in 1979, and 8.9 million visits in 1977 (U.S. Department of the Interior 1983; Platt 1985). Much of this use is moderate- or low-intensity resource oriented recreational and educational activity. On National Wildlife Refuges, recent estimates show an average of 6 million visits annually to 20 of the 50 refuges located on the Atlantic and Gulf of Mexico coastlines.

State and local governments also protect coastal barriers. The large urban populations in the Northeast have created substantial demands for beach facilities. In New England, New York, and New Jersey, town beaches--often contiguous with the town and planned to provide beach recreation for residents during the summer--are common. In the southeastern and Gulf States, where urbanization is generally less intensive and more recent, beach use tends to be associated with private residential development. In Florida, where urbanization pressure is greatest, the State is making a considerable effort to develop local parks to satisfy the increasing public demand.

Although a few of the otherwise protected areas contain substantial amounts of "permanent" public recreational development, most are undeveloped, contain scattered public and private development of a temporary or minimal nature (such as boardwalks, dune crossings, picnic areas, campsites), or contain only a single developed area of bathhouses and other facilities to support beach-oriented recreation.

In addition, about a score of coastal barriers are effectively protected as wildlife sanctuaries and research areas by private conservation organizations such as the Audubon Society and The Nature Conservancy (TNC). The exclusion of these privately owned, otherwise protected areas from the CBRS increases their market value which can increase the incentive to the owners to subdivide and

sell the properties to acquire property elsewhere that may be more valuable to the conservation organization.

For example, on Dog Island, Florida, property owned in 1982 by TNC and excluded from the CBRS as otherwise protected has since been sold and can now be developed using the full range of Federal subsidies and with full access to Federal flood insurance. Other landowners on Dog Island, whose property is also undeveloped but is included in the CBRS, are unable to purchase new flood insurance or receive other Federal financial assistance.

Recommendation: The DOI recommends that all privately owned property that is within but is not a part of an otherwise protected area (i.e., inholdings) on an undeveloped coastal barrier be included in the CBRS. Where accurate maps of inholdings were available (e.g. for the National Seashores and Wildlife Refuges), the DOI has included the inholdings on the proposed CBRS maps (see appropriate State volumes). Where such information was lacking, the DOI recommends that the inholdings be included by reference.

The DOI also recommends that all otherwise protected areas in the existing CBRS be deleted. However, if any public or privately owned, otherwise protected area on an undeveloped coastal barrier is ever made available for development that is inconsistent with the CBRA purposes and the long-term conservation of the barrier, the DOI recommends that it then automatically be included in the CBRS. An amendment to the CBRA providing a legislative directive to DOI to develop guidelines for acceptable development and automatic inclusion of otherwise protected areas is necessary.

These guidelines could be similar to the Secretary's Standards for Historic Preservation used to certify Historic Preservation Tax Credits and should be developed with opportunity for public comment. Lack of adherence to the guidelines would constitute justification for automatic inclusion in the CBRS. Federal expenditures on otherwise protected coastal barriers should support recreation, education, and conservation activities that are consistent with the maintenance of the natural environment. The guidelines used to judge acceptable development could include, but not be limited to the following:

- the development is necessary to fulfill the purposes of the area;
- the development and its use can be accommodated on the barrier without significantly interrupting natural geological or ecological processes; and
- the development is located landward of the primary dunes and on the most stable portion of the barrier.

The otherwise protected areas on undeveloped coastal barriers are identified on the maps in Volumes 2-22 of this report.

MILITARY AND COAST GUARD LANDS

The Congress included three military installations and one Coast Guard station comprising 42 miles of beachfront and about 15,000 acres in the CBRS in 1982. During the 1985 inventory, an additional 29 undeveloped coastal barrier areas containing about 45 miles of beachfront and 30,000 acres of military and Coast

Guard lands in Maine, Maryland, Virginia, North Carolina, Georgia, Florida, and Puerto Rico were also identified.

Section 6 of the CBRA exempts "military activities essential to National security" and "the construction, operation, maintenance, and rehabilitation of Coast Guard facilities and access thereto" from the restrictions of the CBRA after consultation with the DOI. It is DOI's understanding that most military activities along the Atlantic and gulf coastlines are essential to National security. Compliance with the National Environmental Policy Act and other environmental safeguards is required of the military and Coast Guard. In addition, under the Sikes Act, the Fish and Wildlife Service works with the military to develop fish and wildlife conservation plans for their installations.

Recommendation: The DOI recommends that the military and Coast Guard lands currently included in the CBRS be deleted and that no new military or Coast Guard lands be added to the CBRS.

CONSERVATION RECOMMENDATIONS

Traditionally, the Federal role in coastal management has focused on acquisition, planning, and regulation. Enactment of the CBRA in 1982 marked a departure from this approach. In recognition of the insupportable public costs associated with development of the coastal barriers along the Atlantic Ocean and Gulf of Mexico coastlines, the Federal Government withdrew its financial support for investment in the remaining undeveloped barriers that were included in the CBRS. These costs included not only recurrent expenditure of Federal revenues, but also the loss of human lives and the destruction of important fish and wildlife resources.

To develop recommendations for conservation of the CBRS, a variety of alternatives that affect, or could affect, conservation of the CBRS, including acquisition, regulation, and tax policy, were considered by the DOI. These are discussed in detail in Volume 1. Recommendations concerning each of these alternatives follow.

ACQUISITION

The Federal Government did not originally own as much coastal acreage as it did acreage in other areas of the country. For a short time, the coasts of Florida, Alabama, Mississippi, and Louisiana were federally owned, but these were transferred to the States or private parties by the mid-1800's (Platt 1985). Federal interest did not turn towards conservation and preservation of coastal resources until relatively recent times when the Cape Hatteras National Seashore was established in 1937 (U.S. Department of the Interior 1983).

Before World War II, more than 90% of the Nation's coastal barrier real estate existed as undeveloped natural areas, largely inaccessible to the general public. Post-war development soon began to change this situation and in 1961,

Congress began to take aggressive action to protect coastal barriers with the authorization of the Cape Cod National Seashore. From 1961 through 1972, Congress established seven additional National Seashores on coastal barriers, and the U.S. Fish and Wildlife Service established 12 new National Wildlife Refuges. Since 1972, both the National Park Service (NPS) and the Fish and Wildlife Service (FWS) have continued to acquire additional lands on coastal barriers. Today, the National Park Service administers nine National Seashores along the Atlantic and gulf shorelines, encompassing about 550 shoreline miles and 400,000 acres of land. The Fish and Wildlife Service manages about 50 National Wildlife Refuges along these coastlines.

The Emergency Wetlands Resources Act of 1986 (P.L. 99-645) provides additional mechanisms for Federal acquisition of wetlands to augment the NWR system. One provision of this law authorizes entrance fees at some refuges with 70% of the receipts collected dedicated to the Migratory Bird Conservation Fund for the purchase of migratory bird habitat. A second provision authorizes an increase in the price of Federal duck stamps, which are required for hunting migratory waterfowl, and directs proceeds to be used to acquire wetlands. Both these provisions employ the user fee concept to finance wetland acquisition. Other provisions of the Emergency Wetlands Resources Act allow the monies appropriated under the Land and Water Conservation Fund (LWCF) to be used for Federal wetland purchases and for State acquisition under the related State grant program.

Although primarily established to provide beaches for recreation, State and local parks also often included substantial areas of dunes and wetlands that are effectively conserved as undeveloped open space. Acquisition programs in the Coastal States and private sector have accelerated in recent years as competition for remaining undeveloped coastal barrier acreage has intensified.

Since enactment of the CBRA, several CBRS units have been acquired for recreational or conservation purposes, including Shackleford Banks (NPS-Cape Lookout National Seashore), part of Mobile Point (FWS-Bon Secour NWR), and several areas in Florida (for inclusion in the State's park system). Acquisition, however, has been limited because of the excessive costs of acquiring prime beach real estate. It is pursued on a case-by-case basis as determined necessary by individual land-managing agencies.

Recommendation: The DOI recommends that the Federal Government continue to employ the user fee concept in acquisition of CBRS lands as appropriate. The DOI also recommends that State and local land-managing agencies as well as private conservation organizations be encouraged to pursue acquisition of CBRS lands as appropriate. If any CBRS lands become "otherwise protected" areas, the DOI recommends that they automatically be deleted from the CBRS and exempt from the CBRA's restrictions.

SURPLUS OR EXCESS FEDERAL PROPERTY

There are considerable Federal holdings on Atlantic and gulf coastal barriers not included in the CBRS. The CBRA does not address surplus or excess property

transfer of lands held by Federal agencies. These lands could be used for development if transferred to private ownership without appropriate safeguards.

Recommendation: The DOI recommends an amendment to the CBRA to require that if any Federal coastal barrier properties are determined to be surplus or excess to government needs, the undeveloped portions of such properties which the General Services Administration (GSA), in consultation with the DOI, determines are appropriate for inclusion in the CBRS automatically be included in the CBRS prior to disposal unless they will otherwise qualify for exemption under the CBRA or qualify as otherwise protected areas.

REGULATORY CONSISTENCY

Although the CBRA restricts Federal expenditures which encourage development within the CBRS, it does not prevent Federal agencies from issuing permits for activities within or adjacent to CBRS units. Several Federal agencies, including the Army Corps of Engineers, the Environmental Protection Agency (EPA), and the Coast Guard administer regulatory programs that affect coastal barriers and their associated natural resources. These programs require permits for the construction of causeways, bridges, and docks, and for many components of the infrastructure necessary for development, such as utility crossings and wastewater discharges. Some commenters expressed concern that continued issuance of Federal permits without consideration of the purposes of the CBRA works at cross-purposes with the conservation and safety goals of the CBRA and suggested that Federal permits for activities within or adjacent to CBRS units be required to be consistent with the purposes of the CBRA.

Conservation without creation of a new Federal regulatory program was one of the major tenets of the CBRA. In signing the CBRA, President Reagan stated, "The Coastal Barrier Resources Act meets a National problem with less Federal involvement, not more." Since the passage of the CBRA in October 1982, many Federal permits for various types of construction activities on or adjacent to coastal barriers in the CBRS have been issued. While these permits have authorized several different types of structures and activities, the greatest number have been issued for the construction of individual boat docks or marinas. The environmental effects of any structure and its usage must be considered during the permit review process. None of these permits indicates a direct disregard for the purposes of the CBRA.

Recommendation: The DOI finds that the major Federal permit programs that affect the CBRS--permits for dredge and fill and bridge construction--take fish and wildlife values into account. Requiring regulatory consistency at the Federal level would depart from the basic CBRA premise that conservation can be achieved without increasing Federal regulatory involvement by simply withdrawing Federal financial support for development of undeveloped coastal barriers. Furthermore, most States have additional regulatory safeguards that also serve the purposes of the CBRA. These include wetlands protection programs, construction setback requirements, and poststorm reconstruction policies to control development on barriers. Therefore, the DOI recommends no regulatory amendment.

TAX POLICY ALTERNATIVES

Over the years since the Internal Revenue Code was enacted in 1954, there was an enormous erosion in the tax base as tax-exempt actions increased. While exclusions, itemized deductions, and the deduction value of credits offset only about 18% of personal income in 1954, they offset about 34% in 1984 (U.S. Department of the Treasury 1984). Exclusions and deductions meant that tax law, along with the market, had become a major force in determining how individuals and businesses used their economic resources. In coastal communities, tax-induced distortions have had significant costs in terms of lost property, public revenues, and natural resources. A tax policy that is neutral toward development decisions on coastal barriers could foster the conservation of the fish, wildlife, and other natural resources of the CBRS by allowing development in the CBRS to be based on market signals, basically unaltered by Tax Code provisions. Based on this logic, the Section 10 study devoted considerable early effort to possible tax amendments for conservation of the CBRS.

In 1986, the Tax Reform Act (TRA) made sweeping changes in the Internal Revenue Code. A guiding principle of the TRA was the reduction of the Code's interference with the economic decisions made by individuals and businesses. The TRA changes many of the provisions in the Code that interfered with market decisionmaking. Many of these changes are essentially those initially considered by the DOI (these are discussed in Volume 1). For example, the TRA eliminates long-term capital gains deductions, limits casualty loss deductions, allows only straight-line depreciation of property over a longer time period, restricts interest deductions, eliminates investment tax credits, and imposes at-risk limitations on real estate holdings.

Because of the TRA, in the second portion of its study (after 1986), the DOI focused attention away from options that might reduce tax incentives that encourage development and towards options that might promote donations of conservation easements. As these options were investigated, the DOI was assured by the Department of the Treasury that the interpretation of the rules under Section 170 of the Internal Revenue Code--the section governing donations of conservation easements--has not adversely affected charitable contributions within the CBRS.

> Recommendation: The DOI recommends no tax amendments at this time. Several of the tax options considered for conservation of CBRS have been incorporated in the Tax Reform Act of 1986. Furthermore, the DOI is confident that there are no special problems associated with the charitable contributions within the CBRS. Having just accomplished a major reform after 2 years of debate and legislative effort, a period of stability and certainty in tax law is necessary.

OTHER AMENDMENTS TO THE CBRA

With certain exceptions, the CBRA prohibits new Federal expenditures and financial assistance for development within the units of the CBRS. Section 3(3) of the Act defines "financial assistance" as "any form of loan, grant,

guaranty, insurance payment, rebate, subsidy, or any other form of direct or indirect federal assistance." The prohibition on new Federal expenditures and financial assistance in CBRS units is broad and covers all Federal programs unless specifically exempted by the CBRA.

All exceptions to the CBRA limitations are discussed in Volume 1 of the report. Some examples include general revenue sharing, social programs, energy projects, channel and road maintenance, military activities, and Coast Guard station construction, scientific research, emergency actions, nonstructural beach stablization projects (such as beach nourishment), and fish and wildlife management activities.

Several questions have arisen as each Federal agency has attempted to assure compliance with the CBRA prohibitions. For example, can Federal monies be used to support a project that is not located in a CBRS unit but might have substantial impact on it: i.e., can a bridge to a coastal barrier be constructed with Federal revenues if it terminates outside the CBRS unit even though it might substantially improve the accessibility and, therefore, the development potential of the CBRS unit?

Section 5 Limitations

Section 5(a) prohibits Federal funding for activities within CBRS units. In several instances, Federal agencies have had to decide whether to obligate Federal funds for facilities such as wastewater treatment plants that are located outside the CBRS but whose service areas may include developments in CBRS units.

The DOI issued a decision concerning a federally funded wastewater treatment plant in Brevard County, Florida, stating that the service area could not be expanded to include the adjacent CBRS unit, and further, Federal monies could not be used to construct sewer lines through the unit to service developed areas to the south. Such a transit line could be constructed with non-Federal monies, but tie-ins within the CBRS unit would remain prohibited (see also the DOI's recommendation concerning Section 6(a)(3) in the following section).

The Federal Highway Administration (FHWA), in its CBRA implementation regulations, concluded that use of Federal funds for construction of a bridge that terminates on the same barrier, but outside a CBRS unit is allowed. However, under existing FHWA regulations, no Federal monies can be used to build a road from that bridge terminus into the CBRS unit; such a road must be funded entirely through non-Federal sources.

In the 1987 Draft Report, the DOI considered a recommendation that guidance be developed to clarify that Federal financial assistance specifically directed to a purpose within the CBRS, even if the project is located outside the CBRS, is prohibited by Section 5(a) of the Act. Upon reevaluating the situations which may arise, the DOI concludes that determinations about whether Federal financial assistance is appropriate can be made on a case-by-case basis, and therefore, makes no recommendation for general guidance.

Recommendation: The DOI recommends no changes in Section 5.

Section 6 Exceptions

Section 6 lists exceptions to the general prohibitions in Section 5(a) on Federal expenditures within the CBRS. Federal agencies must consult with the DOI (FWS) prior to obligating funds for any of the exceptions permitted. Ambiguities in the wording of several of the exceptions and different interpretations among Federal agencies have created apparent conflicts with the purposes of the CBRA.

Essential link (roads). Section 6(a)(3) allows expenditures for the repair, replacement, or reconstruction of facilities that are "essential links" in a larger network or system. Under Section 6(a)(6)(F), expenditures for the repair, replacement or maintenance of these roads, structures or facilities are allowed when the expenditure of Federal revenues will be "consistent with the purposes of [CBRA]." The Federal Highway Administration (FHWA) has declared all existing roads and highways in the Federal-aid System are usually "essential links" by definition; they are by designation important links in a larger network.

In the 1987 Draft Report, the DOI proposed eliminating Section 6(a)(3) entirely. Under this proposal, maintenance, replacement, reconstruction, or repair, but not the expansion of publicly-owned or publicly-operated roads, structures, or facilities would continue to be allowed under Section 6(a)(6)(F) only if they were consistent with the purposes of the CBRA. However, as several commenters pointed out, there are some roads that should legitimately be considered essential links, such as U.S. Highway A1A in Florida. The repair or replacement of these roads should be allowed even if it is not consistent with the purposes of the CBRA.

Recommendation: The DOI recommends no change in Section 6(a)(3).

Essential line (utilities). Because of the large recommended increase in the amount of associated aquatic habitat included in each CBRS unit, many commenters were also concerned that utilities, especially rural electric cooperatives and water and sewer companies, would not be able to service adequately customers on developed coastal barriers because they could not afford to cross the CBRS without Federal assistance. It was not the intent of the CBRA to penalize those living on developed coastal barriers, nor does the DOI want to discourage the construction or use of sewage treatment plants that will lessen the detrimental environmental impacts of malfunctioning package treatment plants and septic systems on developed barriers.

Recommendation: The DOI recommends an amendment to Section 6 to allow utilities (1) to use Federal monies for the purposes of putting in "essential lines" through the CBRS where no practicable alternative route exists to service one or more developed areas on coastal barriers outside the CBRS, and (2) to provide service to developments within the CBRS from existing lines or "essential lines" which cross through the CBRS provided that service can be supplied with no additional costs to the Federal Government. If any upgrades are necessary to accommodate such service within the CBRS, the DOI recommends that their costs be borne by non-Federal parties.

The DOI believes that the potential environmental benefits resulting from this recommendation will outweigh any potential contributions to the development of the barrier. Once the original Federal outlay for the "essential line" is made, it is the DOI's intent that no additional Federal costs result from allowing tie-ins.

Dredged material disposal. Section 6(a)(2) allows dredged materials to be disposed within the CBRS after consultation with the DOI, but without special consideration for the purposes of the CBRA. In the 1987 Draft Report, the DOI considered a recommendation that Section 6(a)(2) be amended to require dredged material disposal to be performed in a manner consistent with the purposes of the CBRA; however, this proposal runs counter to the basic CBRA premise that conservation can be achieved without increasing Federal regulatory involvement. Dredged material disposal is already regulated by Federal programs that take fish and wildlife values into account.

Recommendation: The DOI recommends no change in Section 6(a)(2).

Recreational project. Section 6(a)(6)(A) clearly allows fish and wildlife management and conservation to occur within the purposes of the CBRA. However, several States have raised questions regarding the extent of allowable outdoor recreation and have requested that if otherwise protected areas continue to exist in, or are added to the CBRS, then this section should be clarified to allow outdoor recreation, so long as it complies with the purposes of the CBRA. However, the DOI is not recommending that otherwise protected areas remain in or be added to the CBRS. This should alleviate the States' concerns without requiring any changes in Section 6(a)(6)(A).

Recommendation: The DOI recommends no amendment to Section 6(a)(6)(A).

Federal Agency Compliance and Block Grants

Particularly difficult to oversee is the prohibition against block grants related to development, such as the Community Development Block Grant Program. Such programs often involve no-year appropriations that give broad discretion to State and local governments. Such Federal expenditures could, if not carefully monitored, inadvertently be used for development of CBRS units.

Recommendation: The DOI recommends no amendment to address block grants. The DOI believes most agencies have incorporated compliance with the CBRA into regular program activities. For instance, the Department of Housing and Urban Development requires recipients to comply with the purposes of the CBRA. The benefits derived from amending the law to require Federal agencies responsible for disbursing Federal funds to States and localities to establish coordinated tracking systems to monitor and assure compliance with CBRA would be outweighed by the costs of implementation.

Section 7 - OMB Certification

Section 7 requires the Director of the Office of Management and Budget (OMB) to certify annually in writing, on behalf of each Federal agency concerned, that each such agency has complied with the CBRA during the preceding fiscal year.

In compliance with this provision, the Director annually certifies that each Federal agency has certified to him that it is in compliance with the CBRA. This certification process is administratively cumbersome, and OMB does not have the capability required to audit agency expenditures. Therefore, in the 1987 Draft Report, the DOI proposed that Section 7 be deleted from the CBRA. Many commenters objected to this and some suggested that the certification requirement be transferred to the General Accounting Office, which can conduct audits.

Recommendation: The DOI recommends that Section 7 be amended to require each Federal agency to self-certify that they have complied with the provisions of the CBRA during each fiscal year, and submit notice of that certification to Congress on an annual basis.

CONSERVATION OF ATLANTIC AND GULF COASTAL BARRIERS: THE NEXT STEP

Several noted coastal experts have predicted that the general trend of deterioration along the entire Atlantic and Gulf of Mexico coastline will continue as long as the Federal Government continues to support development and post-storm reconstruction on those coastal barriers (approximately 1/3 of the Atlantic and gulf coastline) not included in the CBRS or protected by Federal, State, or local entities. Preliminary reconnaissance indicates that those units of the CBRS that were experiencing heavy development pressure prior to enactment of the CBRA have continued to develop regardless of the loss of Federal financial support.

The DOI has noted and does not disagree with the commenters who raise "equity" questions concerning the application of the CBRA to only undeveloped coastal barrier areas. There are many coastal areas outside the CBRS that are either developed or are not qualified for inclusion in the CBRS under DOI criteria which may continue to receive Federal funding for both new development and redevelopment after storms. Continued Federal assistance in these areas raises equity questions among those who were denied such assistance when their property was included in the CBRS. Other commenters argue that the expenditure of Federal funds in all high-hazard coastal barrier areas is "wasteful" or not cost effective.

In developed coastal areas that have experienced hurricane damage since 1982, for example, there is ample evidence of reconstruction and, in most cases, growth despite the continued threat of future storms. In the City of Galveston, the annual rate of new construction grew from $30 million in 1982 prior to Hurricane Alicia to over $150 million in 1985 (Miller 1985).

Sea-level rise is another factor that will continue to be responsible for predictable barrier shoreline losses. Worldwide sea level has risen 4 to 6 inches in the last century, but because most of the Atlantic and gulf coast in the United States is also slowly subsiding, the apparent rise in sea level relative to most of the shoreline is even greater: about 1 foot in the last century (Hicks et al. 1983). Many scientists expect the rate of sea-level rise to continue to increase because of the increases in atmospheric concentrations of carbon dioxide and other "greenhouse gases." The EPA and the National

Academy of Sciences have estimated a 3- to 5-foot rise in sea level along the U.S. coast over the next century (Revelle 1983; Hoffman et al. 1983).

The physical effects of sea-level rise include inundation of wetlands and other low-lying areas, beach erosion and barrier island overwash, and higher storm surges. Recent studies by the EPA estimate that 50% to 85% of coastal wetlands could be lost if sea level rises as projected (Kana et al. 1986; Titus 1985). To a large degree, they note, the loss in wetlands will depend on whether development prevents new wetlands from forming further inland.

The impact of sea-level rise on coastal erosion has been well documented. Bruun (1962) showed that a 1-foot rise in sea level will erode the typical sandy beach 100 to 500 feet. For developed coastal barriers, the projected rise in sea level will dramatically increase the necessary level of expenditures for beach nourishment and stabilization projects.

During the 1970's, major environmental problems associated with the juxtaposition of developed and undeveloped areas became progressively more apparent and widespread. As the rapidly urbanizing areas began to place demands on entire natural ecosystems, impacts occurred outside the developed areas themselves. Pollution of shellfish beds has become widespread, especially on Long Island's south shore, but also locally in Massachusetts, New Jersey, Florida, and elsewhere. Offshore municipal dumping is threatening public recreational use of the beaches. Sewage and industrial pipeline effluents are contaminating nearshore habitats. Structural projects to maintain recreational beaches, prevent undermining of oceanfront buildings, and stabilize inlets are causing accelerated erosion and adverse ecological effects in the vicinity of the projects and in the areas immediately downdrift of the structures. Where urbanized areas are located immediately updrift from protected areas, efforts to protect development and the growing economic base in the urban area conflict with the requirements for perpetuating the nearby natural area.

If planning for sea-level rise and grappling with the pressures of developed areas on fragile ecosystems are difficult problems, defining a policy towards reconstruction in coastal areas following major storms or hurricanes poses an equally arduous challenge. There is ample evidence to show that Federal subsidies support reconstruction, often increasing the Federal investment in coastal communities that experience repeated destruction by storms. Conservation of coastal resources could be enhanced and Federal involvement in the costs associated with coastal redevelopment could be reduced if the purposes of the CBRA were taken into account by Federal decisionmakers involved in coastal reconstruction following storms or hurricanes. The existing policy of simply replacing the structures that have been damaged or destroyed does not consider the special risks associated with development on coastal barriers. Additional efforts in public education could also help coastal barrier residents and government officials make these difficult decisions in an informed manner.

Coastal geologists, ecologists, engineers, lawyers, economists, and environmental managers expressed concern about coastal barrier development, sea-level rise, and the country's eroding shorelines during two 1985 conferences ("Cities on the Beach - Management of Developed Coastal Barriers" in January 1985, and "Second Skidaway Institute of Oceanography Conference on America's Eroding

Shoreline: National Strategy for Beach Preservation" in June 1985). Both conferences wrestled with the increasing problem of development or stabilization on one portion of a barrier negatively affecting the adjacent undeveloped beaches up or down the barrier. Both also advocated a policy of retreat from the shoreline and an end to all direct and indirect Federal expenditures in support of private coastal development.

Recommendation: The DOI recommends that the Congress enact legislation directing that a joint study be undertaken by the DOI, the Department of Transportation, the Department of Commerce, the Department of Agriculture, the Army Corps of Engineers, the Environmental Protection Agency, and the Federal Emergency Management Agency, in consultation with the States, to develop additional options to address Federal subsidies on all coastal barrier areas, both developed and undeveloped, for consideration by Congress.

Consideration should be given to options such as guidelines on which Federal agencies could base decisions concerning redevelopment or reconstruction of coastal barriers following major storms (in response to conservation questions), a phase out of Federal expenditures throughout all coastal barrier areas (in response to equity questions), and other alternatives. For example, the Study Group could consider a Federal/State cost-sharing approach as follows: 75:25 during the first 5 years, 50:50 for the next 10 years, and 25:75 during the last 5 years which would result in a total prohibition of Federal subsidies on all coastal barrier areas after 20 years. As variations, this approach could be applied to new development outside the CBRS or redevelopment only. This joint study should be carried out in recognition of the many comments received concerning the equity of applying the prohibitions only within the CBRS and the continuing subsidization of development on coastal barriers outside the CBRS.

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Table 1. Summary of public comments received on the March 1987 Draft Coastal Barrier Resources System: Report to Congress. More than 6,150 individuals expressed opinions on the 1987 Draft Report by letter or petition. This table does not include the comments on individual CBRS units.

Issue	For DOI Position tion in 1987 draft report	Against DOI posi-sition in 1987 draft report	Change in DOI posi-tion in final report
ADDITIONS TO OR DELETIONS FROM THE CBRS			
Geographic Scope			
Expansion in general	891	98	none
Add Florida Keys	452	19	modified recommenda-tion
Add Puerto Rico and U.S. Virgin Islands	356	0	none
Other Coastlines-Further Study	9	705	clarification added
Add Associated Aquatic Habitat	333	2	additional recommendation
Add Secondary Barriers	358	6	none
Otherwise Protected Barriers			
Delete in existing CBRS and exclude	6	92	none
Automatic inclusion if made available for development	36	1	modified recommenda-tion
Include inholdings	40	2	modified recommenda-tion
Exclude Military and Coast Guard Lands	5	464	clarification added

(continued)

Table 1. Concluded.

Issue	For DOI Position tion in 1987 draft report	Against DOI posi-sition in 1987 draft report	Change in DOI posi-tion in final report
CONSERVATION RECOMMENDATIONS			
Aquisition by User-fees	8	0	none
Add Excess Federal Property	8	0	none
No Regulatory Amendments	4	11	none
No Tax Amendments	5	1	none
OTHER AMENDMENTS TO CBRA			
Add Section 5 Guidelines	30	6	modified recommendation
Section 6 Exceptions eliminate 6(a)(3)-essential link	34	4	modified and additional recommendation
6(a)(2)-dredge disposal only if consistent	41	1	modified recommendation
6(a)(6)(A)-no recreational projects amendment	30	4	clarification added
No Block Grant Monitoring	28	3	none
Eliminate Section 7-OMB Certification	1	40	modified recommendation
JOINT STUDY OF RECONSTRUCTION ALTERNATIVES	28	4	modified recommendation

Table 2. State and Territory positions on DOI Proposed Recommendations in the March 1987 Draft Report to Congress. + = for DOI recommendation, - = against DOI recommendation, o = no comment.

	ME	MA	RI	CT	NY	NJ	DE	MD	VA	NC	SC	GA	FL	AL	MS	LA	TX	PR	VI	No. States for DOI Position	No. States Against Position
CBRS ADDITIONS AND DELETIONS																					
Geographic Scope																					
Expansion in General	+	+	+	+	+	+	+	+	+	+	+	-	+	o	+	o	-	-	+	14	3
Add Florida Keys								+					+		+					3	0
Add Puerto Rico & Virgin Islands								+							+			-	+	3	1
Other Coastlines-Further Study	-				-									-	+					1	3
Add Associated Aquatic Habitat	-		+	+	-		+	+		+			+		+		-			7	3
Add Secondary Barriers			+	+			+	+		+				-	+					6	1
Otherwise Protected																					
Delete in existing CBRS and exclude	-	-	-	-	+		+			-					+		+			4	5
Automatic inclusion if develop					+		+	+							+					4	0
Include inholdings					+		+	+							+					4	0
Exclude Military & Coast Guard lands		-			-					-					+					1	3
CONSERVATION RECOMMENDATIONS																					
Acquisition by User-fees		+			+		+							+	+					5	0
Add Excess Federal Property		+			+										+					3	0
No Regulatory Amendments		+		-	+		+							+	+					5	1
No Tax Amendments	-	+				-									+					2	2
OTHER AMENDMENTS																					
Add Section 5 Guidelines		+			+		+	+							+					5	0

(continued)

Table 2. Concluded.

	ME	MA	RI	CT	NY	NJ	DE	MD	VA	NC	SC	GA	FL	AL	MS	LA	TX	PR	VI	No. States for DOI Position	No. States Against Position
Section 6 Exceptions																					
eliminate essential link		+			-		+	+					-		+					4	2
dredge disposal if consistent		+		+	+		+	+							+					6	0
no recreation projects amendment		+	-	-			+								+					3	2
No Block Grant Monitoring		-					-								+					1	2
Eliminate Section 7 - OMB Certification		-					-						-		+					1	3
JOINT STUDY OF RECONSTRUCTION ALTERNATIVES		+	+		+	+	+	+						+	+					8	0

Table 3. Summary of recommendations for changes in the CBRS.

State	Number of existing CBRS units	Number of units with recommendations	Shoreline length in CBRS (miles)	Shoreline length with recommendations (miles)	Total acreage in CBRS	Total acreage with recommendations	Fastland acreage in CBRS	Fastland acreage with recommendations
Maine	12	25	10.0	22.5	1,045	4,640	485	1,005
Massachusetts	44	60	70.7	119.3	17,214	66,290	3,871	6,904
Rhode Island	11	20	17.7	25.7	4,791	8,851	1,058	1,436
Connecticut	11	15	8.2	7.5	3,045	3,741	333	302
New York	12	42	21.0	45.0	4,635	18,399	1,131	1,965
New Jersey	0	8	0	13.5	0	5,486	0	396
Delaware	2	4	17.1	17.5	1,565	6,945	517	740
Maryland	0	36	0	28.0	0	7,163	0	1,605
Virginia	4	52	13.8	80.5	11,298	52,831	1,148	3,479
North Carolina	8	6	54.6	32.6	31,913	29,741	8,610	4,579
South Carolina	13	14	38.4	42.4	26,885	76,130	4,511	4,586
Georgia	6	6	16.2	19.9	33,073	64,255	5,126	5,506
Florida	33	65	118.8	172.4	61,575	305,200	19,378	39,511
Alabama	3	4	17.6	19.0	10,678	11,058	2,940	2,722
Mississippi	4	6	9.6	12.8	4,309	5,981	557	662
Louisiana	12	17	91.7	180.0	59,243	353,340	4,518	12,747
Texas	11	19	161.0	180.0	181,565	199,401	46,751	48,498
Puerto Rico	0	42	0	56.9	0	21,486	0	2,473
Virgin Islands	0	20	0	13.4	0	2,740	0	587
TOTAL	186	461	666.4	1,088.9	452,834	1,243,678	100,934	139,703