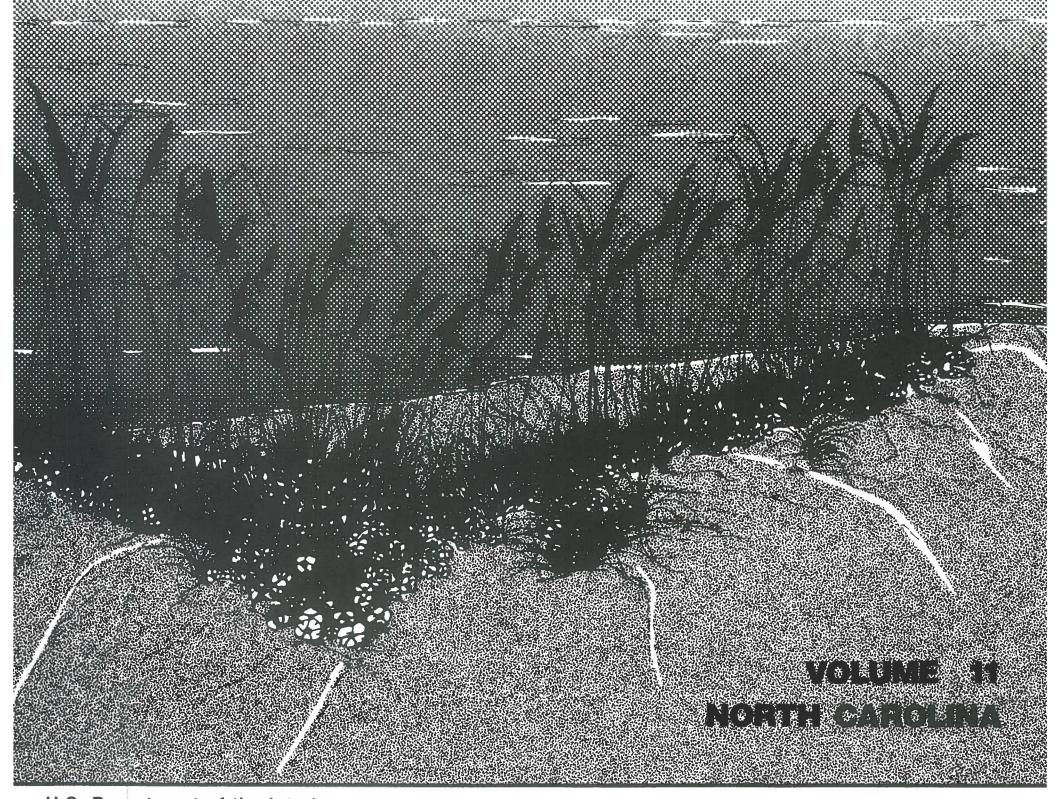
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REPORT TO CONGRESS: COASTAL BARRIER RESOURCES SYSTEM

Proposed Recommendations for Additions to or Deletions from the Coastal Barrier Resources System



U.S. Department of the Interior



REPORT TO CONGRESS: COASTAL BARRIER RESOURCES SYSTEM

VOLUME 11

Proposed Recommendations for Additions to or Deletions from the Coastal Barrier Resources System

NORTH CAROLINA

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

United States Department of the Interior William P. Horn, Assistant Secretary for Fish and Wildlife and Parks

February 1987

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NORTH CAROLINA

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. This atlas of coastal barriers in North Carolina has been prepared in accordance with Section 10 of CBRA (16 U.S.C. 3509), which states:

Sec. 10. Reports to Congress.

(a) In General.--Before the close of the 3-year period beginning on the date of the enactment of this Act, the Secretary shall prepare and submit to the Committees a report regarding the System.

(b) Consultation in Preparing Report.—
The Secretary shall prepare the report required under subsection (a) in consultation with the Governors of the States in which System units are located and with the coastal zone management agencies of the States in which System units are located and after providing opportunity for, and considering, public comment.

(c) Report Content.--The report required under subsection (a) shall contain--

- (1) recommendations for the conservation of fish, wildlife, and other natural resources of the System based on an evaluation and comparison of all management alternatives, and combinations thereof, such as State and local actions (including management plans approved under the Coastal Zone Management Act of 1972 (16 U.S.C. 1451 et seq.)), Federal actions (including acquisition for administration as part of the National Wildlife Refuge System), and initiatives by private organizations and individuals;
- (2) recommendations for additions to, or deletions from, the Coastal Barrier Resources System, and for modifications to the boundaries of System 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 System; 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 (31 U.S.C. 1221) have had on undeveloped coastal barriers.

This atlas of North Carolina includes delineations of the CBRS units designated by Congress in 1982 and delineations of proposed recommendations for additions and modifications to the CBRS that will be provided to Congress by the Department of the Interior following public review and comment.

Under the direction of the Assistant Secretary for Fish and Wildlife and Parks, this report has been prepared 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.

BACKGROUND

The State of North Carolina has 23 separate islands on an ocean coastline 324 miles in length. The coast is characterized by gently sloping sandy beaches, small sand dunes, larger dune fields and maritime forests in broad areas, and back barrier marsh complexes. North of Morehead City, the barrier islands form the seaward boundary of Albemarle and Pamlico Sounds. Wave energy is the dominant agent shaping the shoreline and has formed long narrow barriers with relatively few tidal inlets. Two significant public holdings, Cape Hatteras and Cape Lookout National Seashores, constitute 127 miles of ocean frontage. Additional Federal and State lands open to the public, combined with the National Seashores, result in 48 percent of the ocean coast being in public ownership.

Natural resources are abundant in the coastal region; the North Carolina estuarine system is the second largest among the lower 48 states. The estuarine system is composed of 4,500 square miles of shallow sounds, bays, tidal creeks, and salt marshes. Fishing and spawning grounds for crabs, shrimp, shad, striped bass, Atlantic croaker, flounder, and mullet provide abundant quantities of finfish and shellfish. Waterfowl and shorebirds traverse this region in large numbers during spring and fall. Migratory bird populations are high during spring after they spend the winter farther south.

The general development pattern in the past was low density residential and recreational development; however, high density development is dramatically increasing. Industry in the coastal area is mostly agriculture, manufacturing, mining (phosphate and peat), and tourism. Two deep-water ports, at Morehead City and Wilmington, handle a great deal of shipping commerce both in export and import cargo.

COASTAL RESOURCE MANAGEMENT

North Carolina Coastal Resource Management

North Carolina's coastal management program was passed by the State legislature in 1974. Prior to that date there was no specific State authority to manage coastal development. Problems associated with polluted shellfishing areas and unsafe beachfront developments prompted the passage of a dredge and fill permit law in 1969. This was incorporated later into the Coastal Area Management Act (CAMA). The CAMA legislation emerged as an experiment in land-use planning and has been controversial since its inception.

The primary policymaking and regulatory body under CAMA is the 15-member Coastal Resources Commission (CRC). Its members are appointed to staggered 4-year terms by the Governor and must, by statute, represent various interest groups such as agriculture, marine biology, and commercial fisheries. A 47-person Coastal Resources Advisory Council (CRAC) advises the CRC and is composed mostly of coastal residents appointed by county commissioners and municipal officials in the 20-county coastal area. The Council members also serve as liaisons with their respective local governments. The Division of Coastal Management (DCM) in the Department of Natural Resources and Community Development provides the staff for the CRC and the CRAC and is charged with carrying out the policies and programs adopted under CAMA. The North Carolina Management Program joined the Federal Coastal Zone Management Program in 1978.

The main elements of CAMA are local land use planning, regulations for development in areas of environmental concern, and permit coordination in the State's 20 coastal counties. Special programs for beach access and estuarine sanctuaries are also included. A brief discussion of the major elements of CAMA follows.

Comprehensive land-use plans. CAMA requires land-use plans for all 20 of the State's coastal counties. If county governments do not prepare plans, the Coastal Resources Commission must adopt a plan for them. Counties may delegate the responsibility of planning for municipal areas to the municipal governments. By 1976, 19 counties and 34 municipalities had adopted their own plans. By 1983, all 20 counties and 53 municipalities had done so. All plans must be updated every 5 years.

<u>Permits</u>. A second part of the CAMA program is the issuance and review of permits for any development in environmentally sensitive

coastal areas. The CRC designates areas of environmental concern (AEC) and sets standards as mandated by CAMA. Four categories of AEC have been designated: the estuarine system, ocean hazard areas, public water supplies, and natural and cultural resource areas. The AEC's cover about 3% of the land area in the coastal counties and all coastal waters; these are the only areas that require CAMA permits. Permits in AEC's guide development through the use of performance standards and fall into two categories: major development and minor development.

Major development permits are required for any development over 20 acres, any structure covering more than 60,000 square feet, or any project requiring another State or These permit applications Federal permit. are administered by DCM staff based on a comprehensive review by all interested State and Federal agencies. Minor development permits are required of all developments that do not qualify as "major," such as home construction or other upland developments that disturb less than one acre of ground. Minor development permits are administered by a permit officer within the local government who is trained and funded by DCM. Approximately two-thirds of all CAMA permits are classified as minor. All development, whether major or minor, must follow the same guidelines for development.

The State has adopted an oceanfront setback based on the long-term average annual erosion Small structures must be located a distance of at least 30 times the long-term average annual erosion rate from the first line of stable natural vegetation, with a minimum setback of 60 feet. Larger structures, including any building with more than four residential units or 5,000 square feet total floor area, must be set back a distance of 60 times the erosion rate with a minimum of 120 feet from the vegetation line. All structures must also be located behind the crest of the primary dune (the first dune with an elevation equal to the 100-year storm level plus 6 feet), and/or behind the landward toe of the frontal dune (the first dune back from the vegetation line).

The single (30 times) and double (60 times) setbacks do not always correlate with the divisions into minor and major development. For example, an 8-unit motel, which would be required to comply with the double setback for large structures, often will be a minor development for permitting purposes and the permit, therefore, will be issued by a local permit officer.

Federal project review. Another part of the CAMA permit program is the review of Federal projects in the coastal area for consistency with the coastal management program. If a State permit is denied, the Federal agency cannot issue a Federal permit for the project. On the other hand, if a State permit is issued, the Federal agency can still deny the Federal permit based on Federal regulations. Overall, the CAMA program streamlines the permit process. A CAMA permit in an AEC satisfies five State and Federal permits.

Additional programs included in CAMA. Other programs include a beach access program designed to improve public access to beaches

and coastal waters, and the estuarine sanctuary program, which protects and preserves valuable estuarine areas for scientific study and public enjoyment.

These additional components help provide a thorough and comprehensive coastal management program in North Carolina. This management system is designed to effectively manage long- and short-term growth and changes along the coast.

Taxes. An income tax credit has been initiated for individuals or corporations that make qualified donations of interests in real property for conservation purposes (N.C. General Statute 105-130.34, enacted 1983). The credit will equal 25% of the fair market value of the donated property interest, up to a maximum credit of \$5,000 for a taxable year. Credits are allowed for gifts of interest in real property useful for public beach access, public access to public waters or trails, fish and wildlife conservation, or other conservation purposes found suitable by the State Department of Natural Resources and Community Development.

Another State law (G.S. 105-275) exempts from property taxes any real property owned by a qualified nonprofit organization that holds and uses the land as a "protected natural area" for educational and scientific purposes.

Local Actions

Taxes. Land assessments for tax purposes generally are made every 8 years and will not be calculated again for several years. Most undeveloped lands, however, are generally valued lower for tax purposes. An exception is the Topsail Island undeveloped area. Recent development there has had an approximately \$10 million impact on the Onslow County tax base. A major percentage of this increase is the \$5.3 million in improvements by the developers of the Topsail Dunes Complex (Godschalk 1984).

Permits and zoning. Local CAMA officials are in charge of permitting on minor development projects in coastal counties. Their responsibilities have been discussed previously and no further changes or modifications on a local level have occurred.

In early 1984, two minor zoning changes were enacted in the New Hanover County land-use plan. One change prohibits residential development on undeveloped barrier islands with no evacuation network of roads and bridges; the second adds a subdivision ordinance which requires hurricane evacuation plans in certain areas.

The coastal region in North Carolina has continued to experience growth and development, particularly during the past 5 years. High density multifamily and commercial construction has become the development pattern in the Topsail unit (LO6).

Private sector initiatives. According to a local official, an initiative undertaken by the private sector involves donations and bargain sales of some tracts for conservation purposes; e.g., Pamlico Properties, Inc. has designated a protected wilderness area.

EXISTING CBRS UNITS

In general, the CBRS units in North Carolina are barrier beaches and associated wetlands. The Hatteras Island unit (LO3) is on the Pamlico Sound side of Cape Hatteras.

A brief description of each existing CBRS unit in North Carolina is provided below. Each unit is identified by its number, name, and the county in which it is located.

<u>LO1-Currituck Banks (Currituck)</u>. This unit includes vegetated dune ridges with back barrier flats, tidal marshlands, beachfront, and extensive actively migrating dune fields. The unit abuts False Cape State Park in Virginia and Currituck National Wildlife Refuge is part of this unit. Abundant species of shorebirds, seabirds, waterfowl, and marshbirds use this area for breeding and wintering grounds. Approximately structures are located on this unit which is accessible by sand roads from both the north and south. Recently, single family units and an associated canal system have been constructed. House lots have been subdivided in some areas, particularly near the Virginia border.

LO3-Hatteras Island (Dare). This unit consists of vegetated beach ridges, back barrier flats, and open water. The unit is used mostly for recreation, although some logging has been done in Buxton Woods. A State highway, NC Highway 12, borders part of the unit.

LO3A-Shackleford Banks (Carteret). This unit is within Cape Lookout National Seashore and was privately owned until 1982. Vegetated dune ridges, tidal marshlands, and beach/dune systems are typical environments of this unit.

LO5-Onslow Beach Complex (Onslow). This unit is composed of two barriers which shelter extensive wetlands including tidal marshlands, vegetated dune ridges, active beach/dune systems, and ebb-tidal shoals. A lightduty road along the western two-thirds of the unit provides access. A substantial development of approximately 20 structures is located in the middle of the southern island at Onslow Beach. The entire unit is part of Camp Lejeune Military Reservation.

LO6-Topsail (Onslow). This unit contains tidal marshlands and ponds, vegetated beach/dune ridges, and active shoreface beach/dune complexes. Topsail Island is an important migration and wintering ground for waterfowl, shorebirds, and marshbirds. An improved road, Route 210, runs through the unit. Construction of a 156-unit condominium development in this unit is now underway, with plans for an eventual 586 units. Development pressure is a critical issue in this unit.

LO7-Lea Island Complex (Pender and New Hanover). This unit includes two sections, Lea Island and Hutaffs Beach, both of which are accessible by boat only. Characteristic environments include tidal marshlands, tidal creeks, and low beach/dune complexes.

Unit Name	Unit ID Code	County	Shoreline Length (miles)	Area (acres)
Currituck Banks	L01	Currituck	11.3	8,260.1
Hatteras Island	L03	Dare	0.0	328.7
Shackleford Banks	L03A	Carteret	9.5	8,527.6
Onslow Beach Comple	x L05	Onslow	10.1	2,962.0
Topsail	L06	Onslow	6.3	2,617.8
Lea Island Complex	L07	Pender and New		
		Hanover	5.1	3,373.3
Wrightsville Beach	L08	New Hanover	1.1	307.3
Masonboro Island	L09	New Hanover	9.1	5,202.0
Waites Island				
Complex	M01	Brunswick	2.1	334.0
Totals:			54.6	31,912.8

Approximately seven structures are now located on these islands. However, a development project of 57 units, including a 20-slip docking facility, is planned and 10 of these units have already been sold.

LO8-Wrightsville Beach (New Hanover). This unit has a beach length of about 1.1 miles, and is accessed by bridge and paved road. Characteristic environments include tidal marshlands, ebb-tidal delta, beach/dune systems, and some vegetated high ground (spoil sites). Developments are located north and south of the unit.

L09-Masonboro Island (New Hanover). This unit includes extensive tidal wetlands, vegetated spoil islands, an inlet system (Masonboro Inlet), and an active beach/dune complex. Many shorebirds use this island as a nesting area. Masonboro Island is authorized as part of the North Carolina National Estuarine Sanctuary. The unit is accessed by boat only.

MO1-Waites Island Complex (New Hanover). The North Carolina portion of this unit contains a sand spit extending south from Bald Beach and Bird Island, in New River Inlet.

PROPOSED ADDITIONS AND MODIFICATIONS

This section identifies proposed recommendations for additions to and deletions from the Coastal Barrier Resources System in North Carolina. The Secretary of the Interior, as directed by Section 10 of the Coastal Barrier Resources Act, will make his final recommendations to the Congress after a 90-day public comment period. The following proposed recommendations have been developed in response to public, State and Federal agency, and Congressional comments on the Coastal Barrier Draft Inventory developed by the Study Group. The inventory maps were available for public comment between March 4. 1985, and September 30, 1985. The process and criteria used in the inventory were described on March 4, 1985, in the Federal Register (Vol. 50, No. 42).

The State of North Carolina reviewed these documents. Although the State expressed support for CBRS, they offered no comments on the inventory. The Department received eight other comments concerning North Carolina. Four favored expansion of the CBRS, three were opposed, and one requested a boundary modification for CBRS unit LO8, Wrightsville Beach.

The Department of the Interior proposes to recommend that all undeveloped, unprotected coastal barriers and associated aquatic habitat identified in the inventory be added to the Coastal Barrier Resources System. One existing CBRS unit is now "otherwise protected;" LO3A, Shackleford Banks, is now owned by the National Park Service. The Department recommends that LO3A be deleted from CBRS. Onslow Beach (LO5) is part of the Marine Corps' Camp Lejeune Military Base; the Department also recommends that this unit be deleted. The north boundary of LO8, Wrightsville Beach, cuts through the south end of the Figure Eight development. This development was already in place when CBRA enacted in 1982; therefore, Department recommends moving this boundary about 500 feet south to exclude this development. A table presenting Department's current position on each unit identified in the inventory follows this discussion.

Public comment on the proposed recommendations is solicited.

Comments should be directed to:

The Coastal Barriers Study Group Department of the Interior National Park Service P.O. Box 37127 Washington, DC 20013-7127.

REFERENCE

Godschalk, D.R. 1984. Impacts of the Coastal Barrier Resources Act, Report to NOAA, January, 1984.

SUMMARY OF PROPOSED RECOMMENDATIONS FOR COASTAL BARRIERS IN NORTH CAROLINA

Unit ID Code ^a	Unit Name ^b	County	Congress. Dist.	Shoreline Length (miles)	Area (acres) ^e	Proposed Recommendation ^f
L01	Currituck Banks	Currituck	1	11.3	17,342	Delete federally (FWS) and locally protected areas; add wetlands to existing CBRS unit
NC-01	Pine Island Bay	Currituck	1) - Well -	Privately pro- tected; no further consideration
NC-02	Killdevil Hill	Dare	1	_	<u></u> ,,	Federally pro- tected (NPS); no further con- sideration
NC-03	Nags Head Woods	Dare	1			Privately pro- tected; no further consideration
NC-04	Jockey Ridge	Dare	1			State protected; no further consideration
NC-05	Cape Hatteras	Dare Hyde	1	7 10		Federally pro- tected (NPS, FWS); no further consideration
L03	Hatteras Island	Dare	1	0.0	329	No change to existing CBRS unit
NC-06	Cape Lookout	Carteret	1	_		Federally pro- tected (NPS); no further consideration
L03A	Shackleford Banks	Carteret	1		- 1	Federally pro- tected (NPS); delete from CBRS
NC-07	Fort Macon	Carteret	1			State protected; no further consideration
NC-08	Theodore Roosevelt	Carteret	1		_	State protected; no further consideration
NC-09	Hammocks Beach	Onslow	3			State protected; no further consideration
L05	Onslow Beach Complex	Onslow	3			Military (Marine Corps); delete from CBRS
L06	Topsail	Onslow	3	6.90	5,891	Add new area to existing CBRS unit; no change from inventory
L07	Lea Island Complex	Pender New Hanover	3	5.10	6,004	Add additional wetlands to existing CBRS unit; no change from inventory

SUMMARY OF PROPOSED RECOMMENDATIONS FOR COASTAL BARRIERS IN NORTH CAROLINA (CONCLUDED)

Unit ID Code ^a	Unit Name ^b	County	Congress. Dist.	Shoreline Length (miles) ^d	Area (acres) ^e	Proposed Recommendation ^f
L08	Wrightsville Beach	New Hanover	7	1.0	605	Delete developed segment from CBRS; add wetlands to existing CBRS unit
L09	Masonboro Island	New Hanover	7	9.1	6,627	Add additional wetlands to existing CBRS unit; no change from inventory
NC-10	Carolina Beach	New Hanover	7	×	_	State protected, military; no further consideration
NC-11	Fort Fisher	Brunswick	7	-	_	State protected; no further consideration
NC-12	Bald Head	Brunswick	7	_	-	State and pri- vately protected; no further consideration
M01	Waites Island Complex	Brunswick	7	2.1	1,370	Add additional wetlands to existing CBRS unit no change from inventory
	Total - CDD	S as Recommend	lod	25.33	38,168	
			icu		•	
	Existing CBI			54.6	31,913	
	Net Change	in CBRS		-29.27	+6,255	

^aUNIT ID CODE - State initials (NC) plus a number identify a proposed new unit. An existing unit is identified by the legal code letter (L or M) and number established by Congress in 1982.

bunit NAME - For proposed new units, this is a provisional name based on a prominent local feature. For existing CBRS units, this is the legal name.

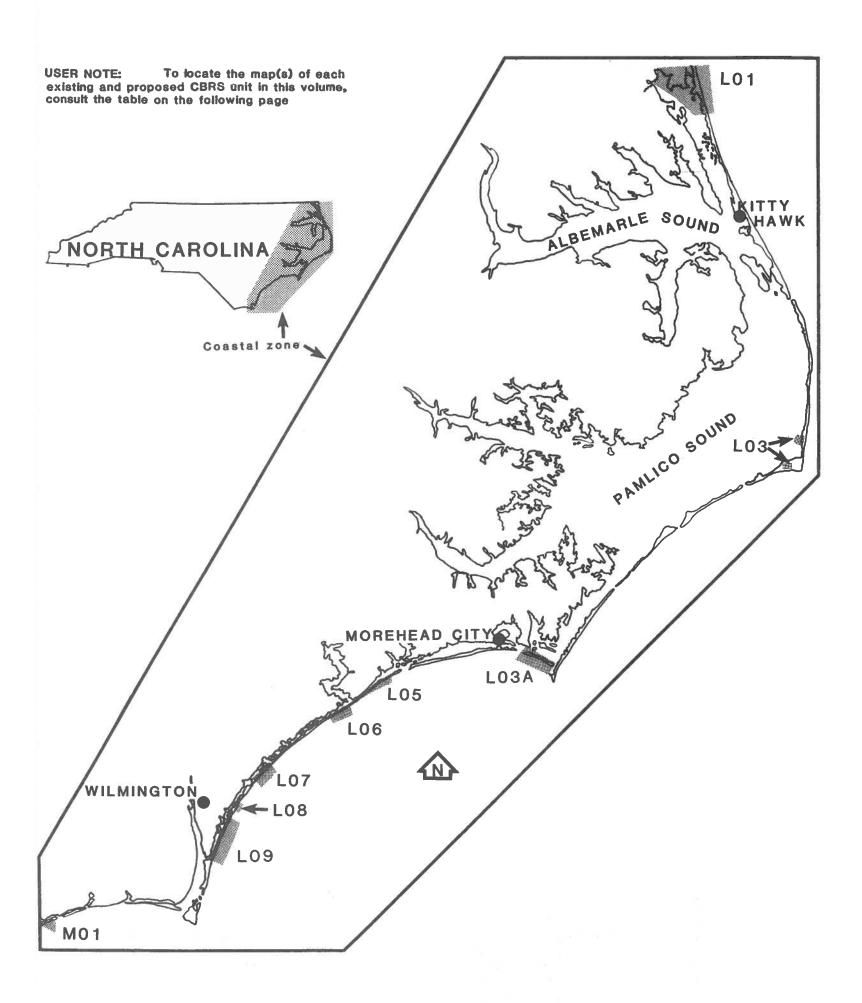
CONGRESSIONAL DISTRICT - U.S. Congressional District in which unit is located.

 $^{^{}m d}$ SHORELINE LENGTH - For existing units with additions or deletions, this length is for the entire unit, as modified.

eAREA - For existing units with additions or deletions, this area is for the entire unit, as modified.

fproposed recommendation - A brief explanation of the differences between the 1985 inventory and the recommendations proposed in this revised inventory. For more detailed explanations, please contact the Study Group. Abbreviations: FWS = Fish and Wildlife Service, NPS = National Park Service, CBRS = Coastal Barrier Resources System. Barriers no longer under consideration are not mapped in this atlas.

INDEX TO EXISTING AND PROPOSED CBRS UNITS IN NORTH CAROLINA

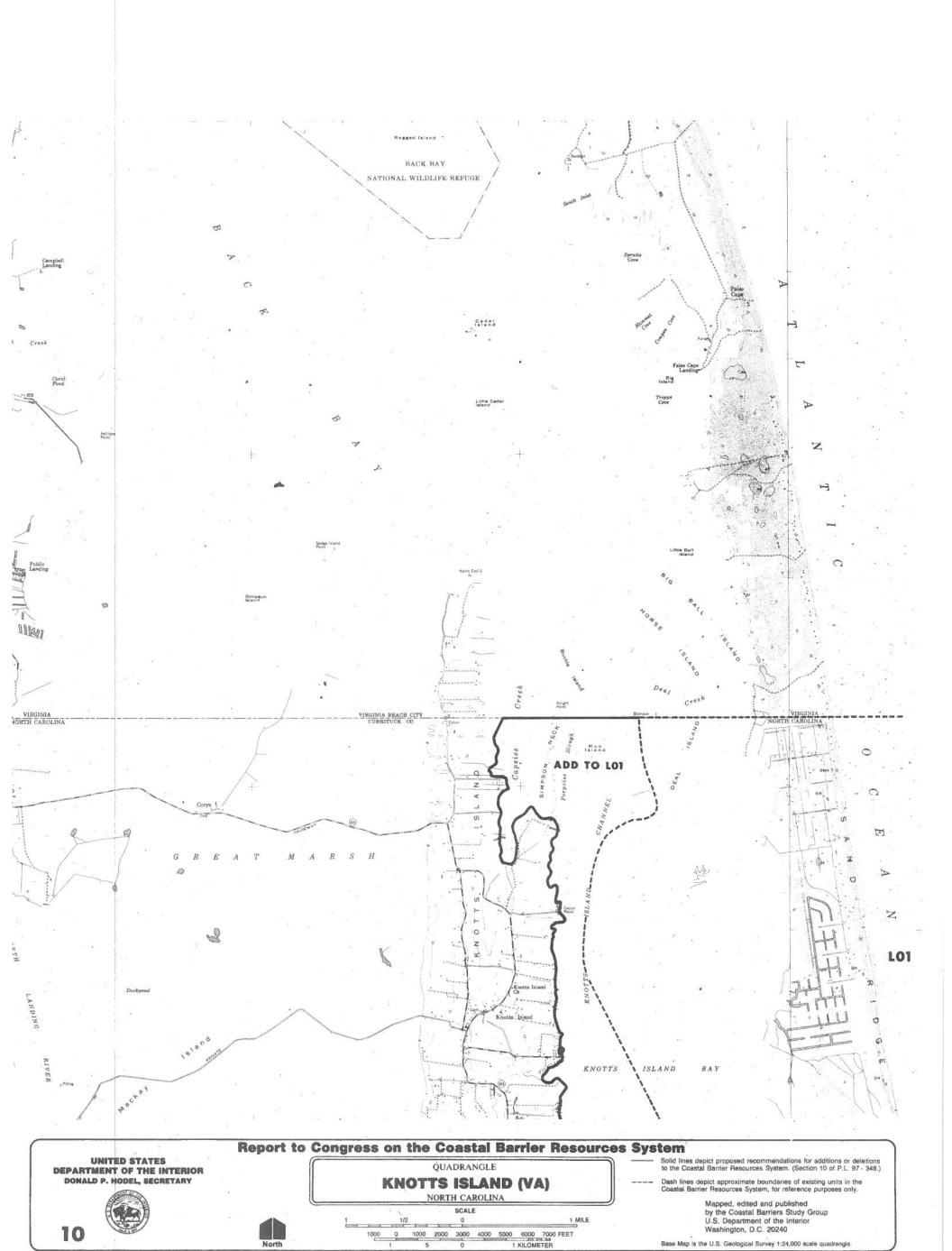


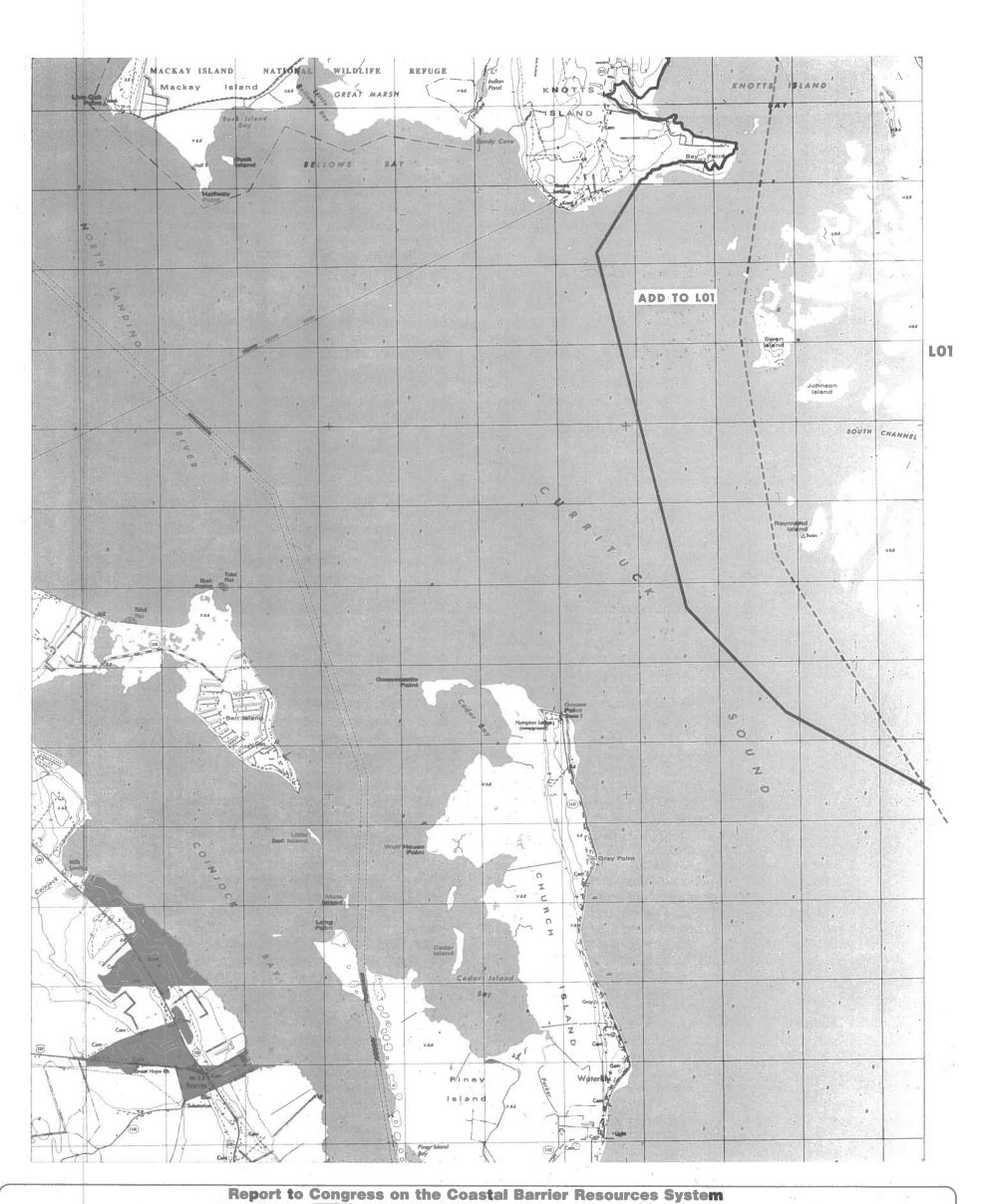
EXISTING AND PROPOSED CBRS UNITS AND THEIR LOCATION IN THIS VOLUME

Unit ID Code	Unit Name	USGS Topographic Map or Map Composite	Page
L01	Currituck Banks	Knotts Island, VA	10
LUI	out touch build	Barco	$\bar{1}\bar{1}$
		Corolla	12
L03	Hatteras Island	Buxton	13
L03A	Shackleford Banks	Harkers Island	14
		Beaufort	15
L05	Onslow Beach Complex	Browns Inlet	16
		New River Inlet	17
L06	Topsail	New River Inlet	17
		Sneads Ferry	18
		Spicer Bay	19
L07	Lea Island Complex	Hampstead	20
L08	Wrightsville Beach	Wrightsville Beach	21
L09	Masonboro Island	Wrightsville Beach	21
-		Carolina Beach	22
M01	Waites Island Complex	Little River	23

MAP KEY

	Existing CBRS units
***************************************	Proposed additions to or deletions from CBRS
ADD	Area recommended for addition to a CBRS unit
DELETE	Area recommended for deletion from the CBRS
EXCLUDED	Area excluded from an existing or proposed CBRS unit because it is developed or it is otherwise protected





QUADRANGLE

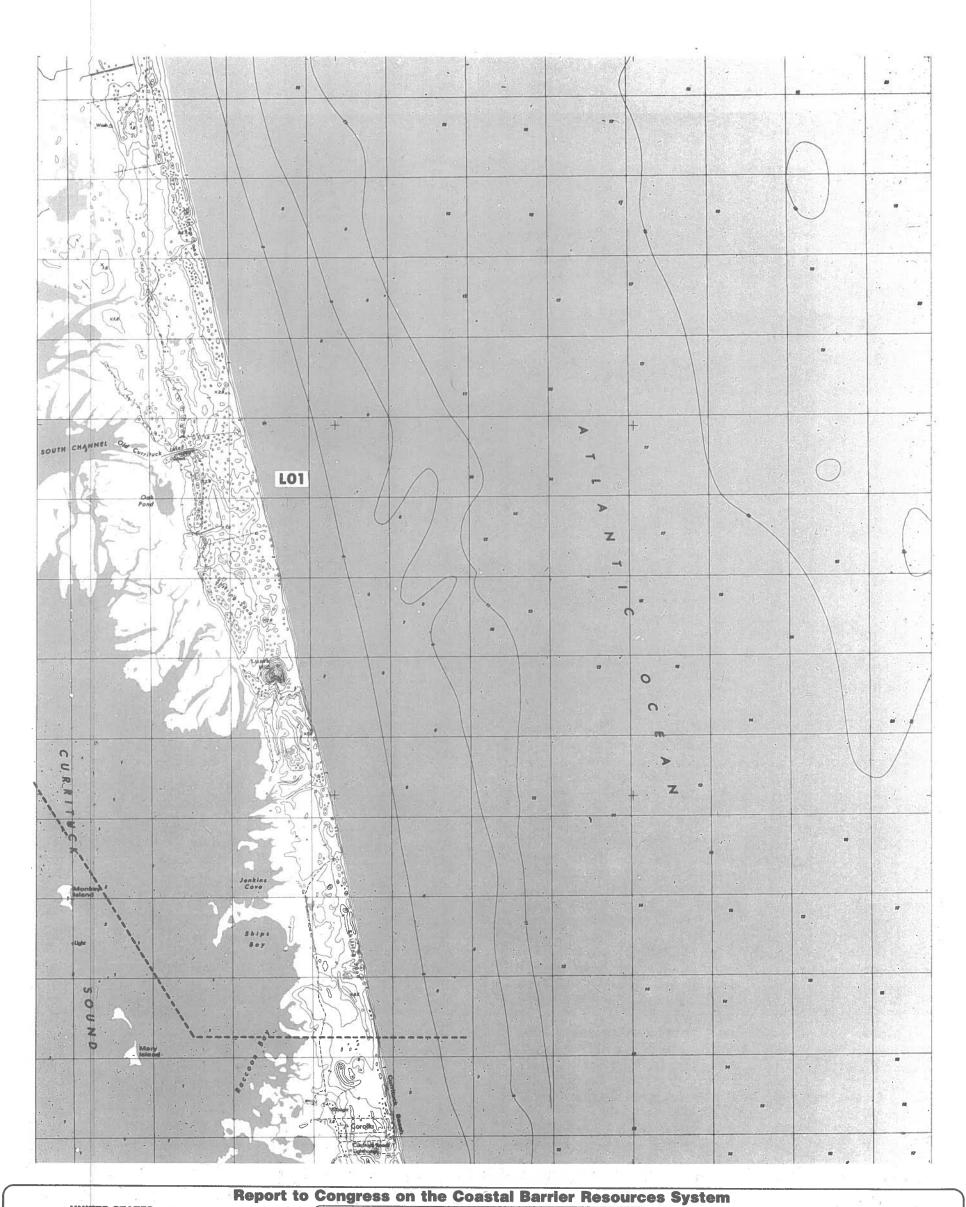
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Solid lines depict proposed recommendations for additions or deletions to the Coastal Barrier Resources System. (Section 10 of P.L. 97 - 348.)

Dash lines depict approximate boundaries of existing units in the Coastal Barrier Resources System, for reference purposes only.

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QUADRANGLE

COROLLA

NORTH CAROLINA

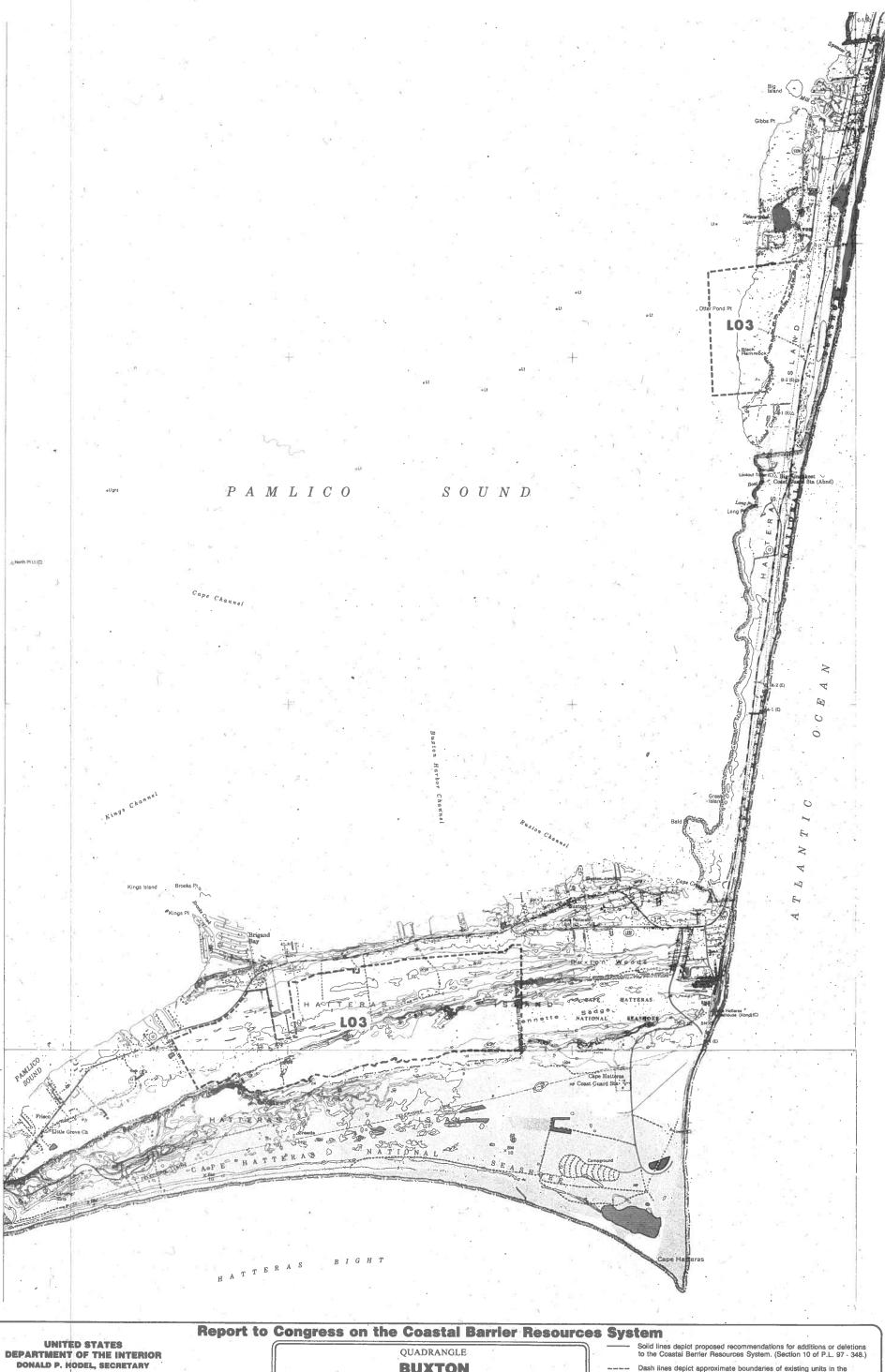
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Base Map Is the U.S. Geological Survey 1:24,000 scale quadrangle.



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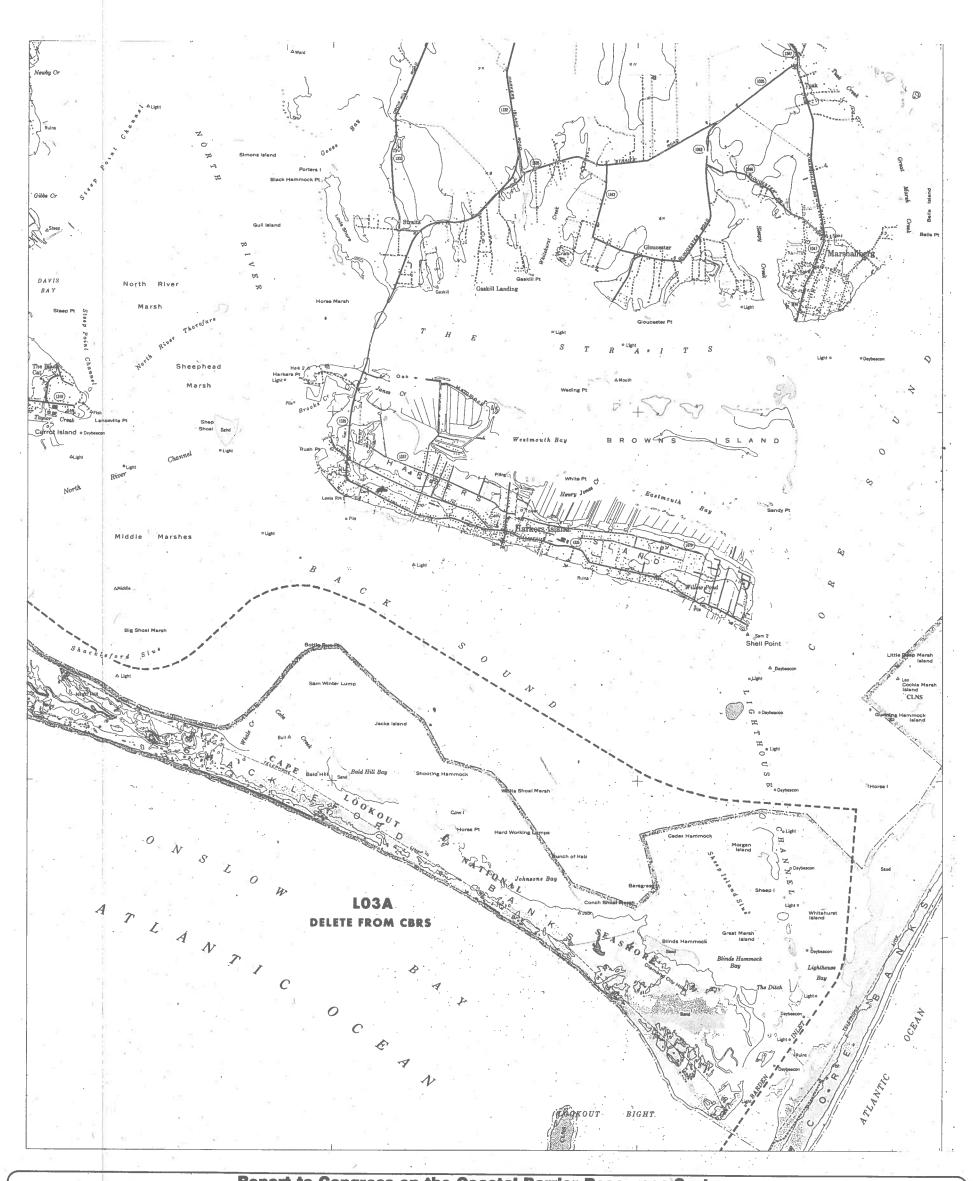


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Report to Congress on the Coastal Barrier Resources System Output Ou

HARKERS ISLAND

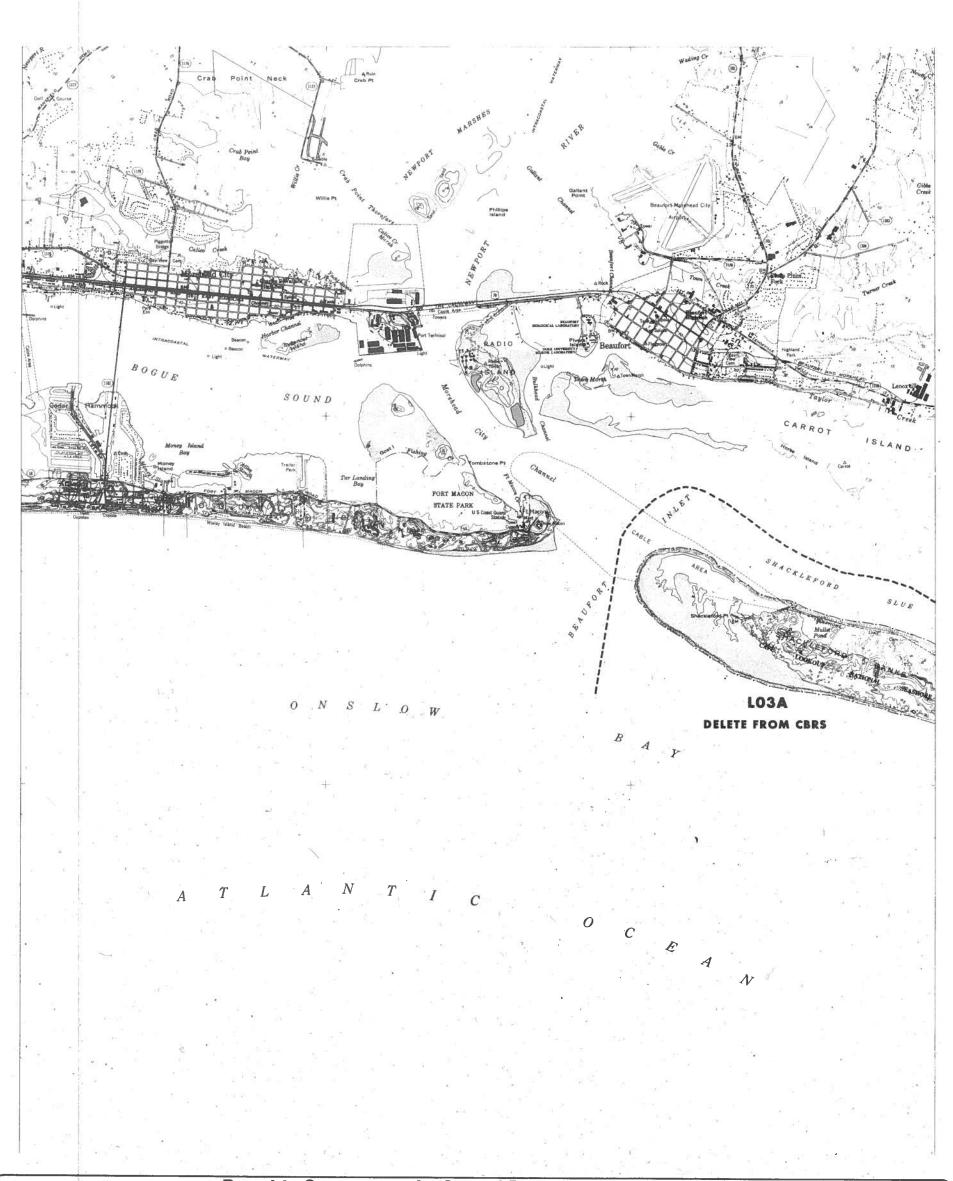
NORTH CAROLINA

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Report to Congress on the Coastal Barrier Resources System

QUADRANGLE

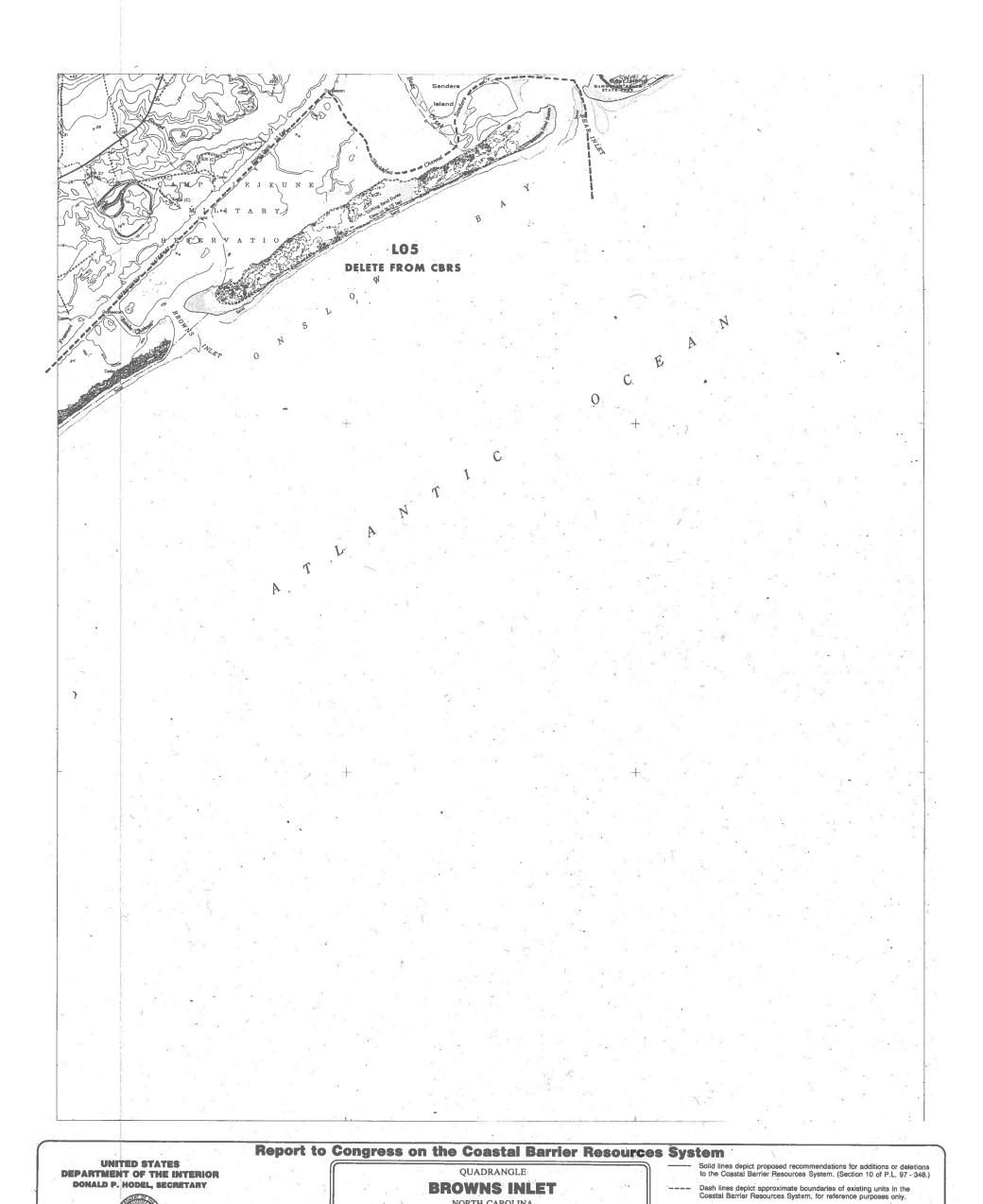
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NORTH CAROLINA SCALE

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NORTH CAROLINA

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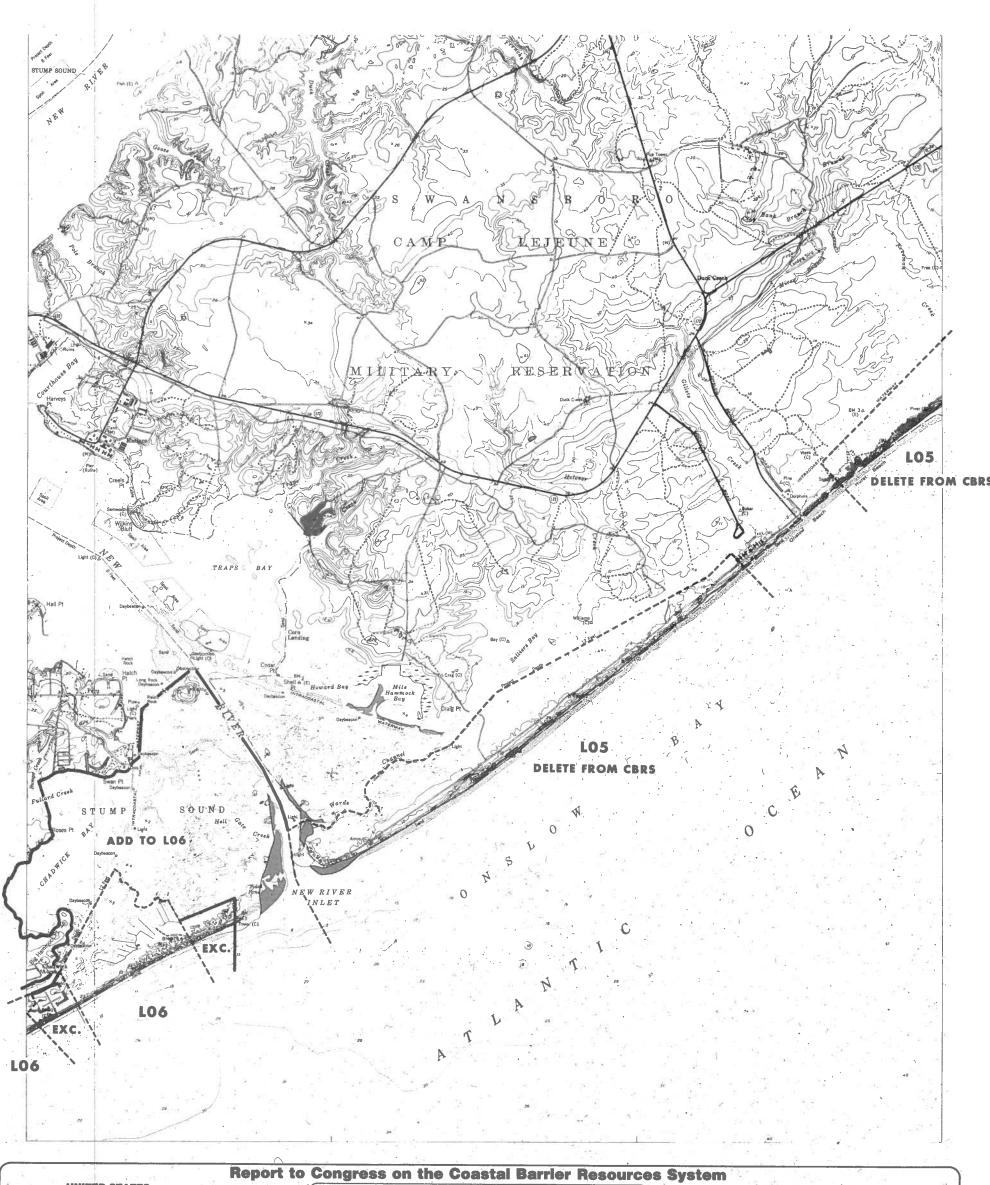
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Base Map is the U.S. Geological Survey 1:24,000 scale quadrangle.

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QUADRANGLE **NEW RIVER INLET**

NORTH CAROLINA

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Base Map is the U.S. Geòlogical Survey 1:24,000 scale quadrangle.

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QUADRANGLE SNEADS FERRY

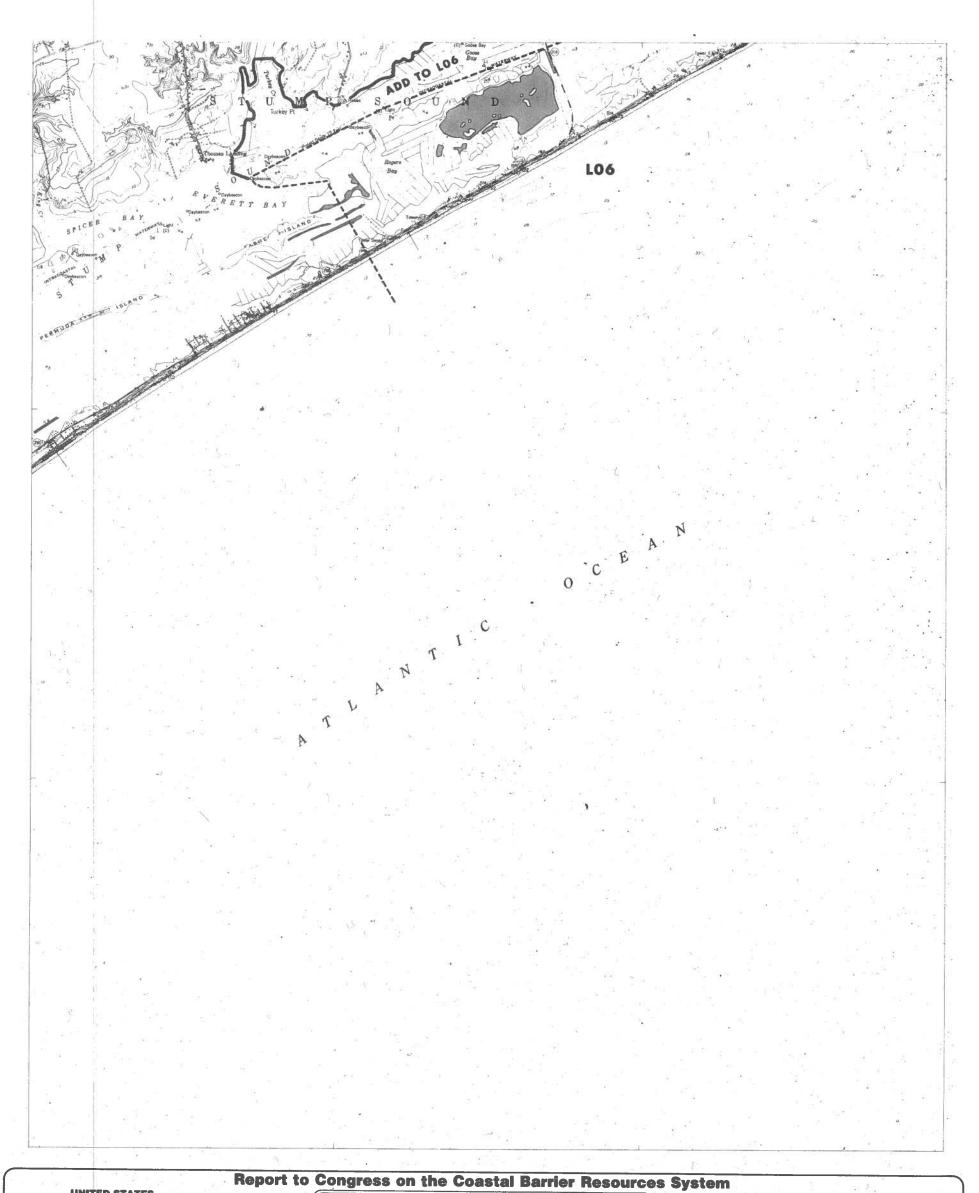
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QUADRANGLE

SPICER BAY

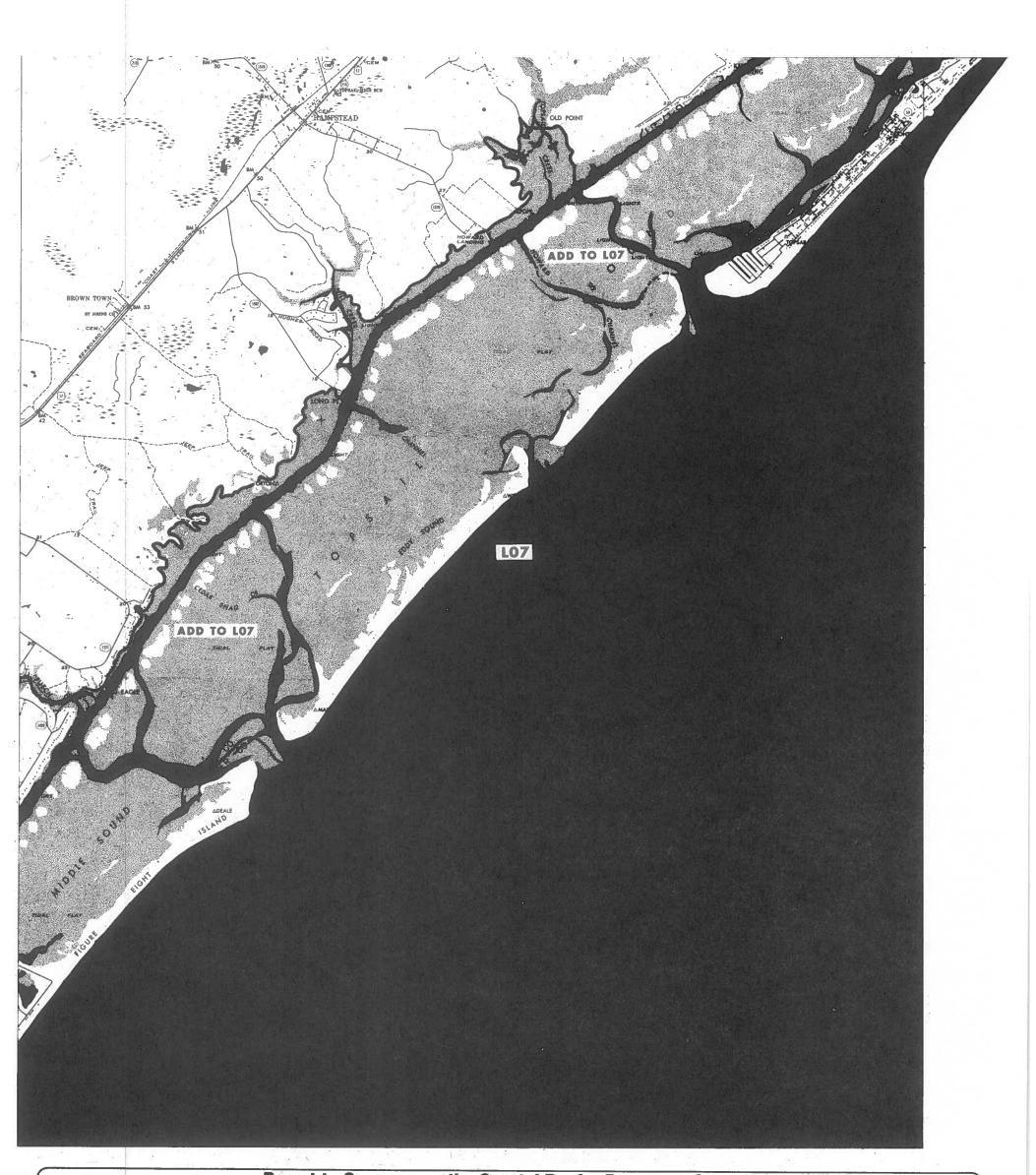
NORTH CAROLINA

| SCALE | 1 MILE | 1000 | 0 1000 | 2000 | 3000 | 4000 | 5000 | 6000 | 7000 | FEET | 1 | 5 | 0 | 1 | KILOMETER |

Solid lines depict proposed recommendations for additions or deletions to the Coastal Barrier Resources System. (Section to of P.L. 97 - 348.)

 Dash lines depict approximate boundaries of existing units in the Coastal Barrier Resources System, for reference purposes only.

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Report to Congress on the Coastal Barrier Resources System

QUADRANGLE

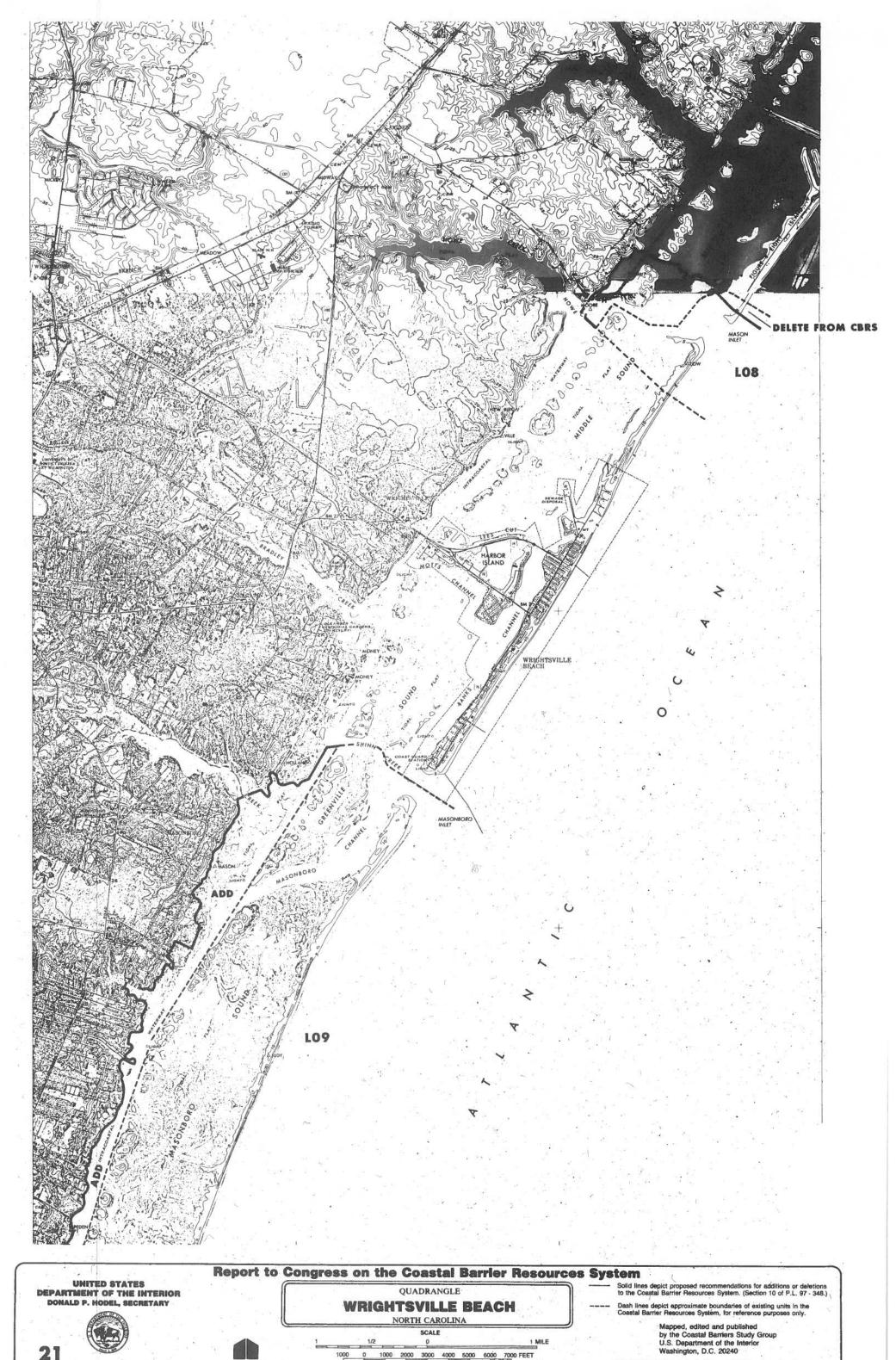
HAMPSTEAD

| NORTH CAROLINA | SCALE | 1 | 1/2 | 0 | 1 | MILE | 1000 | 0 | 1000 | 2000 | 3000 | 4000 | 5000 | 6000 | 7000 | FEET | 1 | 5 | 0 | 1 | KILOMETER |

Solid lines depict proposed recommendations for additions or deletions to the Coastal Barrier Resources System. (Section 10 of P.L. 97 · 348.)

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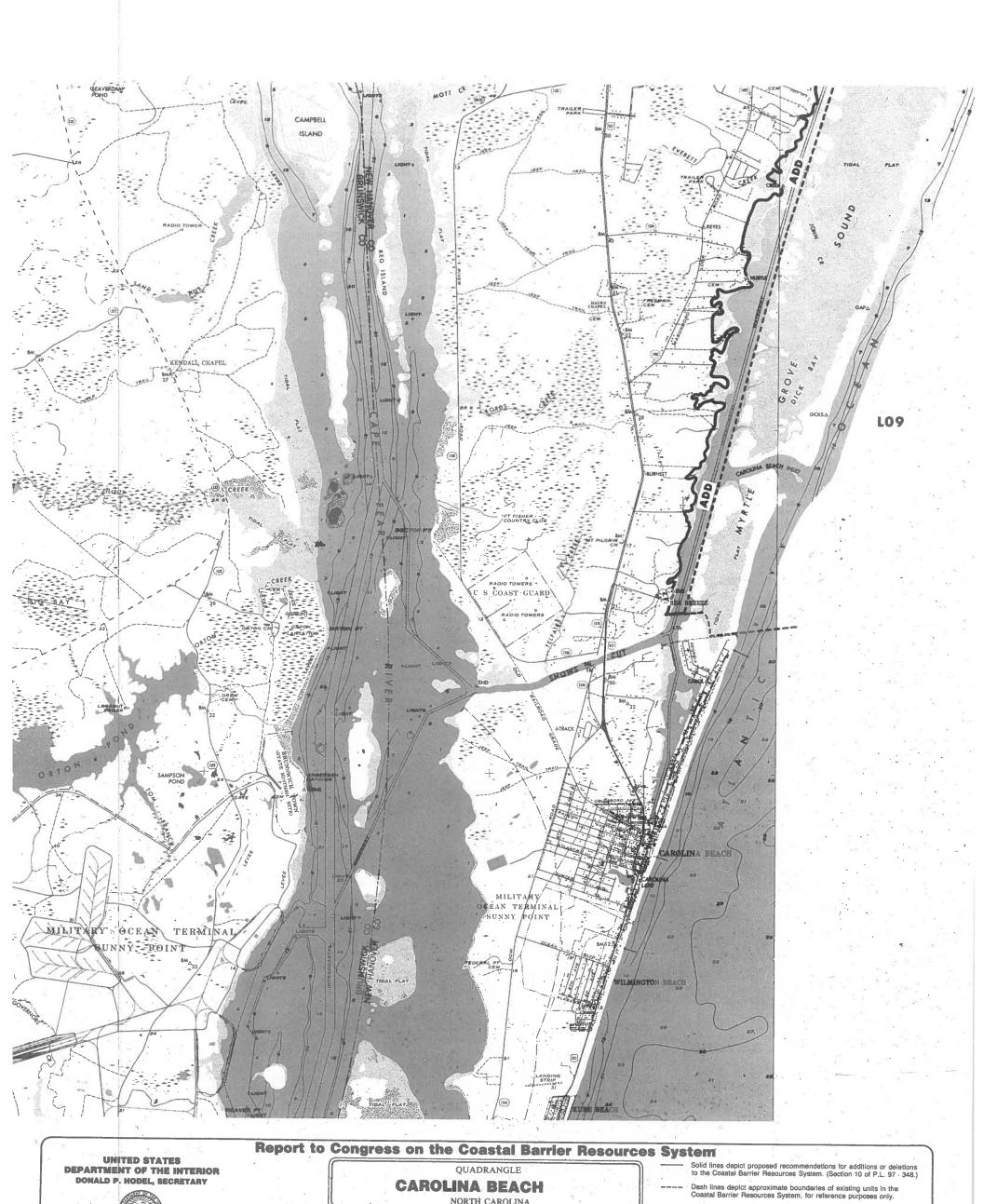
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1 000 0 1000 2000 3000 4000 5000 6000 7000 FEET
1 5 0 1 KILOMETER

Base Map is the U.S. Geological Survey 1:24,000 scale quadrangle.

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NORTH CAROLINA

SCALE

1 5 0 1 KILOMETER

22

1 MILE

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QUADRANGLE
LITTLE RIVER (SC)

NORTH CAROLINA

SCALE

1000 0 1000 2000 3000 4000 5000 6000 7000 FEET

1 5 0 1 KILOMETER

1/2

Solld lines depict proposed recommendations for additions or deletions to the Coastal Barrier Resources System. (Section 10 of P.L. 97 - 348.)

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DEPARTMENT OF THE INTERIOR
DONALD P. HODEL, SECRETARY