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# **REPORT TO CONGRESS: COASTAL BARRIER RESOURCES SYSTEM**

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



**VOLUME 8  
DELAWARE**

U.S. Department of the Interior

February 1987





# **REPORT TO CONGRESS: COASTAL BARRIER RESOURCES SYSTEM**

## **VOLUME 8**

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

## **DELAWARE**

**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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## DELAWARE

### 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 Delaware 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 Delaware includes delineations of the CBRS units designated by Congress in 1982 and delineations of proposed recommendations for additions to and deletions from 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 Delaware has a total land area of 1,982 square miles and both oceanfront and estuarine shorelines. The 24.5-mile Atlantic shoreline stretches from Fenwick Island to Cape Henlopen. The 65- to 70-mile estuarine shoreline in Delaware Bay includes the coastal area north of Cape Henlopen to the Pennsylvania State line.

The Atlantic coast of Delaware includes wave-dominated barrier islands, spits, and headlands, with broad sandy beaches and well-developed dune systems. Most of these areas are publicly owned and heavily used for public recreation. In general, development consists of private homes owned by out-of-State people, although high-rise structures are present near Fenwick Island and Bethany and at Rehoboth Beach.

The Delaware Bay coast is a transitional shoreline with ocean influence predominant around Lewes and riverine influence more prevalent north of Wilmington. Large marsh areas with associated narrow beaches and low dune ridges are common from Lewes to Smyrna/Woodland Beach. These areas are not heavily developed and much of the land is in Federal or State ownership. Large waterfowl populations are generally found in these marshy areas in the fall.

From the Chesapeake and Delaware Canal northward, the coastline is used primarily by industry. Getty Oil Company's refinery in Delaware City is the only oil refinery in the State. The capacity of this oil refinery exceeds State demands, making Delaware a net exporter of petroleum products. The Delmarva Power and Light Company operates three electrical generating facilities in the Delaware coastal zone at Edgemoor, Delaware City, and Indian River.

The port of Wilmington is the State's most important port operation, and it functions principally as a general cargo facility. In Fiscal Year 1977, the port handled 2.4 million tons of cargo (vehicles, oil, basic ores), about one-half of which was crude oil and three-fifths some form of fuel.

The largest sources of employment and income in Delaware are chemical concerns, automotive industries, manufacturing, financial services such as insurance and real estate, agriculture, mining, and tourism. In 1983, tourists spent over \$480 million in Delaware.

The State has an abundant natural resource base that includes birds, fish, and fur-bearing animals. Coastal and freshwater wetlands provide habitat for mallards, black ducks, least terns, blue-winged teals, gadwalls, wood ducks, and snow and Canada geese. Fall migrations of waterfowl along the Atlantic flyway bring thousands of waterbirds to Delaware's coastal areas, including a large wintering concentration of Canada geese (about 125,000). Saltwater and brackish water environments contain abundant populations of weakfish, flounder, bluefish, striped bass, sea bass, perch, commercial and sport sturgeon, spot, drum, Atlantic croaker, shad, crabs, and clams.

#### COASTAL RESOURCE MANAGEMENT

##### Delaware Coastal Resource Management

Historically, the primary impetus for coastal conservation in Delaware has been natural disasters. Hurricanes Connie and Diane in 1955, which claimed 100 lives and caused damages in excess of \$100 million nationwide, supplied the initiative for a comprehensive water resources survey of the Delaware River Basin. This study signaled the beginning of a unified policy-level concern for the State's coastal resources. This concern was reemphasized in a 1969 study that focused on loss of bay-wetlands, dredging, pollution

of bays and ground water, and increasing uncontrolled growth in recreational areas.

During the 1970's, four State laws were passed that are the basis of Delaware's Coastal Management Program. All are administered by the Department of Natural Resources and Environmental Control. In 1979, Delaware's Coastal Management Program was approved by the Federal Office of Coastal Zone Management.

Coastal Zone Act, 1971 (Title 7, Chapter 70, Delaware Code). This Act prohibits heavy industrial usage and bulk product transfer facilities along the coastal strip. This prohibition covers the construction of new petroleum refineries in the coastal zone, but not the expansion of existing refinery facilities. Because of its importance to the State, the Port of Wilmington is excluded from the offshore bulk product transfer facility prohibition in this Act. The expansion of the Port of Wilmington along the Delaware River is supported by the Coastal Management Program to meet national and regional transshipment needs.

Beach Preservation Act (Title 7, Chapter 68, Delaware Code). This Act ensures protection, enhancement, and preservation of public and private beaches of the State. It makes acts of beach destruction punishable as crimes and establishes building setback lines on the landward side of primary dunes.

Wetlands Act (Title 7, Chapter 66, Delaware Code). This Act established a permit system for many activities in both saline and freshwater wetlands. Dredging, draining, filling, bulkheading, excavation, drilling, and construction are all regulated. Power plants, both coal-fueled and nuclear-powered, are permitted where compatible with State environmental laws. Wetlands may not be utilized for construction of new power-generating plants; however, with State approval, transmission facilities and associated activities are allowed.

Underwater Lands Act (Title 7, Chapter 61, Delaware Code). This Act established a permit system to regulate development of the State's submerged lands (lands below mean high water).

#### EXISTING CBRS UNITS

A brief description of the existing CBRS units in Delaware follows. Each unit is

CBRS UNITS IN DELAWARE ESTABLISHED BY CONGRESS, 1982

Unit Name	Unit ID Code	County	Shoreline Length (miles)	Area (acres)
Broadkill Beach Complex	H00	Kent Sussex	16.3	1,371.5
North Bethany Beach	H01	Sussex	0.8	193.2
Totals:			17.1	1,564.7

identified by its name, number, and the county in which is is located.

H00-Broadkill Beach Complex (Kent and Sussex). This unit has a narrow beach strand with associated wetlands. Primehook National Wildlife Refuge protects extensive wetlands behind the southern portion of this unit. Located on the southwest shore of Delaware Bay, this unit is about 16.3 miles long and relatively undeveloped. The community developments at South Bowers, Big Stone Beach, Slaughter Beach, Primehook Beach, and Broadkill Beach are excluded from the complex.

H01-North Bethany Beach (Sussex). This unit includes a 0.8-mile oceanfront barrier beach-dune complex, associated back barrier wetlands and aquatic habitats, and drained marshlands. The residential communities of Cotton Patch Hills and Bayberry Dunes are north and south of this unit, respectively. Part of this unit is currently being developed.

PROPOSED ADDITIONS AND MODIFICATIONS

This section identifies proposed recommendations for additions to and deletions from the Coastal Barrier Resources System. 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. These 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 Delaware reviewed these documents and favors the addition of all areas

in the inventory with minor modifications and a provision to allow federally assisted recreational development. The State also requested minor adjustments to CBRS Unit H00, Broadkill Beach, to accommodate discrepancies in the boundaries between developed and undeveloped areas that occurred because no aerial photographs were available in 1982.

The Department received 33 other comments concerning Delaware. Most of these expressed opinions about individual proposed CBRS units; 26 favored the expansion of the CBRS.

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. Because aerial photography of Broadkill Beach was not available in 1982, some boundaries were incorrectly drawn; therefore, the Department concurs with the State's request for modifications. Property owners in Unit H01, North Bethany Beach, requested deletion from CBRS on the basis that this area is not a coastal barrier. Congress included this unit in CBRS after thorough discussions. No new information has been found to affect that decision; therefore, the Department proposes no change be made to Unit H01. A table presenting the 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.

SUMMARY OF PROPOSED RECOMMENDATIONS FOR COASTAL BARRIERS IN DELAWARE

Unit ID Code <sup>a</sup>	Unit Name <sup>b</sup>	County	Congress. Dist. <sup>c</sup>	Shoreline Length (miles) <sup>d</sup>	Area (acres) <sup>e</sup>	Proposed Recommendation <sup>f</sup>
DE-01	Little Creek	Kent	AL	3.90	2,137	Delete State-protected area; add balance to CBRS
H00	Broadkill Beach Complex	Kent Sussex	AL	15.75	5,493	Delete State-protected area; recommend adjustment to conform with development existing in 1982. Add wetlands to existing CBRS unit.

(continued)

SUMMARY OF PROPOSED RECOMMENDATIONS FOR COASTAL BARRIERS IN DELAWARE  
(CONCLUDED)

Unit ID Code <sup>a</sup>	Unit Name <sup>b</sup>	County	Congress. Dist. <sup>c</sup>	Shoreline Length (miles) <sup>d</sup>	Area (acres) <sup>e</sup>	Proposed Recommendation <sup>f</sup>
DE-02	Milford Neck	Sussex	AL	—	—	State protected; no further consideration
DE-03	Primehook	Sussex	AL	—	—	Federally protected (FWS); no further consideration
DE-04	Plum Beach Island	Sussex	AL	—	—	State protected; no further consideration
DE-05	Cape Henlopen	Sussex	AL	—	—	State protected; no further consideration
DE-06	Silver Lake	Sussex	AL	0.22	61	Add to CBRS; no change from inventory
DE-07	Delaware Seashore	Sussex	AL	—	—	State protected; no further consideration
H01	North Bethany Beach	Sussex	AL	0.8	193	No change in existing CBRS unit
DE-08	Assawoman Bay	Sussex	AL	—	—	State protected; no further consideration
Totals - CBRS as Recommended				20.67	7,884	
Existing CBRS				17.1	1,565	
Net change in CBRS				+3.57	+6,319	

<sup>a</sup>UNIT ID CODE - State initials (DE) plus a number identify a proposed new unit. An existing unit is identified by the legal code letter (H) and number established by Congress in 1982.

<sup>b</sup>UNIT 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.

<sup>c</sup>CONGRESSIONAL DISTRICT - U.S. Congressional District in which unit is located. AL denotes at large. There is only one district in Delaware.

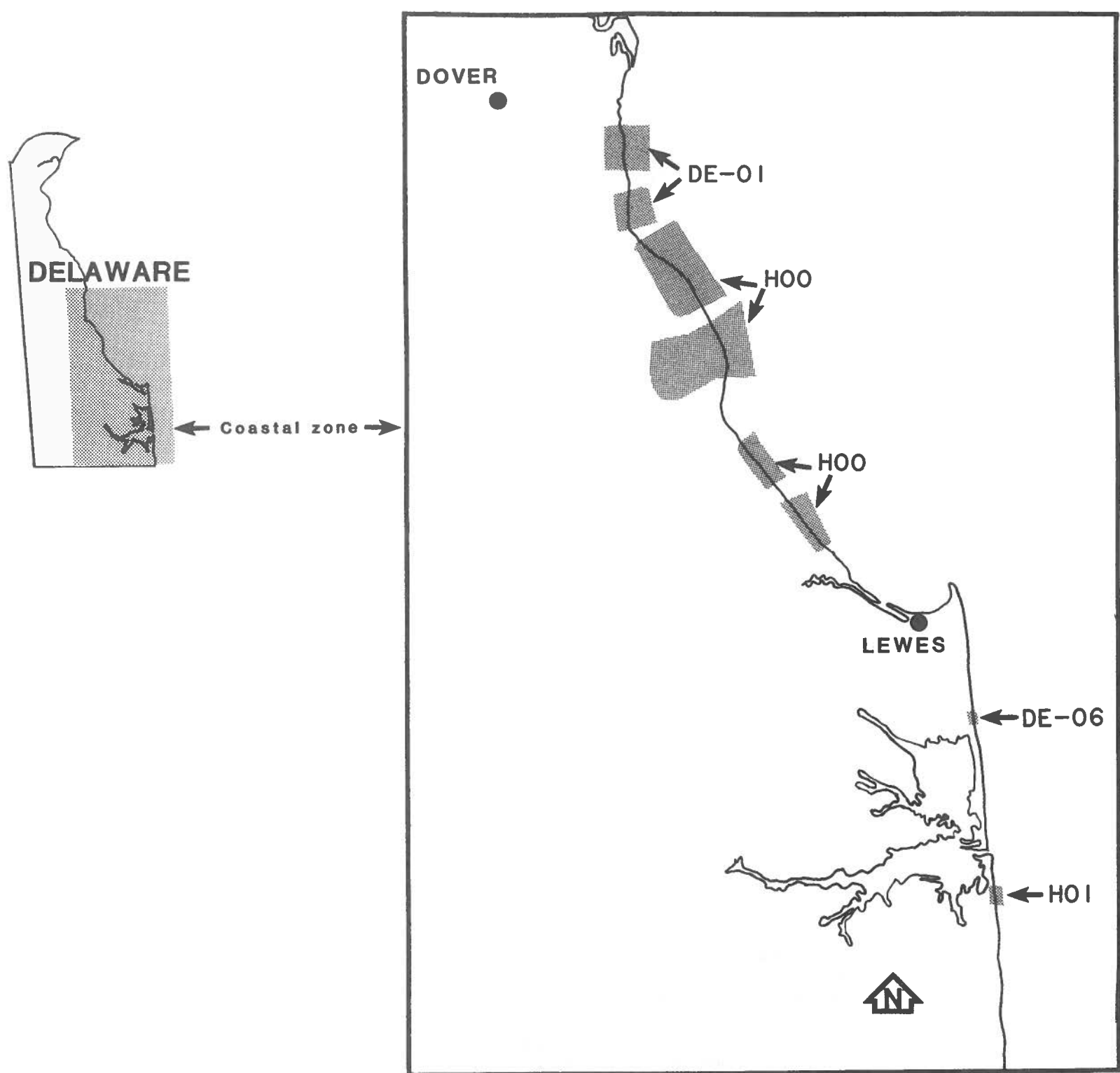
<sup>d</sup>SHORELINE LENGTH - For existing units with additions or deletions, this length is for the entire unit, as modified.

<sup>e</sup>AREA - For existing units with additions or deletions, this area is for the entire unit, as modified.

<sup>f</sup>PROPOSED 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 DELAWARE

USER NOTE: To locate the map(s) of each existing and proposed CBRS unit in this volume, consult the table below.



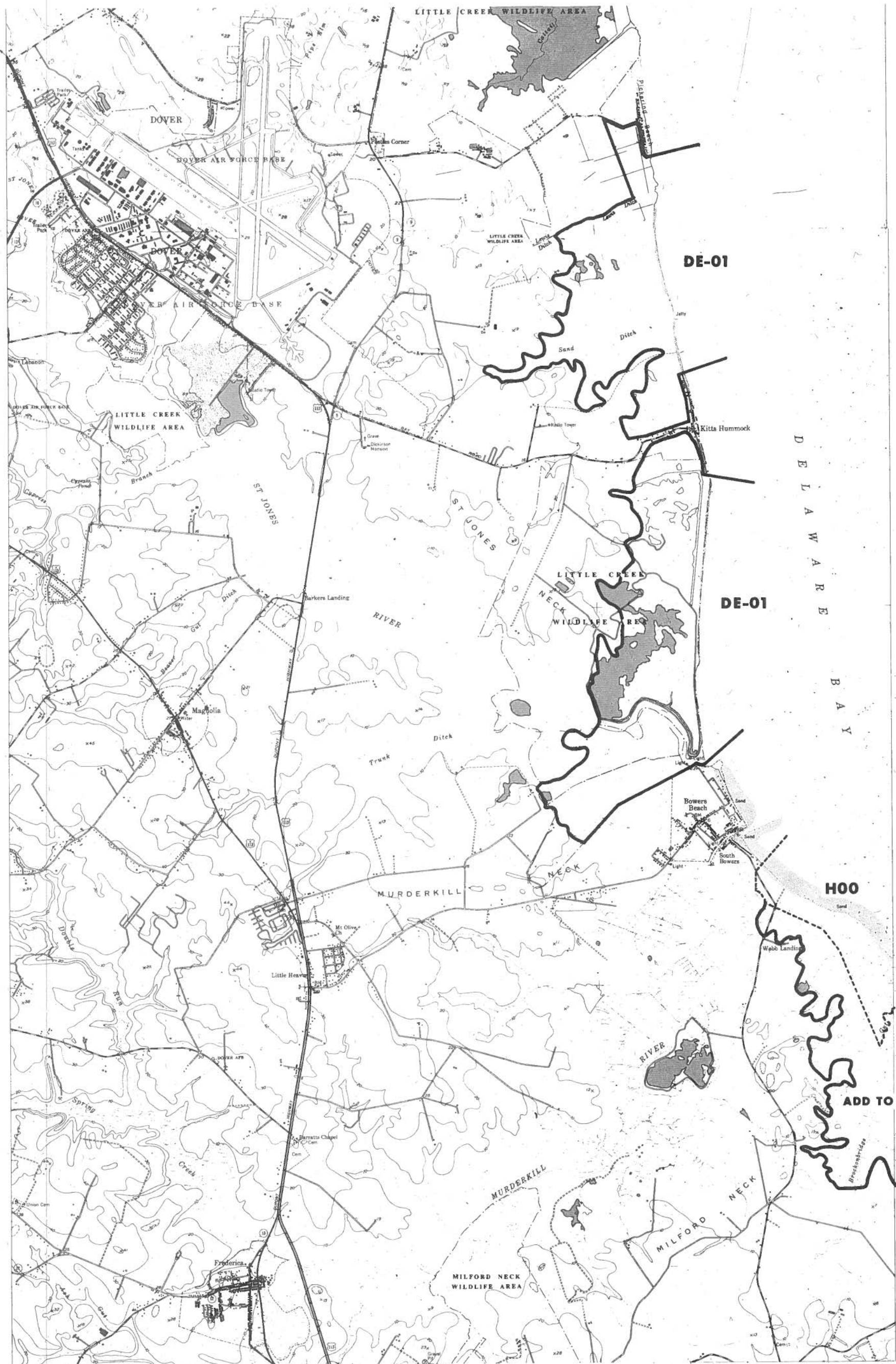
EXISTING AND PROPOSED CBRS UNITS AND THEIR LOCATION IN THIS VOLUME

Unit ID Code	Unit Name	USGS Topographic Map or Map Composite	Page
H00	Broadkill Beach Complex	Frederica	7
		Bennetts Pier	8
		Mispillion River	9
		Lewes	10
H01	North Bethany Beach	Bethany Beach	12
DE-01	Little Creek	Frederica	7
DE-06	Silver Lake	Rehoboth Beach	11

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



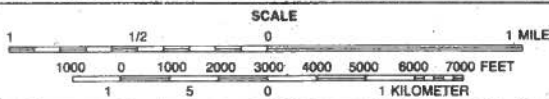


**Report to Congress on the Coastal Barrier Resources System**

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
DONALD P. HODEL, SECRETARY



QUADRANGLE  
**FREDERICA**  
DELAWARE



— 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.

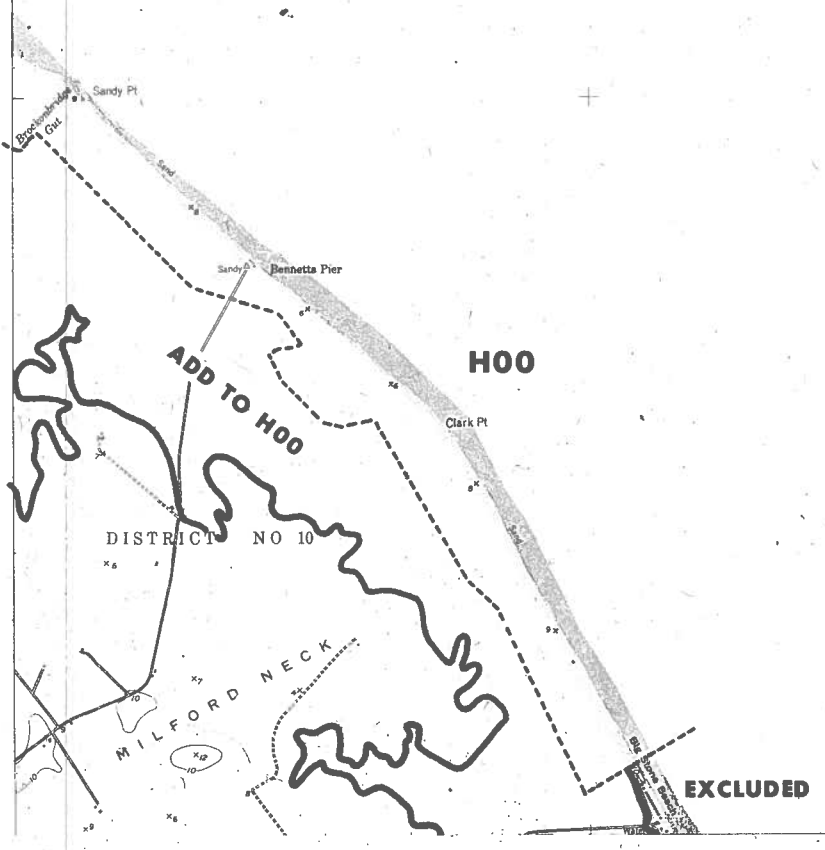
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U.S. Department of the Interior  
Washington, D.C. 20240

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

BLAKE CHANNEL

D E L A W A R E

B A Y

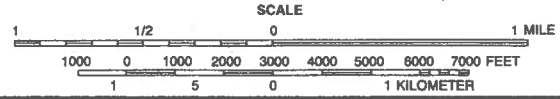


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DONALD P. HODEL, SECRETARY



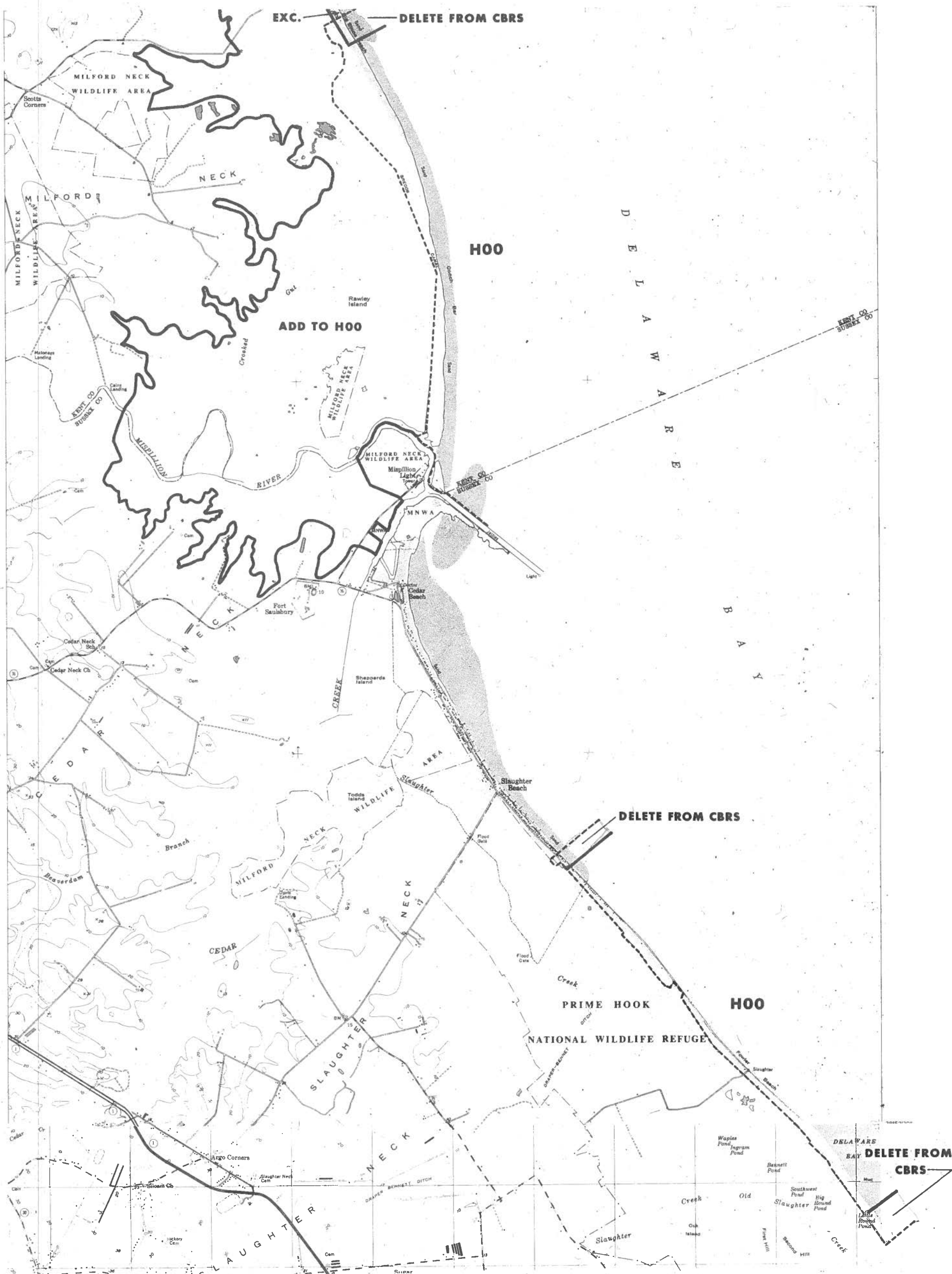
QUADRANGLE  
**BENNETTS PIER**  
DELAWARE



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



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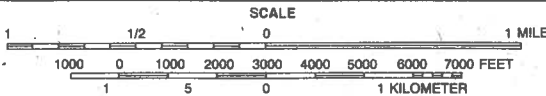
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DONALD P. HODEL, SECRETARY



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QUADRANGLE  
**MISPILLION RIVER**  
DELAWARE



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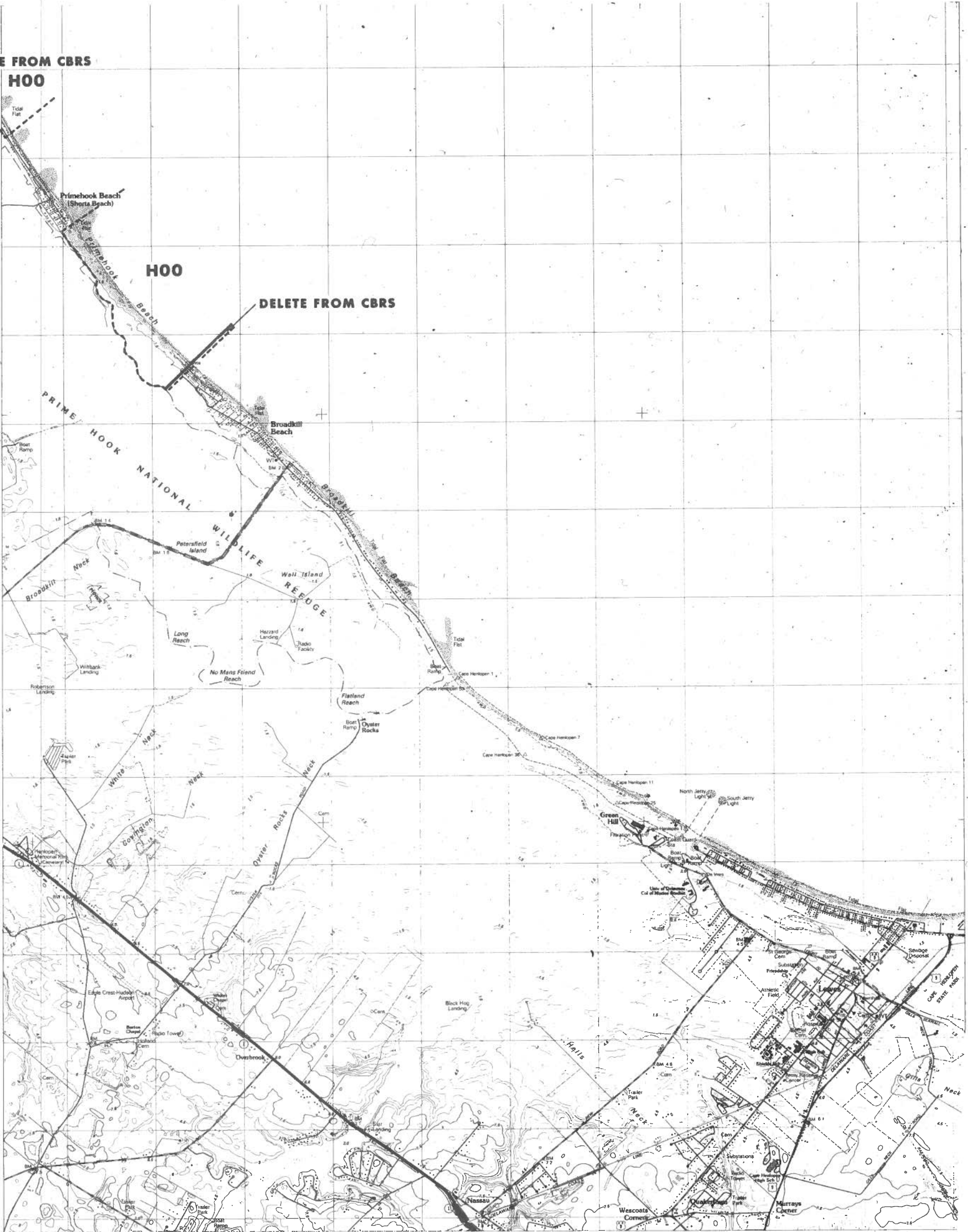


DELETE FROM CBR

H00

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DEPARTMENT OF THE INTERIOR  
DONALD P. HOEL, SECRETARY

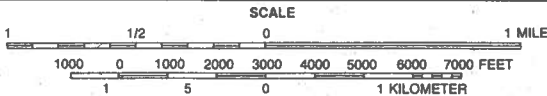


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Report to Congress on the Coastal Barrier Resources System

QUADRANGLE  
**LEWES**  
DELAWARE



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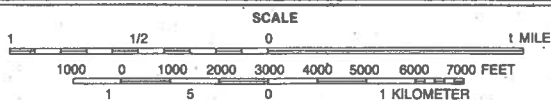


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## Report to Congress on the Coastal Barrier Resources System

QUADRANGLE  
**REHOBOTH BEACH**  
DELAWARE



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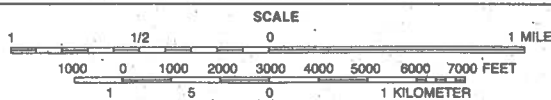
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DONALD P. HODEL, SECRETARY



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QUADRANGLE  
**BETHANY BEACH**  
DELAWARE



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