



**US Army Corps
of Engineers**
Philadelphia District

Wanamaker Building
100 Penn Square East
Philadelphia, PA 19107-3390
ATTN: CENAP-OP-R

Public Notice

Public Notice No.
CENAP-OP-R-2006-257-83

Date
June 23, 2016

Application No.
CENAP-OP-R-2006-257-83

File No.

In Reply Refer to:
REGULATORY BRANCH

This District has received an application for a Department of the Army permit pursuant to Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403) and Section 404 of the Clean Water Act (33 U.S.C. 1344).

The purpose of this notice is to solicit comments and recommendations from the public concerning issuance of a Department of the Army permit for the work described below.

APPLICANT: New Jersey Department of Environmental Protection
Division of Fish and Wildlife
Bureau of Shellfisheries
Nacote Creek Research Station
P.O. Box 418
Port Republic, NJ 08241

WATERWAY: All New Jersey State coastal and estuarine waterways along the Delaware Bay and Atlantic coastal regions; which may include all tidally influenced coves, bays, lagoons and tidal river systems (see Enclosure 1).

LOCATION: The project proposes to conduct shellfish habitat and restoration activities within the subtidal portions of New Jersey state coastal and estuarine waterways located in Ocean, Atlantic, Burlington, Cape May, Cumberland, Salem Counties; and to include the southern border of Monmouth County (within the Philadelphia Army Corps of Engineers District). The proposed project also includes for the seasonal deployment of spat collection devices to be placed within intertidal portions of the Delaware estuary.

ACTIVITY: The New Jersey Department of Environmental Protection (NJDEP), Division of Fish and Wildlife is seeking Department of the Army authorization to conduct shellfish habitat and restoration activities over a ten (10) year period within all New Jersey State coastal and estuarine waterways. The applicant is requesting a blanket permit to cover cultch placement, seeding, and the collection of natural seed (juveniles) and broodstock, as part of the NJDEP's Division of Fish and Wildlife, Bureau of Shellfisheries ongoing efforts to restore and/or enhance the state's shellfish populations and habitat. New Jersey Statute Annotated Title 50, Chapter 1, Section 5 provides that the Commissioner of the Department (NJDEP) "shall have full control and direction of the shellfish industry and resource and the protection of shellfish throughout the entire state". Part of the Division's goals and responsibilities is the "maintenance of fish and

wildlife species at stable, healthy levels and the protection and enhancement of the habitats on which they depend”.

The Atlantic coastal waters of New Jersey support shellfish populations of ecological and economic importance which include eastern oysters, hard clams, soft clams, surf clams, ocean quahog, bay scallops and blue mussels. Although these waters have a long history of production and continue to provide the necessary habitat requirements for various shellfish species, some populations of these shellfish species have declined for various reasons over the last several decades. For example, Barnegat Bay and Little Egg Harbor bays have experienced a well-documented and severe decline in hard clam abundance while Mullica River/Great Bay, and the Great Egg Harbor River have extensive areas of degraded oyster habitat and only remnant beds remain supporting reduced oyster stocks. While heavily and closely managed, Delaware Bay also has extensive regions of degraded oyster habitat in need of enhancement in which the Bureau remains committed to restoring those stocks.

Since 2003, the Delaware Bay Oyster Restoration Project planted two million-two hundred thousand (2.2) million bushels of shell on approximately one thousand-three hundred-fifty thousand (1350) acres of existing oyster beds in the Delaware Bay. Post construction monitoring results from the program indicated extraordinary bay-wide recruitment rates. Shell plants have equaled or typically far exceeded the recruitment rates of native shell. Over the course of the last eleven (11) years of shell budget assessments, shell-planting has resulted in a substantial reduction in shell loss (2003-2014) and has reduced the yearly shell deficit by a least two-thirds. The shell-planting program contributed incalculably to maintaining the ecological services provided by the bay's oyster beds. It is vital to reduce the amount of shell loss through shell-planting in order to re-establish oyster beds of sufficient size and health to offset losses due to disease when low abundance limits the amount of shell added to the beds through natural mortality (N.J. Department of Environmental Protection 2008). Shell-planting and seeding to increase oyster abundance in Delaware Bay was last authorized under NJDEP (File No. 0000-08-0017.1); and under the Army Corps of Engineers Individual Permit (CENAP-OP-R-2008-623-35). Authorized activities included the placement of shells, via a barge, in natural seed beds and recruitment zones and also allowed for the transfer of seed collection or sets, via an oyster or section dredge, to nursery areas, over approximately twenty (20,000) thousand acres of Delaware Bay bottom.

Past shell-plantings and seeding by the Bureau along the Atlantic coastal region were last authorized under NJDEP (File No. 0000-08-0013.1 and 0000-08-0017.1); and under the following Army Corps of Engineers NWP-27 permits:

- File No. 2008-0675; Site 10- Mullica River and Great Bay area
- File No. 2008-0676; Site 11-Great Egg Harbor River area
- File No. 2008-0677; Site 9-SW of Clam Island, Long Beach Township
- File No. 2008-0678; Site 8-West of Clam Island, Long Beach Township
- File No. 2008-0679; Site 7-W of Clam Island, Long Beach Township
- File No. 2008-0680; Site 6-NW of Clam Island, Long Beach Township
- File No. 2008-0683; Site 3-Island Beach State Park, Ocean Township
- File No. 2008-0684; Site 2-Good Luck Point, Berkeley Township
- File No. 2008-0685; Site 1-Swan Point, Brick Township and south Mantoloking Beach

- File No. 2008-0780; Atlantic Coast/Barnegat bay-Good Luck Point (formally CENAP-OP-R-2008- 0684; extended until 2017)

Cumulative shell-plantings from those activities along the Atlantic coastal region of New Jersey have resulted in the placement of shell and seed over three thousand-nine hundred and twenty three (3923) acres of waters at a maximum rate of four thousand (4000) bushels of shell per acre; and/or one million and five hundred thousand (1.5) million oyster seed per acre; and/or fifty (50,000) thousand clams per acre respectively. A maximum density of four thousand (4000) bushels of shell per acre was calculated to provide 1.4 inches of relief within the substrate. Where clam restoration was proposed, the targeted seeding density was between 0.5 to 1 clams per square foot. Studies conducted by the Bureau found that planting larger sized seed clams (20 to 25 mm) has shown optimum survivability. The clam seed used for public outreach was grown from local brood stock at local hatcheries to a size range between two (2 mm) to three (3mm) millimeters in size then transferred to an alternate location for further grow out where the seed was further raised to a size between eight (8 mm) to twelve (12 mm) millimeters on State owned and controlled NJ Division of Fish and Wildlife shellfish leases where seed was allowed to further grow out to a size between eighteen (18 mm) to twenty (20 mm) millimeters under the protection of predator-protection screening prior to final release. Alternate locations included land based and floating upweller systems at suitable locations. Collection and dispersal of seed was accomplished by hand, traditional oyster dredges, spat collection devices (e.g., shell bags) or by mechanical methods as discussed below. In areas where the restoration site (shellfish habitat) overlapped with mapped submerged aquatic vegetation (SAV), activities were limited to broadcasting seed at low densities with no shell planted.

In addition to the above mentioned waters/areas where past shellfish habitat and restoration activities have occurred and are expected to continue, the Bureau is also proposing to expand their shellfish restoration activities to allow for shellfish restoration activities to take place within all tidally influenced coves, bays, lagoons and tidal river systems within the States coastal and estuarine waterways where viable populations of shellfish still exist or can be reestablished. Further expansion of restoration activities (as discussed) into newly identified areas, as identified by the Bureau, will be contingent upon available funding, availability of seed stock, the specific shellfish species habitat requirements, recruitment rates and availability of construction materials (e.g. cultch material).

The Bureau's shellfish habitat enhancement and restoration activities are intended to maintain, sustain, enhance, promote and restore the state's shellfish population. The project is meant only for restoration or enhancement of degraded and/or extant shellfish habitat by enhancing natural seed supply through the placement of cultch material (shell-planting), and/or seeding, and/or the collection and transplanting of juveniles (to include spat set cultch) and broodstock collected from wild stock. The Bureau does not propose to conduct the above mentioned habitat enhancement and restoration activities within navigation channels or within NJDEP shellfish lease areas used for commercial shellfish aquaculture. The Bureau does not propose the creation of artificial oyster reefs as part of this project. The Bureau does not intend to adversely affect submerged aquatic vegetation (SAV) by the proposed activities. Prior to conducting the proposed activities, all areas will be surveyed by NJDEP division staff to avoid any adverse effects to those areas.

The Bureau's proposed shellfish habitat enhancement and restoration activities shall be accomplished by shell-planting of cultch material in thin layers (typically less than three (3") inches deep) on the bay bottom. Cultch material is defined as shellfish shell (such as ocean quahog, surf clam, whelk shell or other shell obtained from molluscan species) and/or other suitable materials as approved by the Bureau designed to provide points of attachment for shellfish. The Bureau proposes to use oyster shell, fragmented surf clam and/or ocean quahog shell and/or whelk shell or other approved materials (e.g., crushed limestone, granite, fossilized shell, etc.) that could serve as cultch. All cultch material used for the proposed activities will be dried, cured and stockpiled at a suitable, approved upland location prior to use.

Shell-planting will be conducted by loading cultch material onto vessels/barges and then dispersing it overboard by using a water pump to spray the shell off of the deck as the vessel traverses the site (Enclosure 2). The boundaries of the selected sites will be located in the field using GPS, recorded and temporarily marked with buoys prior to shell-planting. Shell will be discharged and planted at varying densities dependent on exact site selection. Shell planted per site will be approximately two (2") to three (3") inches in depth; except in areas where necessary to build up the bottom to provide a firm clean substrate, not to exceed six (6") inches. Except in areas where necessary to build up the bottom to provide a firm substrate, as previously mentioned, the goal of shell-planting is to increase bed height with as minimal placement of cultch material while maximizing the available surface area for larval attachment and retention. Shell-planting may be conducted on different parcels at different times of the year. For example, to serve as a substrate for settlement of oyster larvae, shell is commonly planted in mid-June to early July; where shell is planted to improve bottom firmness, shell may be planted at varying times throughout the year to maintain bed integrity following periods of harvest or if any natural events cause bed disturbance (e.g., storm events, etc.). Additional shell-planting on the same parcel may be conducted over time to maintain a veneer of firm substrate available for setting larvae. A total of approximately five million (~5,000,000) bushels or two hundred-thirty thousand and five hundred cubic yards (~230,500 yds³) of cultch material over a maximum of three hundred-eighty two thousand-eight hundred and ninety seven (382,897) acres of waters is being proposed for the complete project over ten (10) years.

The Bureau's proposed shellfish habitat enhancement and restoration activities also include seeding, and/or the collection and transplanting of juveniles (to include spat set cultch) and broodstock collected from wild stock. In areas where shellfish recruitment and/or survival are limited, the Bureau proposes to collect and transport juveniles (spat set cultch) to areas with higher growth and survivorship. Areas identified with high recruitment and lower survivorship/growth will be shell-planted (as outlined above) and then harvested to obtain newly recruited seed. Harvesting of seed will be done via an oyster dredge vessel by means of a traditional dry oyster dredge or by a hydraulic suction vessel utilizing a rake head (Enclosure 3). The intent of harvesting is to collect seed and/or broodstock by targeting the uppermost layer of shell bed without significantly altering or removing bottom habitat. Harvested seed is then relocated to areas where higher survivorship/growth can be reached. Seed plantings will be conducted by the harvest vessel and then dispersed overboard by use of a water pump as the vessel slowly traverses the site. Activities associated with the collection and transplant of broodstock are described above as discussed in the methods used for harvest and planting of seed. Hand collection and dispersal, shell bags or other suitable spat collection devices (Enclosure 4) may also be utilized. Harvest amounts and the density of seed to be placed will be determined by surveys conducted by the Bureau and overseen by NJDEP division staff. Seeding

activities may also include the use hatchery seed (limited supply). Hatchery seed will include disease resistant strains and local stocks.

PURPOSE: The applicant's stated purpose is to maintain the States shellfish species at stable, healthy levels and the protection and enhancement of the habitats on which they depend.

A preliminary review of this application indicates that the proposed work is not likely to effect threatened and endangered species. While Atlantic sturgeon (*Acipenser oxyrinchus*), Kemp's ridley sea turtle (*Lepidochelys kempii*), loggerhead sea turtle (*Caretta caretta*), green sea turtle (*Chelonia mydas*), leatherback sea turtle (*Dermochelys coriacea*), hawksbill sea turtle (*Eretmochelys imbricate*), right whale (*Eubalaena glacialis*), humpback whale (*Megaptera novaeangliae*), fin whale (*Balaenoptera physalus*), Red Knot (*Calidris canutus rufa*) and Piping Plover (*Charadrius melodus*) are in the vicinity, these species are not likely to be adversely impacted by the proposed project. Based on all available information and the cumulative ecological benefits to the marine environment that the project will provide, this office has determined that the project is not likely to adversely affect any endangered species within the project area. As required under Section 7 of the Endangered Species Act, this office will coordinate with the National Marine Fisheries Service and U.S. Fish and Wildlife Service to ensure impacts to these species will be minimal.

The decision whether to issue a permit will be based on an evaluation of the activity's probable impact including its cumulative impacts on the public interest. The decision will reflect the national concern for both protection and utilization of important resources. The benefits which reasonably may be expected to accrue from the work must be balanced against its reasonably foreseeable detriments. All factors which may be relevant to the work will be considered including the cumulative effects thereof; among those are conservation, economics, aesthetics, general environmental concerns, wetlands, cultural values, fish and wildlife values, flood hazards, flood plain values, land use, navigation, shore erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food and fiber production, mineral needs and welfare of the people. A Department of the Army permit will be granted unless the District Engineer determines that it would be contrary to the public interest.

The Corps of Engineers is soliciting comments from the public; Federal, State, and local agencies and officials; Indian Tribes; and other interested parties in order to consider and evaluate the impacts of this proposed activity. Any comments received will be considered by the Corps of Engineers to determine whether to issue, modify, condition or deny a permit for this proposal. To make this decision, comments are used to assess impacts on endangered species, historic properties, water quality, general environmental effects, and the other public interest factors listed above. Comments are used in the preparation of an Environmental Assessment and/or an Environmental Impact Statement pursuant to the National Environmental Policy Act. Comments are also used to determine the need for a public hearing and to determine the overall public interest of the proposed activity.

Comments on the proposed work should be submitted, in writing, within 30 days to the District Engineer, U.S. Army Corps of Engineers, Philadelphia District, Wanamaker Building, 100 Penn Square East, Philadelphia, Pennsylvania 19107-3390.

A preliminary review of the National Register of Historic Places indicates that historic resources may be present within the project area. Based off of the projects description, past activities and limited disturbance to the waters bottom within the project area, the project would not adversely affect historic resources. A determination of No Adverse Effect will be coordinated with the SHPO and the Tribes for their review and concurrence.

The Magnuson-Stevens Fishery Conservation and Management Act, as amended by the Sustainable Fisheries Act 1996 (Public Law 104-267), requires all Federal agencies to consult with the National Marine Fisheries Service on all actions, or proposed actions, permitted, funded, or undertaken by the agency that may adversely effect Essential Fish Habitat (EFH). A preliminary assessment of the species listed in the "Guide to Essential Fish Habitat Designations in the Northeastern United States, Volume IV: New Jersey and Delaware", dated March 1999, indicates that the project may adversely affect EFH. In order to avoid or minimize impacts to EFH species and their habitats, the use of seasonal restrictions may be incorporated into this permit decision. The U.S. Army Corps of Engineers will be coordinating with the National Marine Fisheries Service to ensure that any action taken by this office will not have a substantial affect to EFH species and/or their habitats.

In accordance with Section 307(c) of the Coastal Zone Management Act of 1972, applicants for Federal Licenses or Permits to conduct an activity affecting land or water uses in a State's coastal zone must provide certification that the activity complies with the State's Coastal Zone Management Program. The applicant has stated that the proposed activity complies with and will be conducted in a manner that is consistent with the approved State Coastal Zone Management (CZM) Program. No permit will be issued until the State has concurred with the applicant's certification or has waived its right to do so. Comments concerning the impact of the proposed and/or existing activity on the State's coastal zone should be sent to this office, with a copy to the State's Office of Coastal Zone Management.

In accordance with Section 401 of the Clean Water Act, a Water Quality Certificate is necessary from the State government in which the work is located. Any comments concerning the work described above which relate to Water Quality considerations should be sent to this office with a copy to the State.

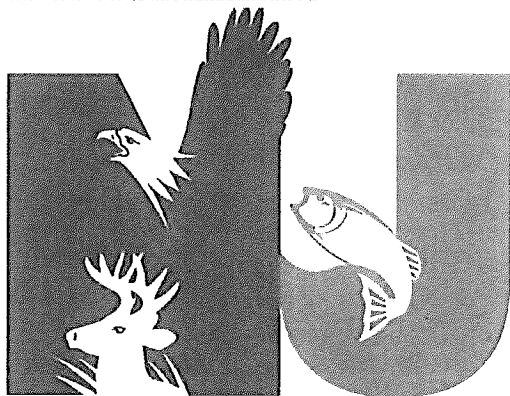
The evaluation of the impact of the work described above on the public interest will include application of the guidelines promulgated by the Administrator, U.S. Environmental Protection Agency, under authority of Section 404(b) of the Clean Water Act. Any person may request, in writing, to the District Engineer, within the comment period specified in this notice, that a public hearing be held to consider this application. Requests for a public hearing shall state in writing, with particularity, the reasons for holding a public hearing. Additional information concerning this permit application may be obtained by calling Mr. Robert M. Deems at (215) 656-5733, via email at Robert.M.Deems@usace.army.mil, or writing this office at the above address.

Samuel L. Reynolds
Acting Chief, Regulatory Branch

Coastal Waterways Along the Atlantic Regions of New Jersey & Delaware Bay

Ocean, Atlantic, Burlington,
Cape May, Cumberland,
Salem Counties, and the
Southern Border of
Monmouth County

NJ Dept. of Environmental Protection
Division of Fish and Wildlife
Bureau of Shellfisheries



NEW JERSEY DIVISION OF
Fish and Wildlife

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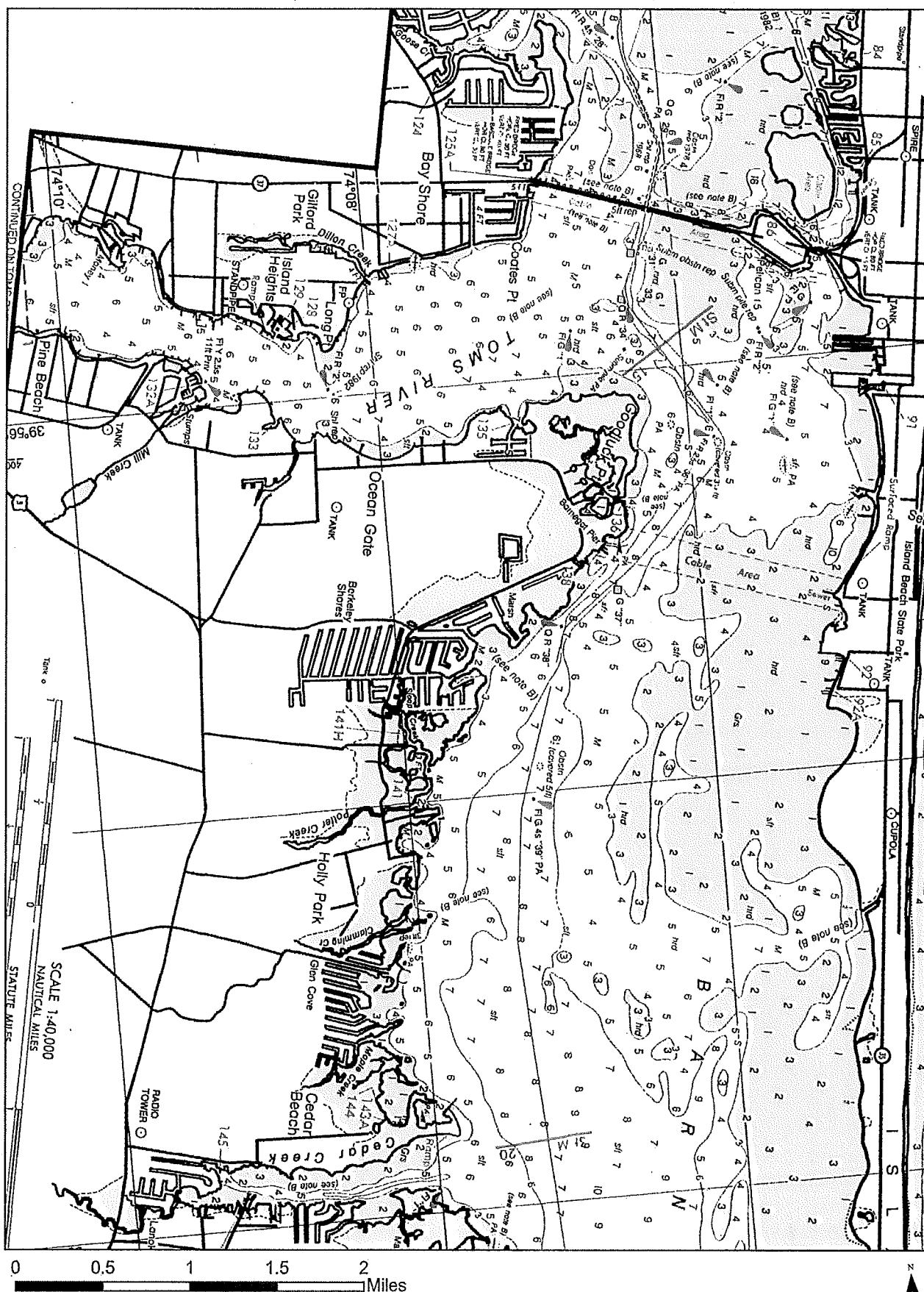
Southern Border of Monmouth County & Northern Ocean County Manasquan River & Metedeconk River

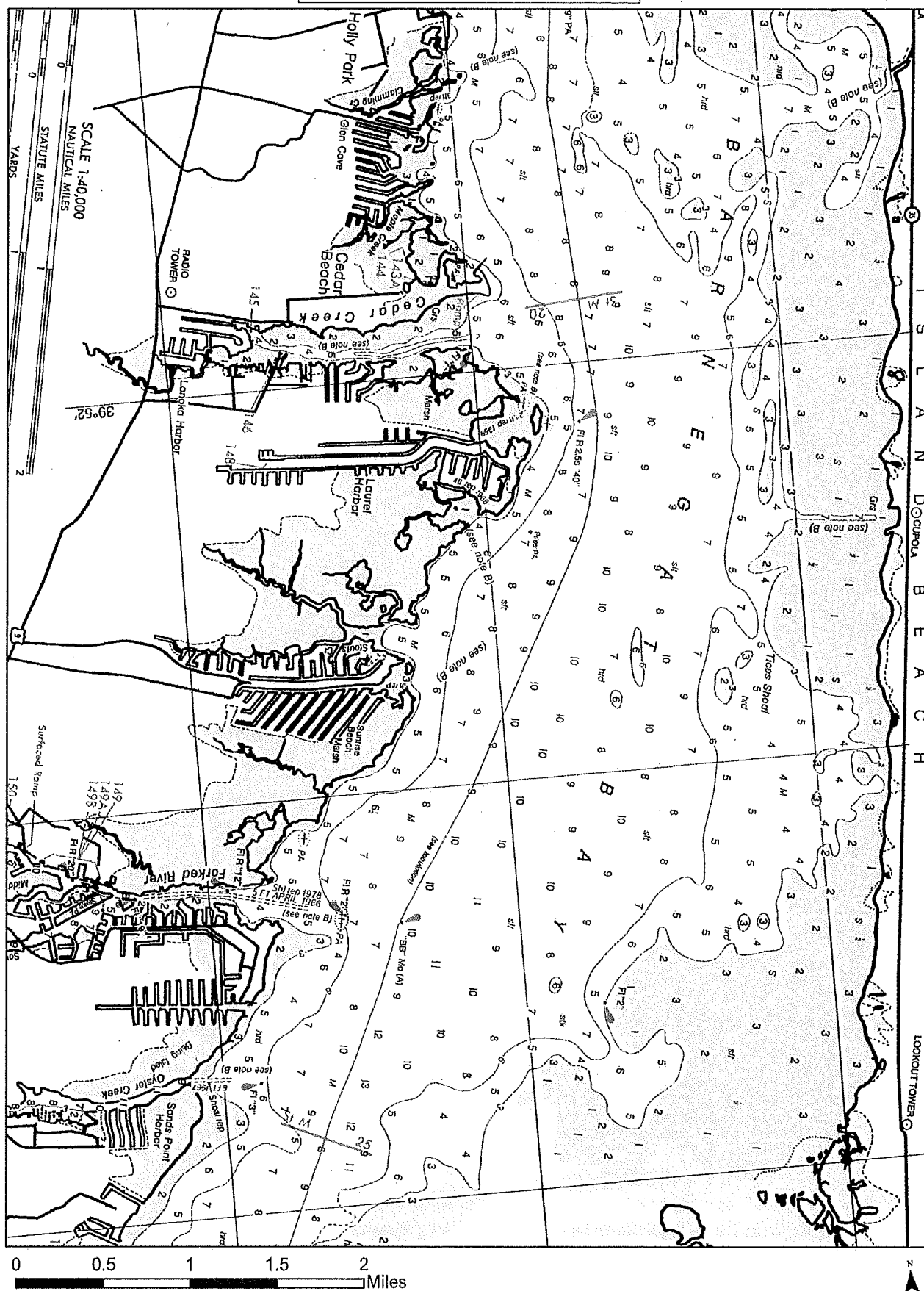


Ocean County
Barnegat Bay
Kettle Creek & Silver Bay



Ocean County Barnegat Bay & Toms River





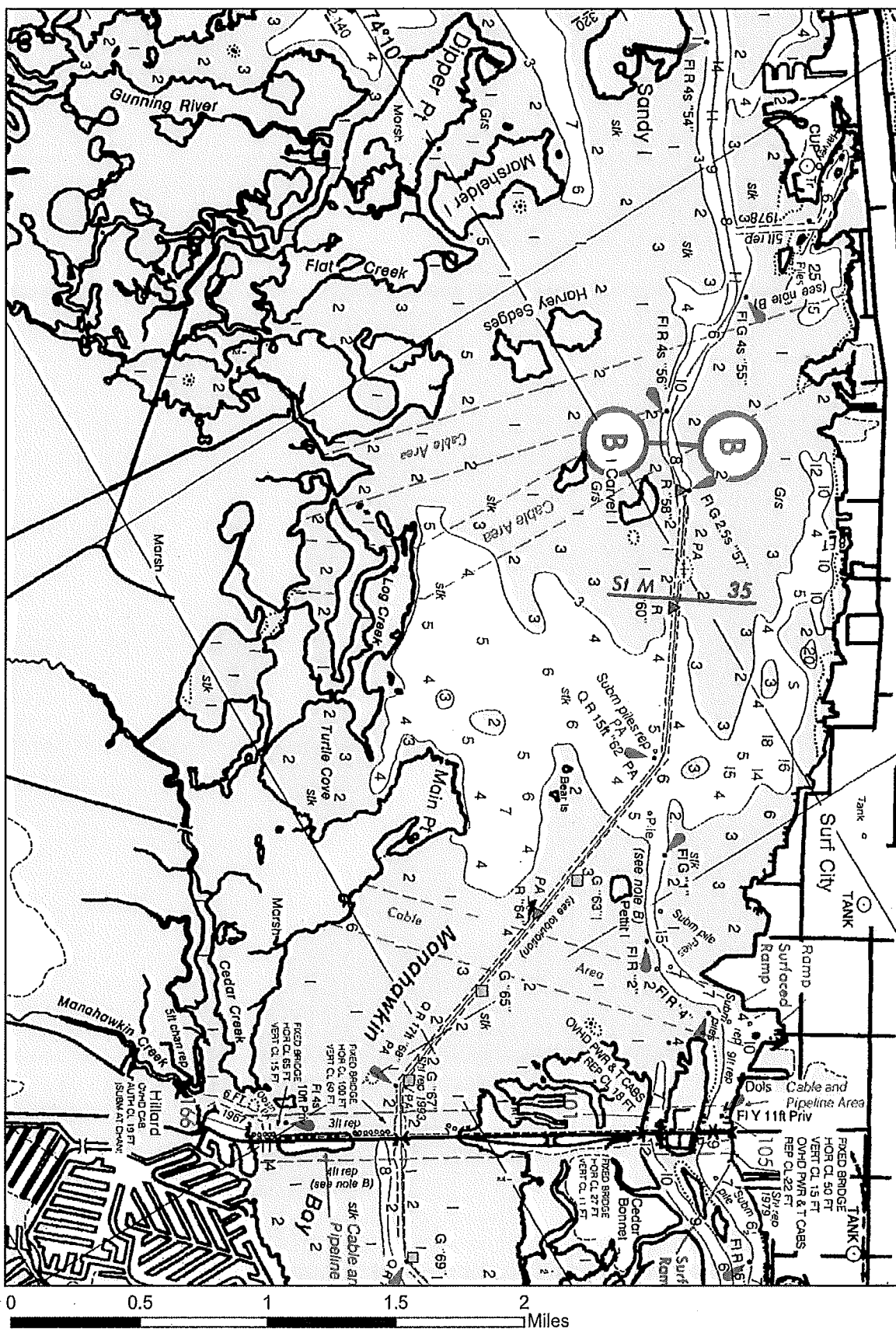
Ocean County
Barnegat Inlet



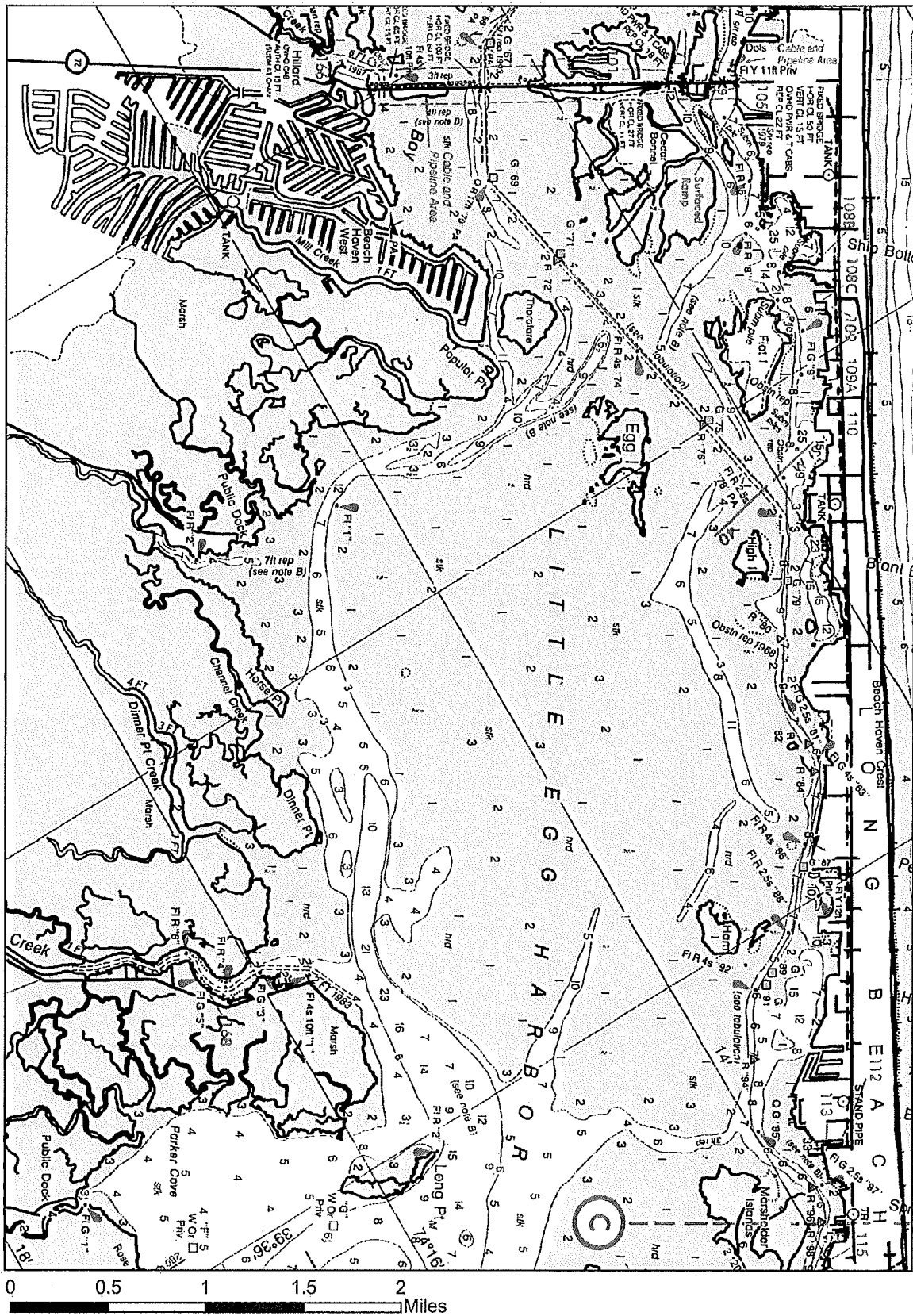
Ocean County Southern Barnegat Bay



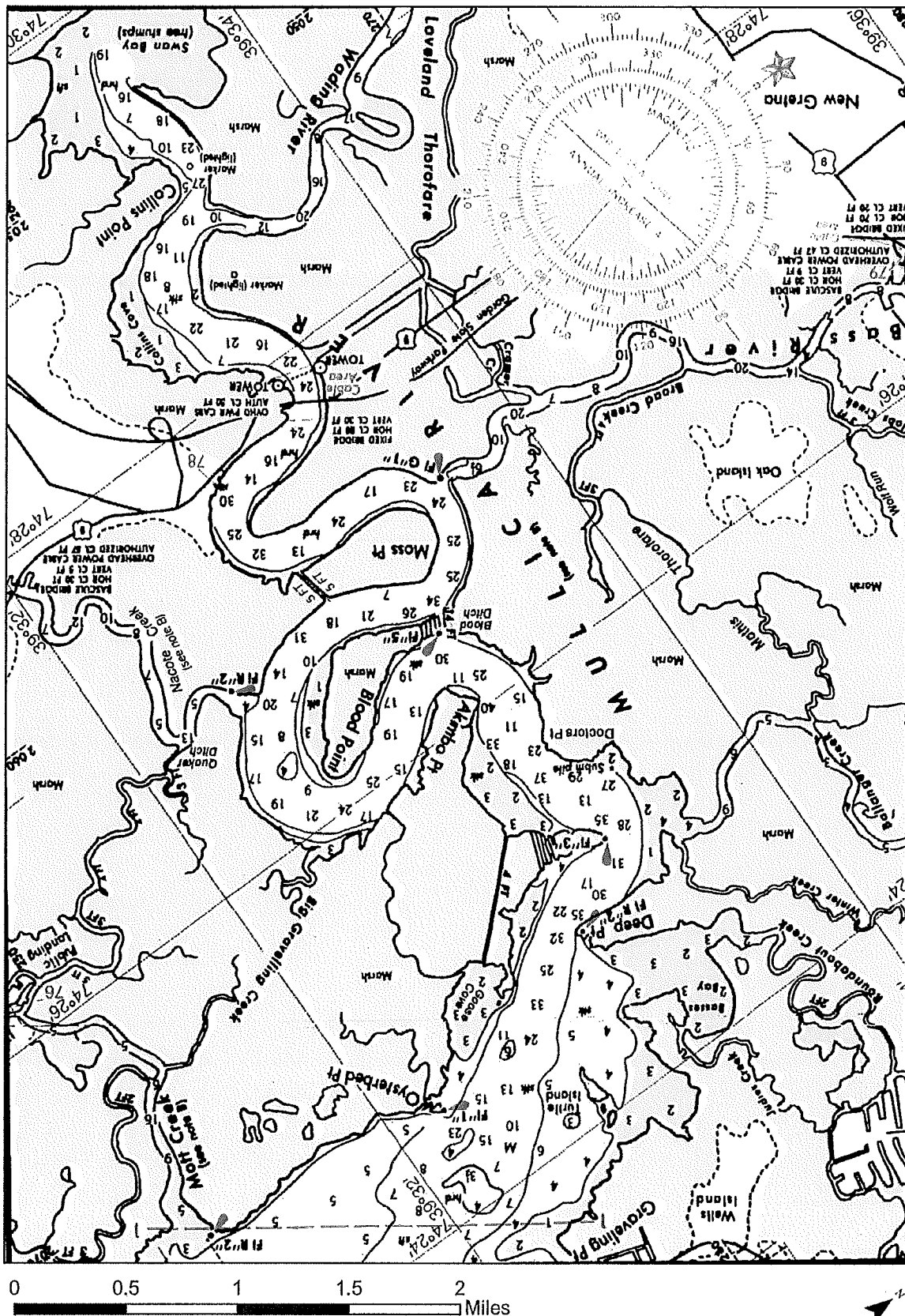
Ocean County Manahawkin Bay



Ocean County Little Egg Harbor

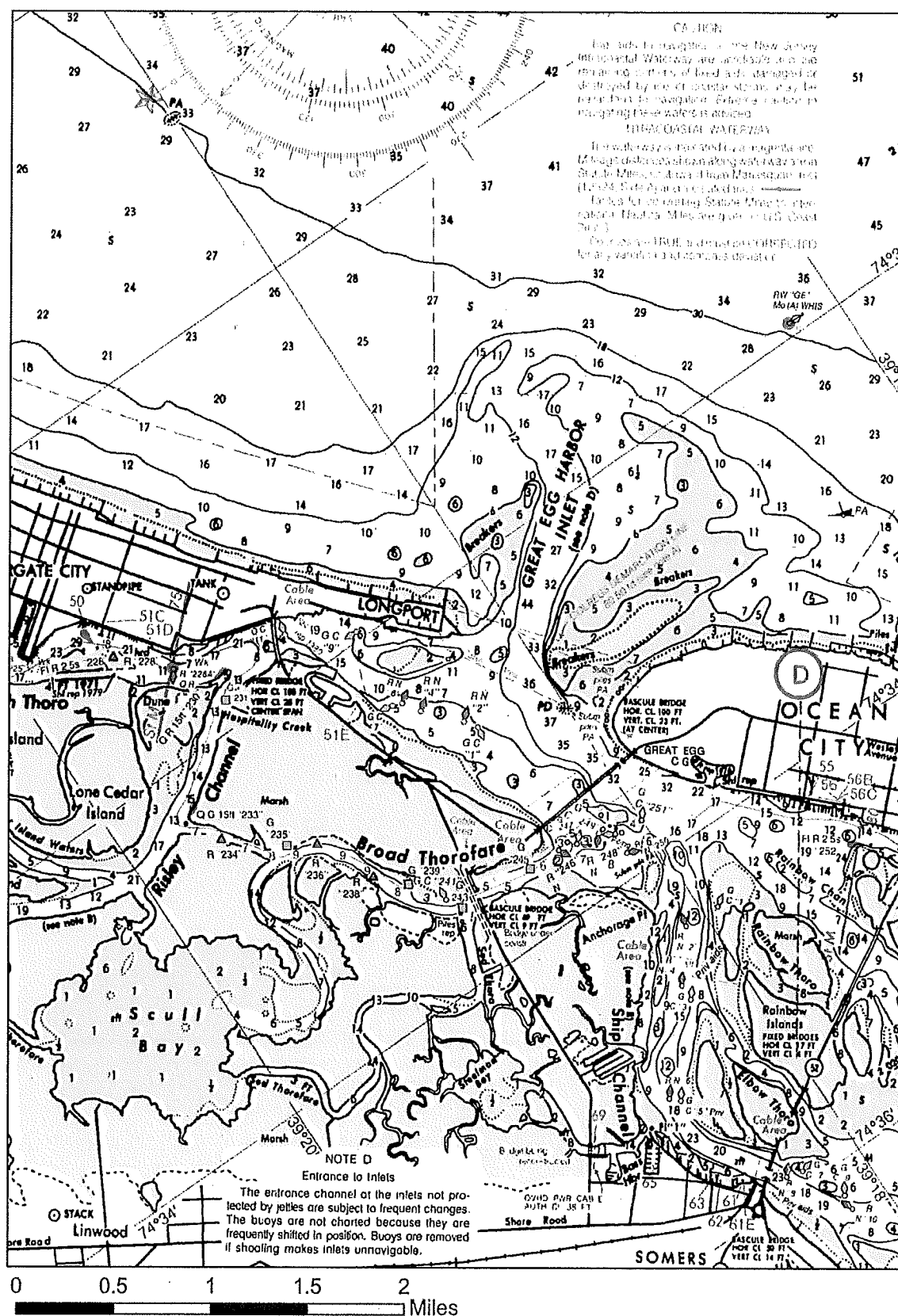


Burlington County Mullica River

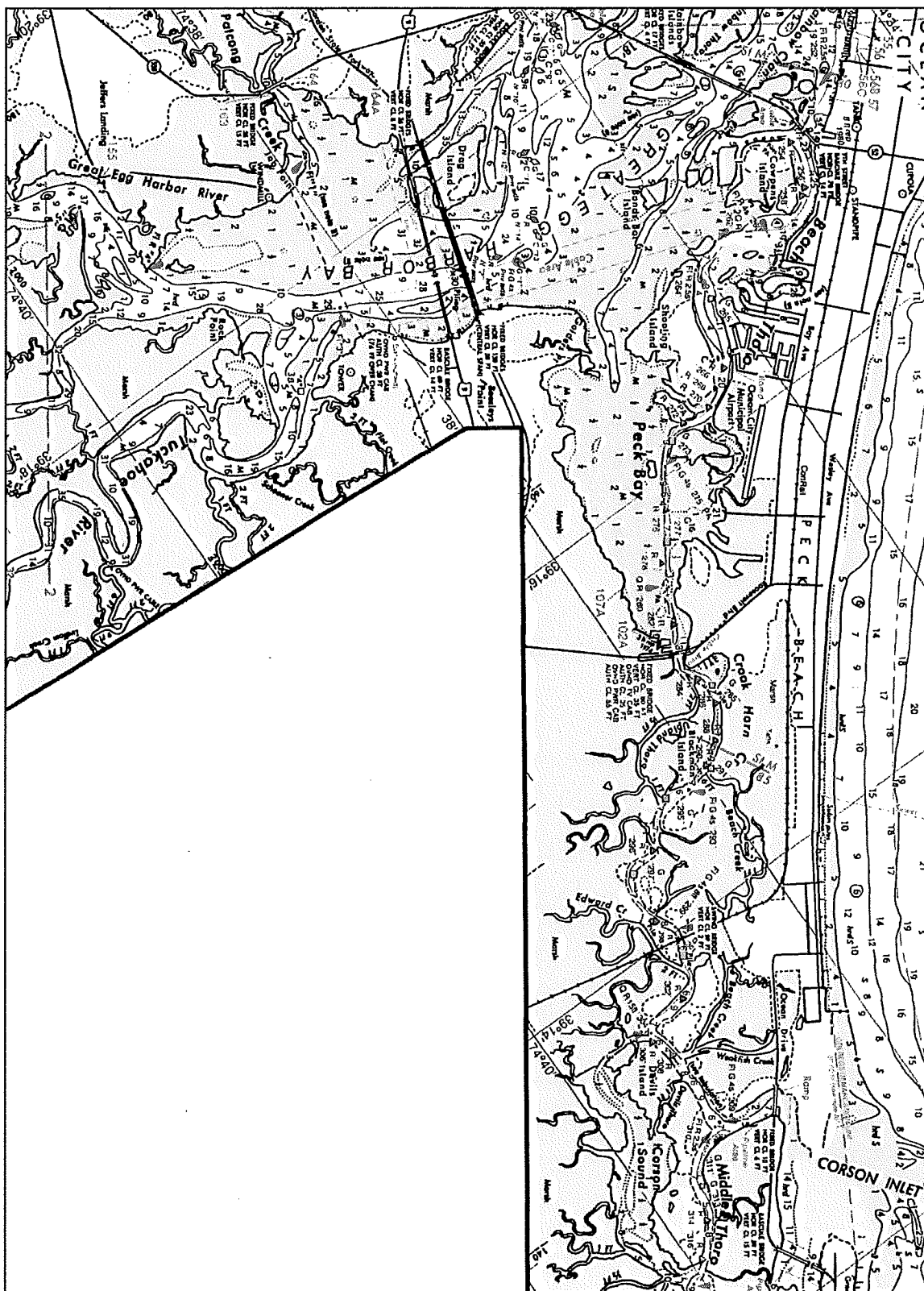




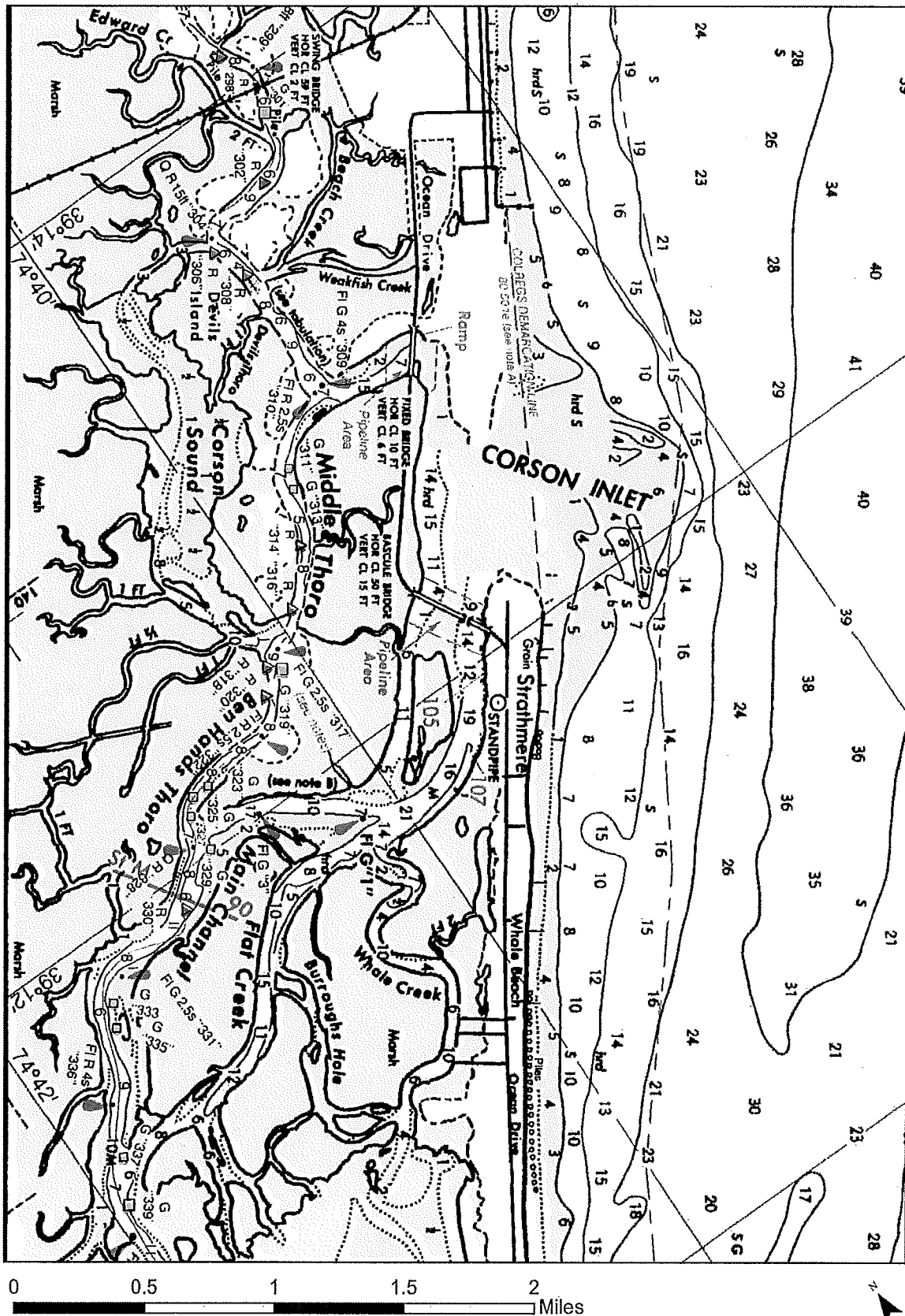
Atlantic County Great Egg Harbor Inlet



Northern Cape May County Great Egg Harbor to Corson Inlet



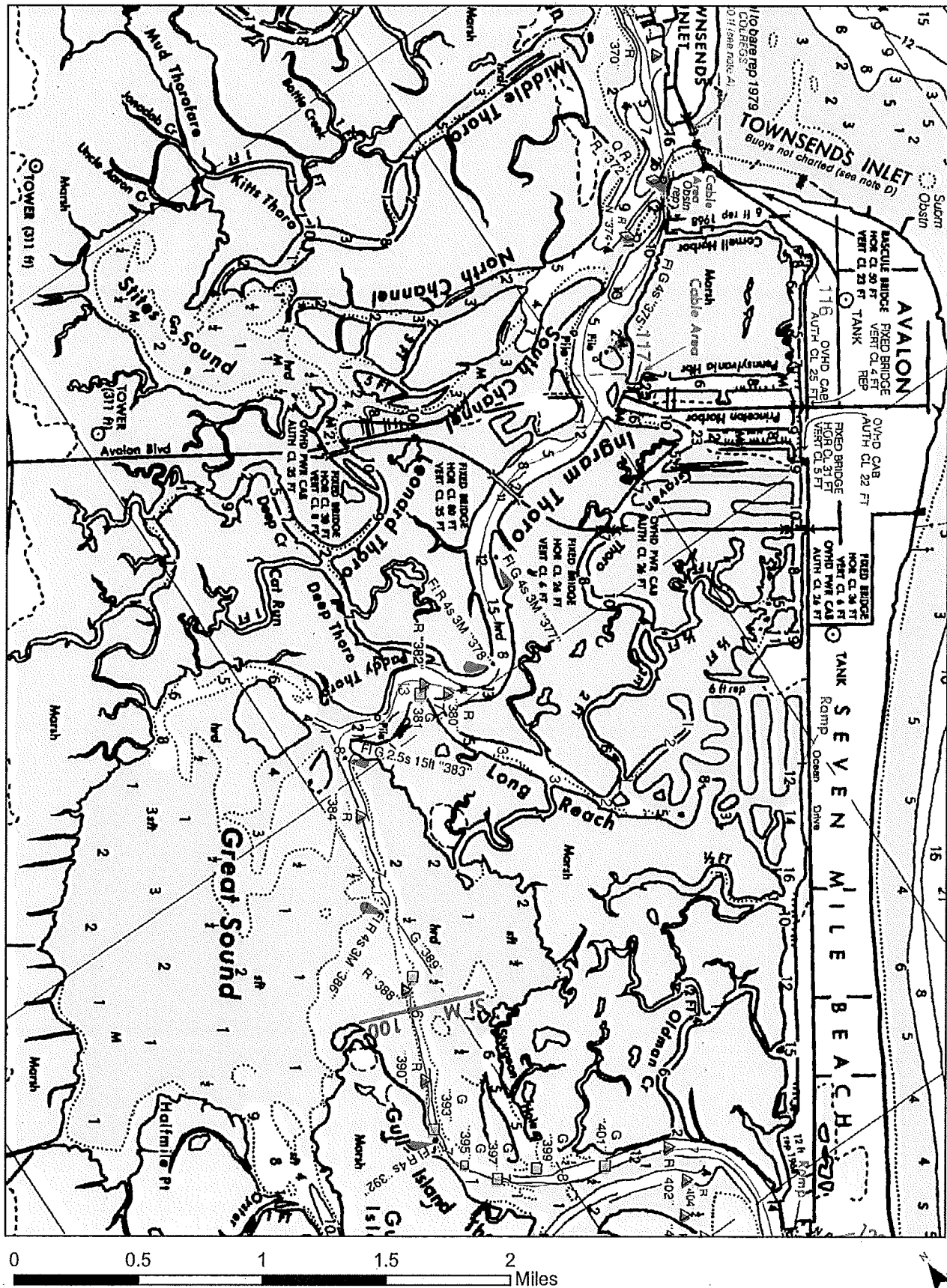
Central Cape May County Corson Inlet



Central Cape May County Ludlam Bay to Stites Sound



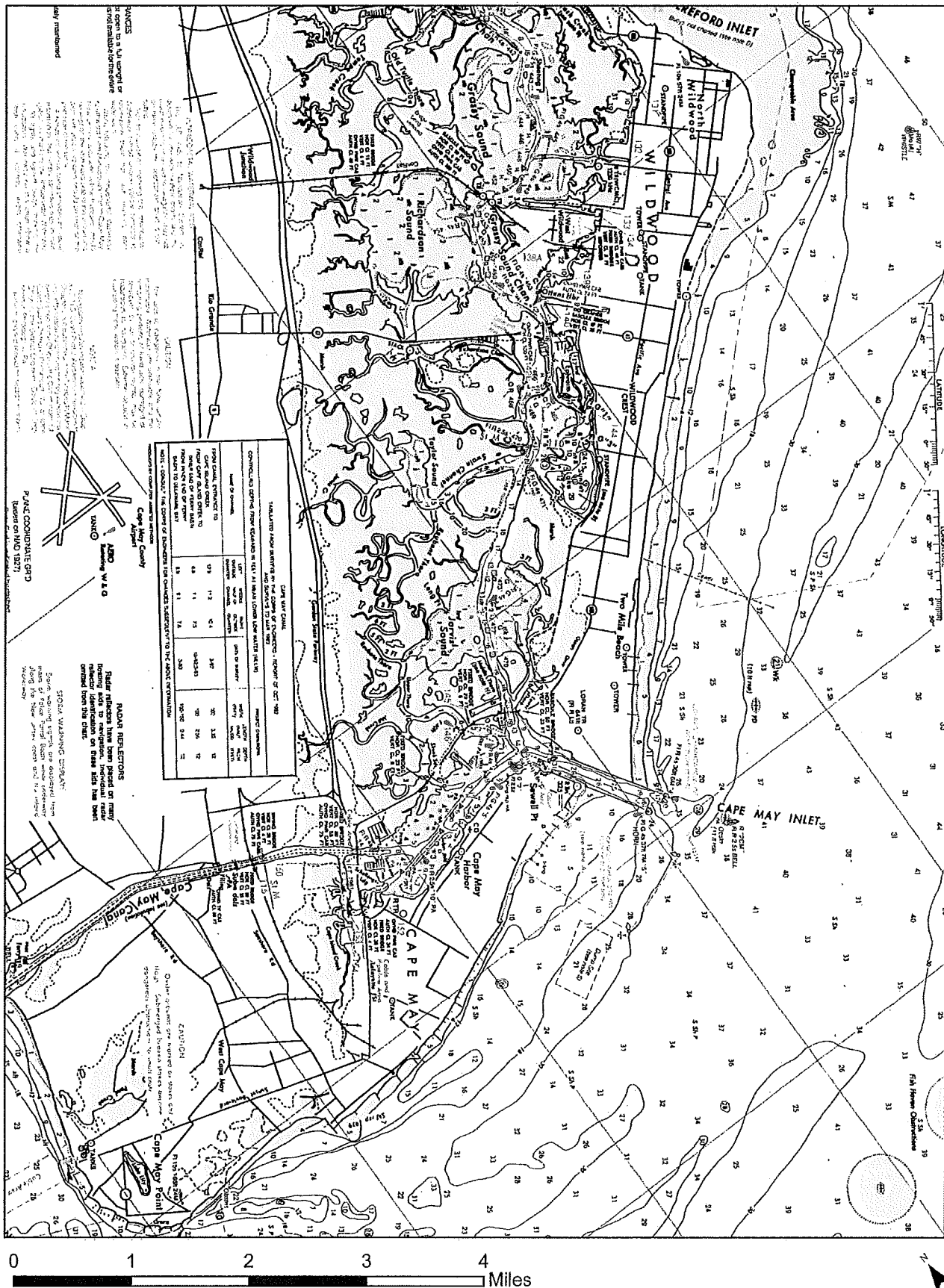
Central Cape May County Great Sound



Central Cape May County Jenkins Sound to Grassy Sound



Southeastern Cape May County Hereford Inlet to Cape May Harbor



Delaware Bay New Jersey Waters

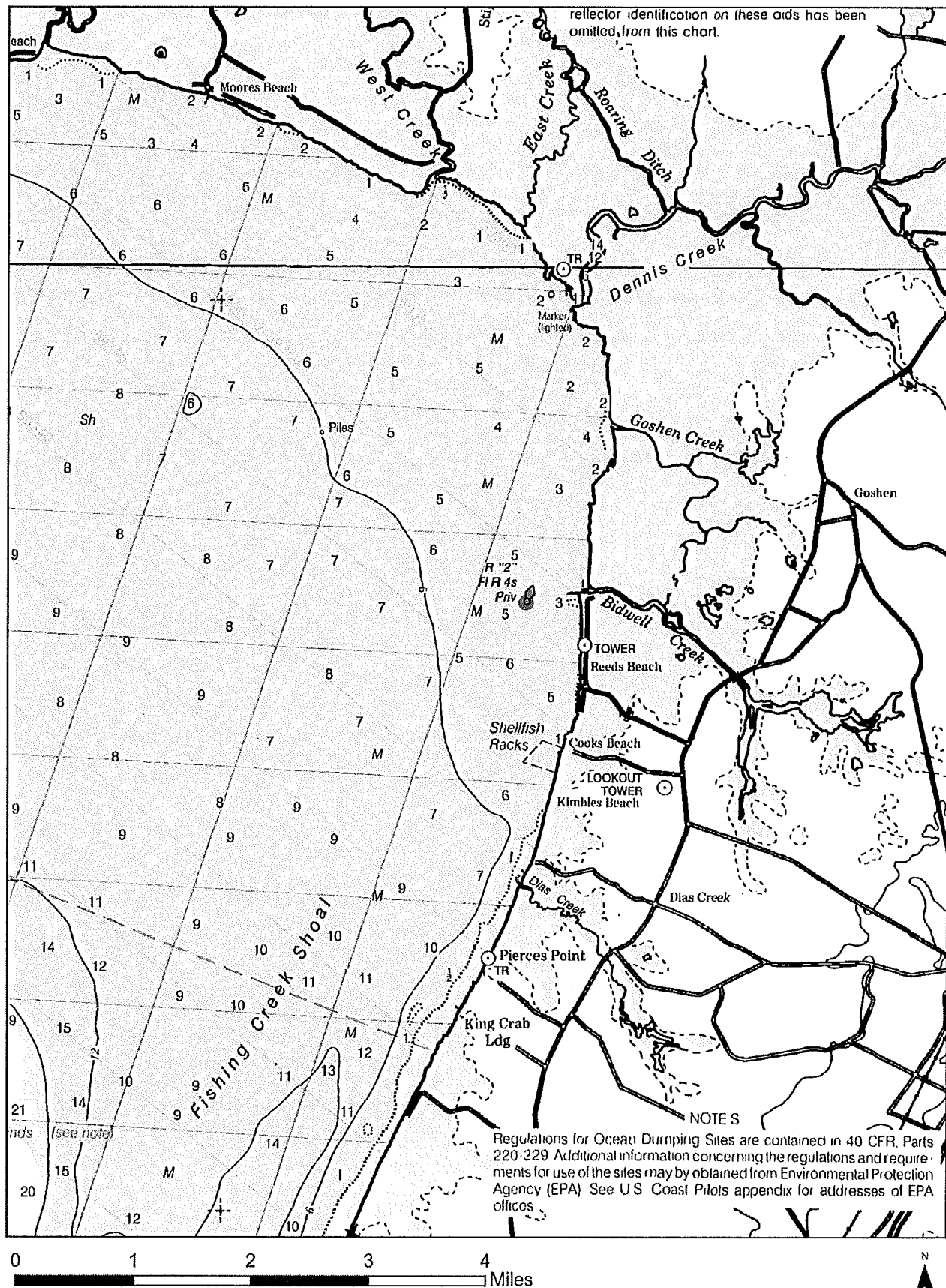


0 2.5 5 7.5 10 Miles





Northwestern Cape May County Delaware Bay

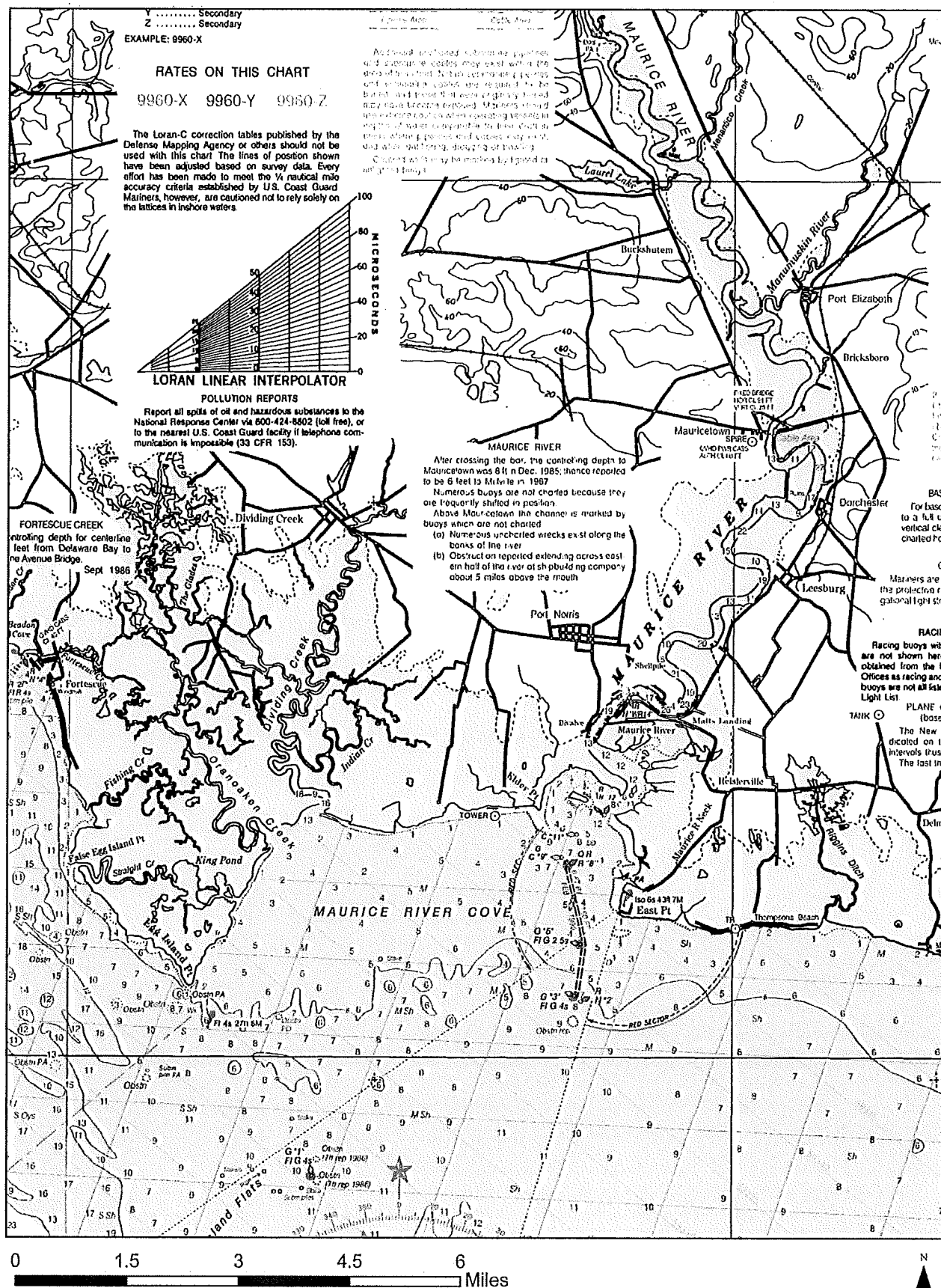


Cumberland County Delaware Bay, Maurice River Cove, & Joe Flogger Shoal



0 2 4 6 8 Miles

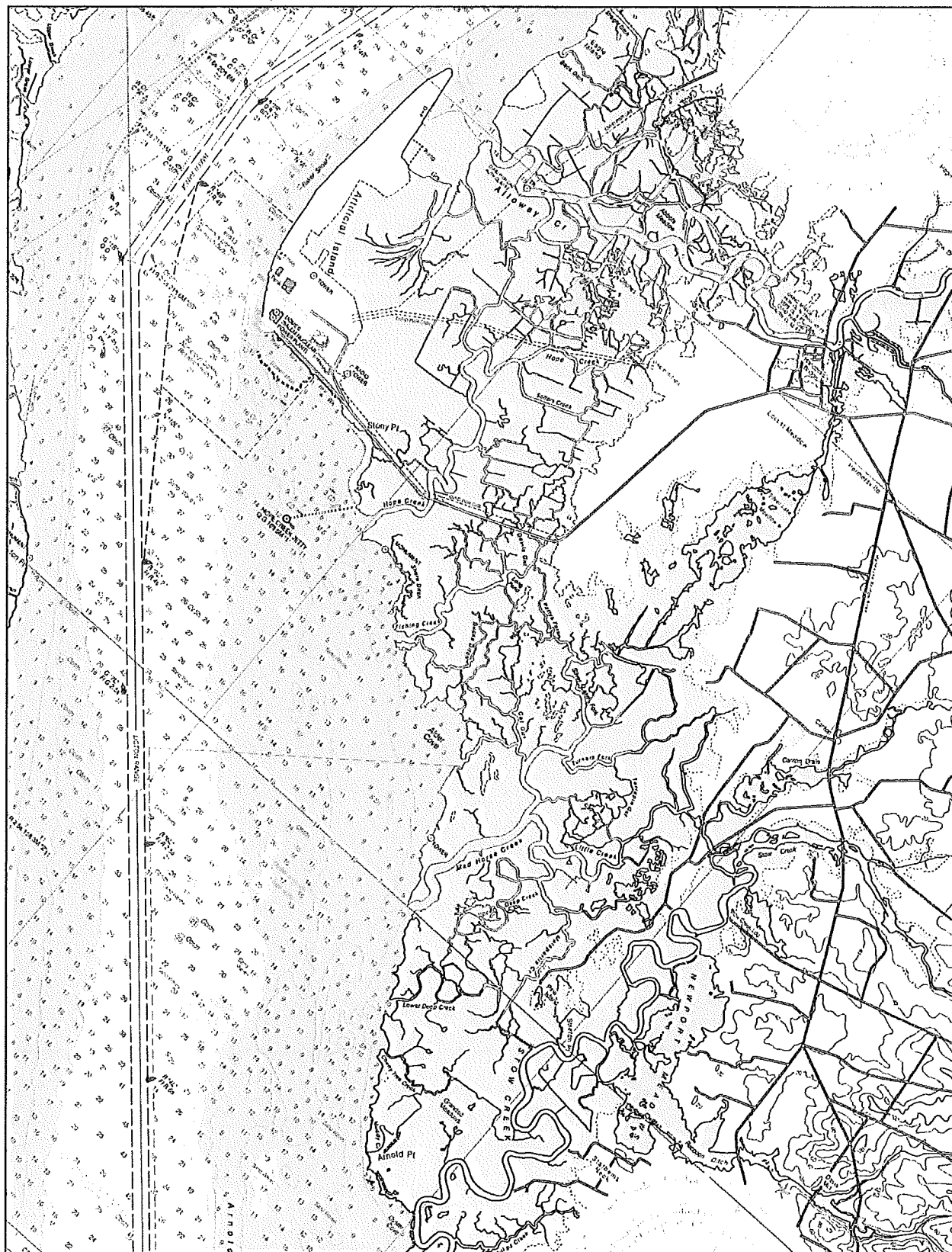
Cumberland County
Maurice River & Maurice River Cove



**Cumberland County
Delaware River & Cohansey River**



**Salem County
Delaware River, Newport Meadows, & Alloway Creek**



0 1 2 3 4 Miles



Sample Shellplanting Photos

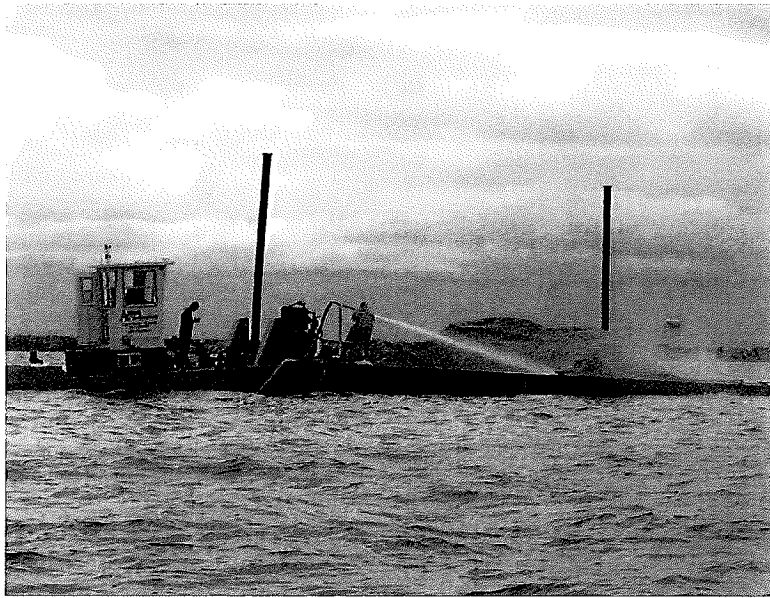


Figure 1. Shallow water tugboat and barge planting thin veneer of shell on Atlantic Coast oyster bed.

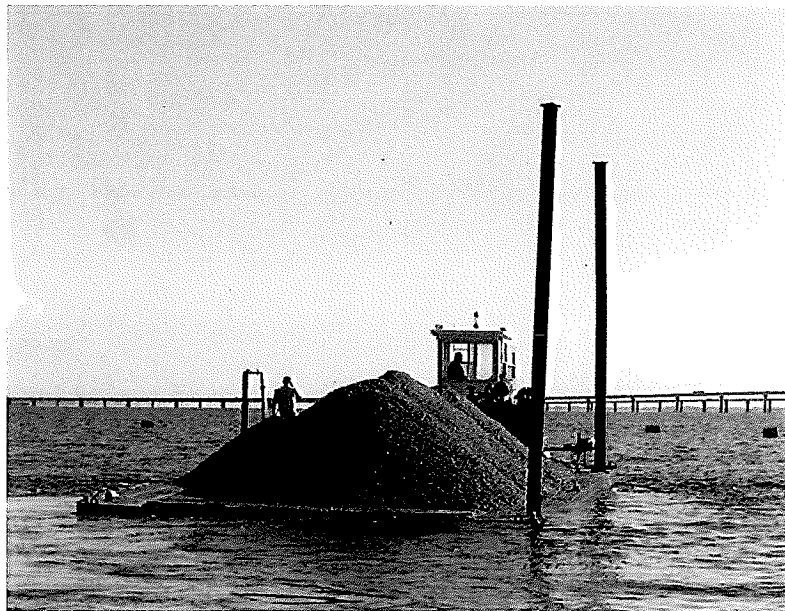


Figure 2. Shallow water tugboat and barge planting thin veneer of shell on Atlantic Coast oyster bed.

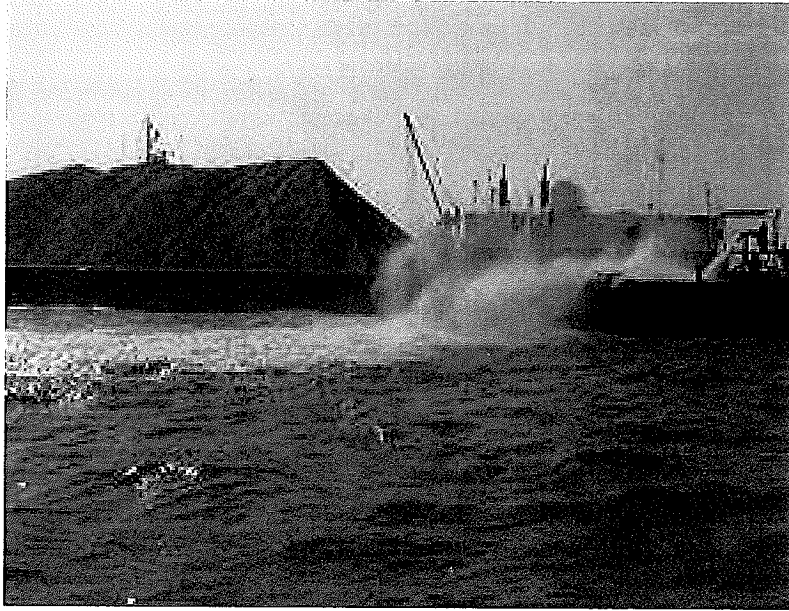
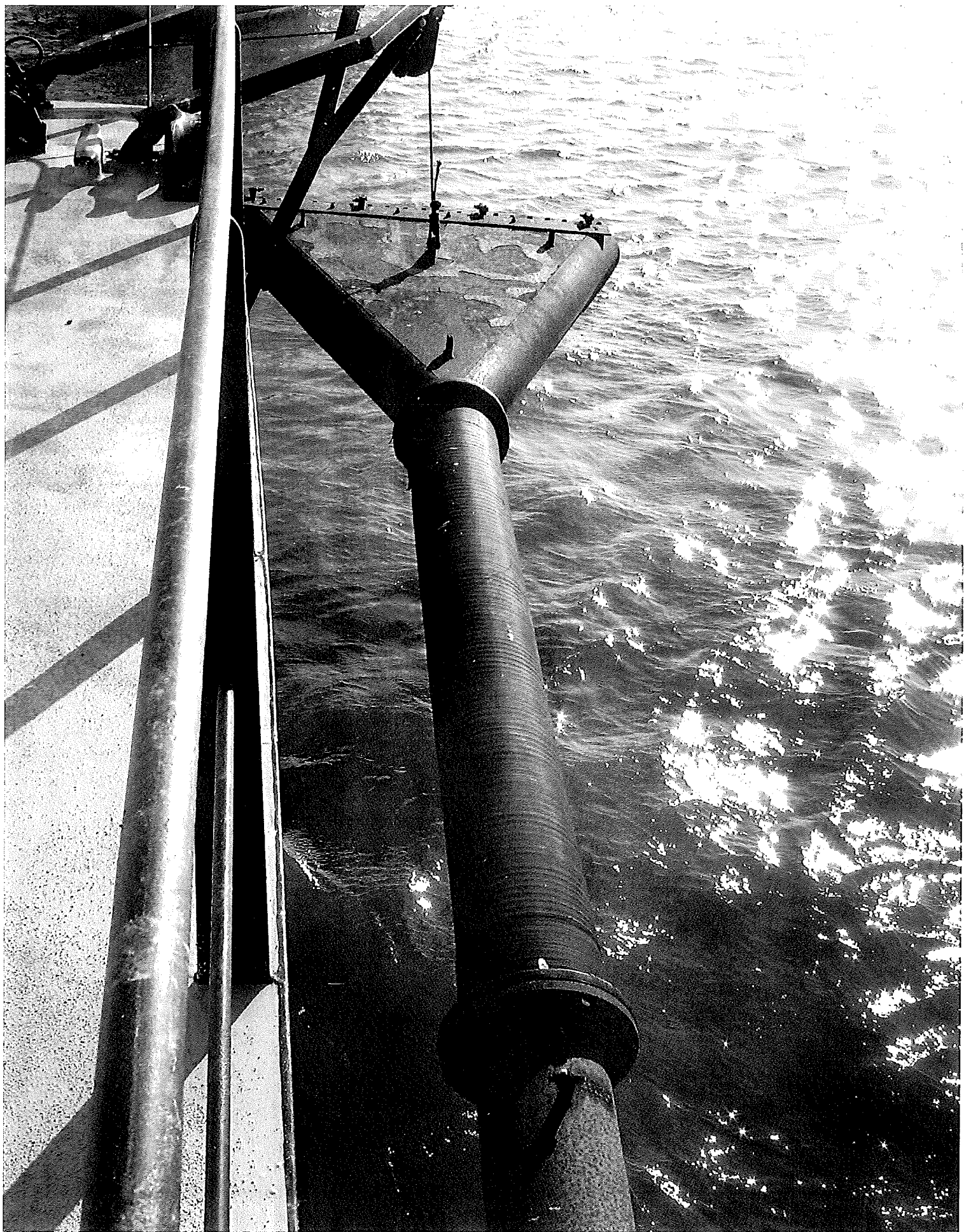


Figure 3. Ocean quahog shell being washed off a barge onto a delineated Delaware Bay enhancement reef. Bureau of Shellfisheries Image 2005.



Seedling the Future;

Promoting Oyster Restoration
Through Schools: Project PORTS

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