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Atlantic County
Bayfront Public Access Plan

Atlantic County BAYFRONT PUBLIC ACCESS PLAN

Prepared for:

Atlantic County
Department of Regional Planning
& Development
Atlantic City, New Jersey

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INTRODUCTION

The need for a Public Access Plan for the mainland communities of Atlantic County has become increasingly apparent as the population of the region has grown. According to the Atlantic County Open Space Plan, the County has a significant deficit in the amount of open space and recreational land.

The Forsythe National Wildlife Refuge (formerly the Brigantine National Wildlife Refuge) in Galloway Township covers almost 20,000 acres within the County, almost all of it within the study area. Recreational facilities within this refuge are limited. Due to increasing demand for bayfront access, the County has assigned a high priority to identifying new sites and facilities that may be located at existing access points to provide opportunities for fishing, boating, and water sports. Small private marinas and docks are found along the Mullica and The Great Egg Harbor Rivers, and Nacote and Absecon Creeks. There is a public launch site and bulkhead in Absecon at Faunce Landing Road, and a ramp and bulkhead in Kennedy Park in Somers Point. The need for increased public access throughout the study area is apparent.

With the advent of casino gambling in Atlantic City in the late 1970s, tourism's importance in the economy of Atlantic County has increased. Along with this employment growth, there has been an increase in the population. The following tables indicate that the population of the study area has increased at a much greater rate than employment. This would indicate that the back bay area is becoming increasingly residential as employment opportunities increase in the region.

As the study area becomes more residential, pressures on the existing open space system can be expected to increase. The Atlantic County Future Land Use Plan (1981) categorized the municipalities of the County as Urban Region, Growth Region, and Rural. Municipalities in all three of these categories are found within the study area and have different recreational needs. The study area and the municipalities within it are shown on Map 1 and are classified as follows:

Urban Region: Absecon
Pleasantville
Northfield
Linwood
Somers Point

Growth Region: Galloway Township

Rural: Egg Harbor Township (The portion within the study area only. The mainland portion of Egg Harbor Township is designated as a Growth Region.)
Galloway Township (The portion that is within the Forsythe National Wildlife Refuge.)
Port Republic

Within the Urban Region, development is expected to be infill to take advantage of the existing infrastructure. Within the Growth Region, development will take advantage of the large tracts of vacant developable land with existing access to Atlantic City. The Rural Region is expected to remain undeveloped within the study area.

These regions correspond to coastal development regions indicated in Section 7:7E-5.3 of the Rules on Coastal Resources and Development. Absecon, Pleasantville, Linwood, Northfield, and Somers Point lie within the Absecon-Somers Point Region. This is a Development Region, which promotes infill development consistent with the recreation and public access policies of the Rules on Coastal Resources and Development. Galloway Township and Port Republic lie within the Mullica-Southern Ocean Region, which is a Limited Growth Region. Due to the environmentally-sensitive nature of much of this area, infill development is encouraged. These policies and designations are consistent with those in the Atlantic County Future Land Use Plan.

These policies with respect to the location of Atlantic County's future growth highlight the need for a plan that will ensure that access to the recreational resources of the bay area is not lost. This document outlines the existing conditions and facilities, and present the policy for public access to the bay from the Mainland municipalities of the County.

The Bayfront Access Plan is presented in three sections following the Introduction. Section 1, Special Areas, identifies the Special Areas as defined in the Rules on Coastal Resources and Development (NJAC 7:7e-1.1 et seq., February 3, 1986), and identifies areas of erosion hazard.

Section 2, Land Use, reviews the general land use pattern of the study area by subareas and the current land use.

Section 3, Existing Conditions, includes a review of the applicable zoning districts of the study area municipalities. This section also includes an inventory of existing bayfront facilities and access points.

Section 4, The Plan, presents the issues and opportunities for bayfront access and outlines options for assuring continued public access to the bayfront area of Atlantic County.

POPULATION

<u>Municipality</u>	<u>1970</u>	<u>1980</u>	<u>1985</u>	<u>2010</u>
Absecon	6,094	6,859	7,282	11,291
Egg Harbor Twp.	9,885	19,383	21,385	40,978
Galloway	8,276	12,175	17,679	32,763
Linwood	6,159	6,144	6,288	9,622
Northfield	8,647	7,795	7,671	10,464
Pleasantville	14,007	13,435	14,404	15,030
Port Republic	586	837	890	1,344
Somers Point	7,919	10,330	10,476	18,130
Study Area Total	61,573	76,958	86,075	139,622
% of County	35.2%	39.7%	42.0%	50.8%
Atlantic County	175,043	194,114	205,124	274,855

EMPLOYMENT

<u>Municipality</u>	<u>1985</u>	<u>2010</u>
Absecon	1,994	2,709
Egg Harbor Twp.	7,871	12,677
Galloway	3,312	4,997
Linwood	2,884	4,261
Northfield	2,988	4,917
Pleasantville	6,379	9,537
Port Republic	155	247
Somers Point	3,746	6,108
Study Area Total	29,329	45,453
% of County	24.6%	26.6%
Atlantic County	119,370	170,612

Source: WRT/HSG Associates, July, 1987.



Section 1: Special Areas

A. Background and Significance

In developing the Public Access and Land Use Plan for Atlantic County, all Special Areas that are outlined in the New Jersey Department of Environmental Protection Rules on Coastal Resources and Development (NJAC 7:7E-1.1 et seq., February 3, 1986) have been identified.

The location and identification of these areas is necessary for reviewing development applications submitted to the New Jersey Department of Environmental Protection (DEP) under the Coastal Area Facility Review Act (CAFRA), NJSA 13:19-1 et seq. As well, these policies are used in reviewing applications for developments under the Wetlands Act, NJSA 13:9A-1 et seq., and the Waterfront Development Permit Program, NJSA 12:5-3. This helps to ensure consistency in the decision-making process at the state level regarding development applications for the New Jersey coastal zone.

For the County, the identification of these Special Areas will aid in the decision-making process with respect to new development and will highlight sites that may require special consideration or protection because of unique or sensitive environmental features. Recreation areas identified within this study will serve the developed municipalities of Atlantic County, while preserving the environment of the bayfront area.

The estuarine area is a critical element of the environment of Atlantic County. The northern and southern boundaries of the study area are defined by major rivers: the Mullica to the north and the Great Egg Harbor to the south. These rivers, along with Absecon, Patcong, and Nacote Creeks supply the fresh water to the bay. The Forsythe National Wildlife Refuge occupies much of the northern section of the study area. The part of this large federally administered area that lies within the study area was previously known as the Brigantine National Wildlife Refuge, but was renamed when the Brigantine and Barnegat National Wildlife Refuges were combined.

The purpose of this plan is consistent with the policies guiding coastal development that are outlined in the Rules on Coastal Resources and Development, Section 7:7E-1.5(b). These are:

1. Protect and enhance the coastal ecosystem.
2. Concentrate rather than disperse the pattern of coastal residential, commercial, industrial, and resort development and encourage the preservation of open space.

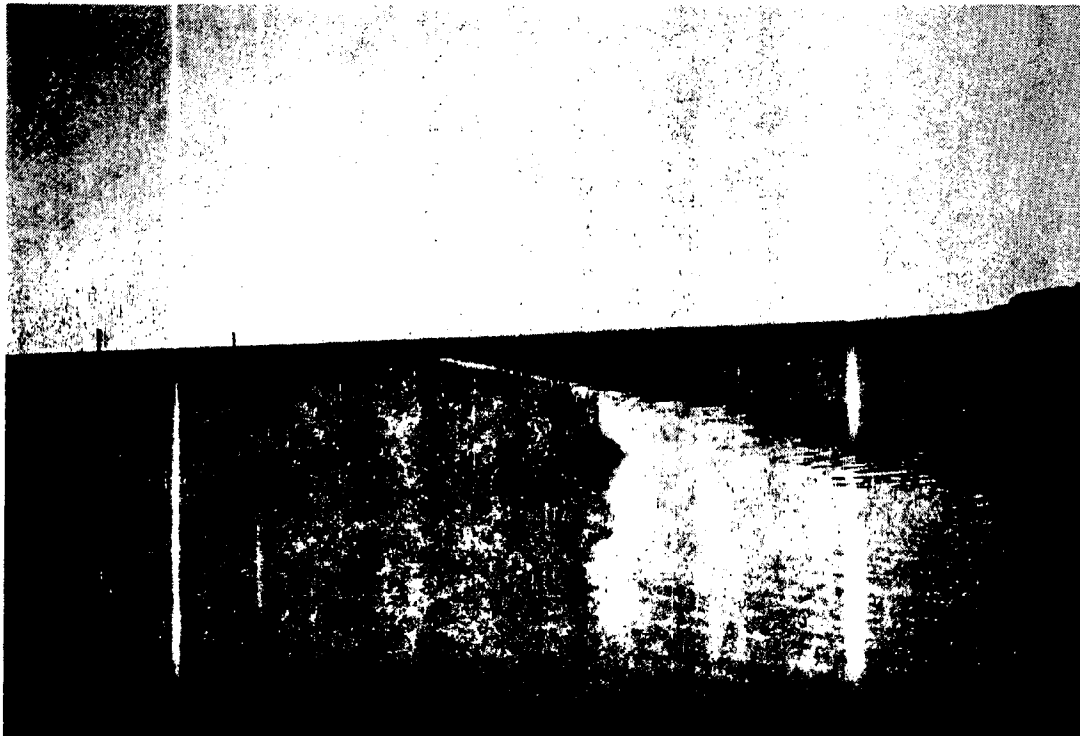
3. Employ a method for decision-making which allows each coastal location to be evaluated in terms of both the advantages and the disadvantages that it offers for development.

4. Protect the health, safety, and welfare of the people who reside, work, and visit in the coastal zone.

5. Promote public access to the waterfront through linear walkways and at least one waterfront park in each waterfront municipality.

6. Maintain active port and industrial facilities and provide for necessary expansion in adjacent sites.

7. Encourage residential, commercial, and recreational mixed-use redevelopment of the developed waterfront.



B. Special Areas in Atlantic County

The 44 Special Areas and specific comments relating to them are presented below. Those that are found within the study area are indicated by an asterisk and are included on the appended Special Areas map (Map 2). The definitions and policies relating to these areas are listed in the Rules on Coastal Resources and Development, Sections 7:7E-3.1 to 7:7E-3.45 inclusive.

* 1. Shellfish Beds (7:7E-3.2): All bay waters (exclusive of the Brigantine Channel and Absecon Inlet to their intersections with the Intracoastal Waterway) within the study area south of Great Thorofare (including Little Bay) have been identified as High Value Commercial Hard Clam (Mercenaria mercenaria) areas.

Waters within Great Bay north of Great Thorofare within the study area are classified as Moderate Value Commercial and Recreational Value Hard Clam Areas. There is an area of High Value Commercial at the mouth of the Mullica River.

The banks of the Mullica River and Nacote Creek up to Route 9, Mott Creek, Oyster Creek, Quaker Ditch, Landing Creek, Broad Creek, and Main Marsh Creek have been identified as Oyster seed production areas.

This information was provided by NJDEP Nacote Creek Shellfish Office and is based on a 1963 survey. The inventory is currently being updated through a Shellfish Inventory Program. The new data have corresponded to the 1963 survey.

2. Surf Clam Areas (7:7E-3.3): The NJDEP Nacote Creek Shellfish Office has indicated that there are no Surf Clam Areas within the study area.

3. Prime Fishing Areas (7:7E-3.4): When contacted, the NJDEP Division of Fish, Game, and Wildlife was not able to provide any information on the location of these areas. Prime Fishing Areas delineated in Sections III and IV of Freemann and Walford's "Angler's Guide to the United States Atlantic Coast Fish, Fishing Grounds, and Fishing Facilities", 1974, can be found in Appendix 4.

* 4. Finfish Migratory Pathways (7:7E-3.5): The Mullica River, Great Egg Harbor, River, and Absecon Creek are Finfish Migratory Pathways according to the New Jersey Anadromous Fish Inventory provided by the NJDEP Division of Fish, Game, and Wildlife.

* 5. Submerged Vegetation (7:7E-3.6): Areas of submerged vegetation have been transferred from the the New Jersey Submerged Aquatic Vegetation Distribution maps provided by Earth Satellite Corporation for the NJDEP. These maps were produced in

1979 at a scale of 1:24,000. The dominant species in the study area is Ulva lactata.

* 6. Navigation Channels (7:7E-3.7): All bouyed channels have been indicated as navigation channels. These include the Intracoastal Waterway, Oyster Creek Channel in Great Bay, Absecon Creek, and Lakes Bay. Information is from NOAA Chart 12316 (22nd Edition, 4 May 1985) and the USGS topographic series for the study area.

7. Canals (7:7E-3.8): There are none in the study area.

* 8. Inlets (7:7E-3.9): Brigantine, Absecon, and Great Egg Harbor Inlets are just outside the study area, but are indicated on the Special Areas map. Absecon Inlet is the only inlet stabilized by jetties.

* 9. Marina Moorings (7:7E-3.10): The marina and boat launch ramp facilities within the study area are primarily associated with the Intracoastal Waterway. The majority of the marinas are found along Ship Channel in Somers Point. Information is from NOAA Chart 12316, the USGS topographic series for the study area, aerial photographs, and field surveys.

10. Ports (7:7E-3.11): There are none in the study area.

* 11. Submerged Infrastructure Routes (7:7E-3.12): All underwater cable and pipeline routes indicated on NOAA Chart 12316 and the USGS topographic series for the area provide service from the mainland to the barrier islands. Most of the cable and pipeline crossings can be found between Absecon Island (Atlantic City, Ventnor, etc.) and the mainland or bay islands across the Intracoastal Waterway. With the exception of pipeline crossings between Brigantine and Absecon Islands near Brigantine Boulevard, between Great Island and Bader Field, between Bader Field and Absecon Island, and between Shelter Island and Ventnor, all Submerged Infrastructure Crossings are underwater cables. Many of the crossings lie in the rights-of-way of the highway and causeway routes to Absecon Island.

* 12. Shipwrecks and Artificial Reefs (7:7E-3.13): The shipwrecks indicated on NOAA Chart 12316 and the USGS topographic series for the area are found near navigable channels. Most of the shipwrecks are in the waterway areas south of Absecon Channel.

* 13. Wet Borrow Pits (7:7E-3.14): The Atlantic County Soil Survey (April 1978) shows just one Wet Borrow Pit in the study area located east of Oyster Creek Road near the Forsythe National Wildlife Refuge dike.

* 14. Intertidal and Subtidal Shallows (7:7E-3.15): This designation typifies the bulk of the study area. The Special





* 24. Wetlands (7:7E-3.25): All Wetlands within the study area were determined using US Fish and Wildlife Wetlands Inventory maps, NJDEP Division of Coastal Resources maps, the Atlantic County Soil Survey, and the Atlantic County Land Use Inventory maps. These Wetland areas are shown on the appended Existing Land Use map (Map 3).

* 25. Wetlands Buffer (7:7E-3.26): All land within 300 feet of Wetlands as determined in Section 7:7E-3.25 is in the Wetlands Buffer.

26. Cranberry Bogs (7:7E-3.27): There are none in the study area.

* 27. Wet Borrow Pit Margin (7:7E-3.28): All land within 50 feet of the Wet Borrow Pit defined in Section 7:7E-3.14 is the Wet Borrow Pit Margin.

28. Coastal Bluffs (7:7E-3.29): There are none in the study area.

* 29. Intermittent Stream Corridors (7:7E-3.30): Intermittent Stream Corridors are found primarily in the northern portion of the study area. Many of the intermittent streams are associated with the 100-year floodplain defined in Section 7:7E-3.18 above. Information is from the Atlantic County Soil Survey.

* 30. Farmland Conservation Areas (7:7E-3.31): Atlantic County has not identified any Farmland Conservation Areas within the study area. All soils of Capability Classes I, II, and III have been mapped for the study area north of Absecon Boulevard. Land south of this road has already been developed or is dedicated to development, and does not have any potential for agricultural use.

31. Steep Slopes (7:7E-3.32): There are none in the study area.

* 32. Dry Borrow Pits (7:7E-3.33): According to the Atlantic County Soil Survey, all Dry Borrow Pits in the study area are found north of Absecon Boulevard in Galloway Township.

* 33. Historic and Archeological Resources (7:7E-3.34): The New Jersey Pinelands Comprehensive Management Plan (1980) indicates sites of Prehistoric Archeologic Resources in Galloway Township between Route 9 and the bay. Three sites are near the impoundment area in the Forsythe National Wildlife Refuge. Another is in the Main Marsh east of Oyster Creek. The remaining sites are along the Nacote Creek and in Port Republic near the Mullica River. There are three national or state register historical sites in the study area, two in Port Republic and one on Pullen Island in the Forsythe NWR. There is one potentially eligible site in Galloway Township

near Leeds Point. There are three unassigned sites within the Forsythe NWR. The Atlantic County Department of Regional Planning and Development has supplemented this list.

34. Specimen Trees (7:7E-3.35): There are none in the study area.

* 35. Endangered or Threatened Wildlife or Vegetation Species Habitats (7:7E-3.36): Information regarding rare and endangered species is included as Appendix 3.

36. Critical Wildlife Habitats (7:7E-3.37): There are no known Critical Wildlife Habitats in the study area.

* 37. Public Open Space (7:7E-3.38): The publicly-owned parcels according to the Atlantic County tax maps indicate areas where public access currently exists and areas where public access may be provided.

* 38. Special Hazard Areas (7:7E-3.39): Bader Field (Atlantic City Airport) is the only known Special Hazard Area in the study area. This finding was confirmed by the Atlantic County Department of Regional Planning and Development. Underground storage tanks are also included in this Special Area. The Division of Water Resources keeps an alphabetical list of these 80,000 areas within the state. This list is not indexed for counties or municipalities. On-site inspection of specific development proposals would be required.

* 39. Excluded Federal Lands (7:7E-3.40): The area included within the Forsythe National Wildlife Refuge forms the largest publicly-held parcel in the study area. Approximately 19,800 acres of this 34,000-acre refuge lie within Atlantic County, primarily in Galloway Township. Public facilities provided in the refuge include an 8 mile wildlife drive along the dike, two half-mile walking trails, and a public boat launch at Scotts Landing on Landing Creek. The refuge is a large waterfowl nesting area and an outstanding example of an undisturbed tidal marsh complex.

* 40. Special Urban Areas (7:7E-3.41): Atlantic City was a designated Urban Aid Municipality by the State for Fiscal Year 1987, and therefore qualifies as a Special Urban Area.

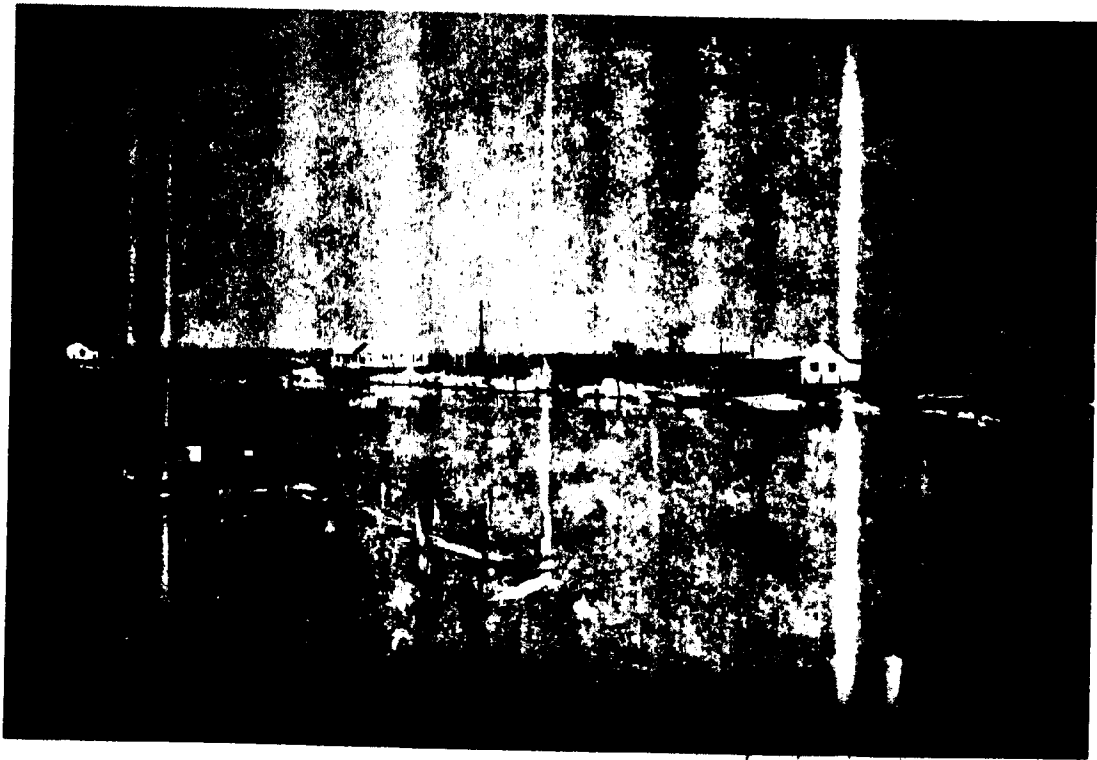
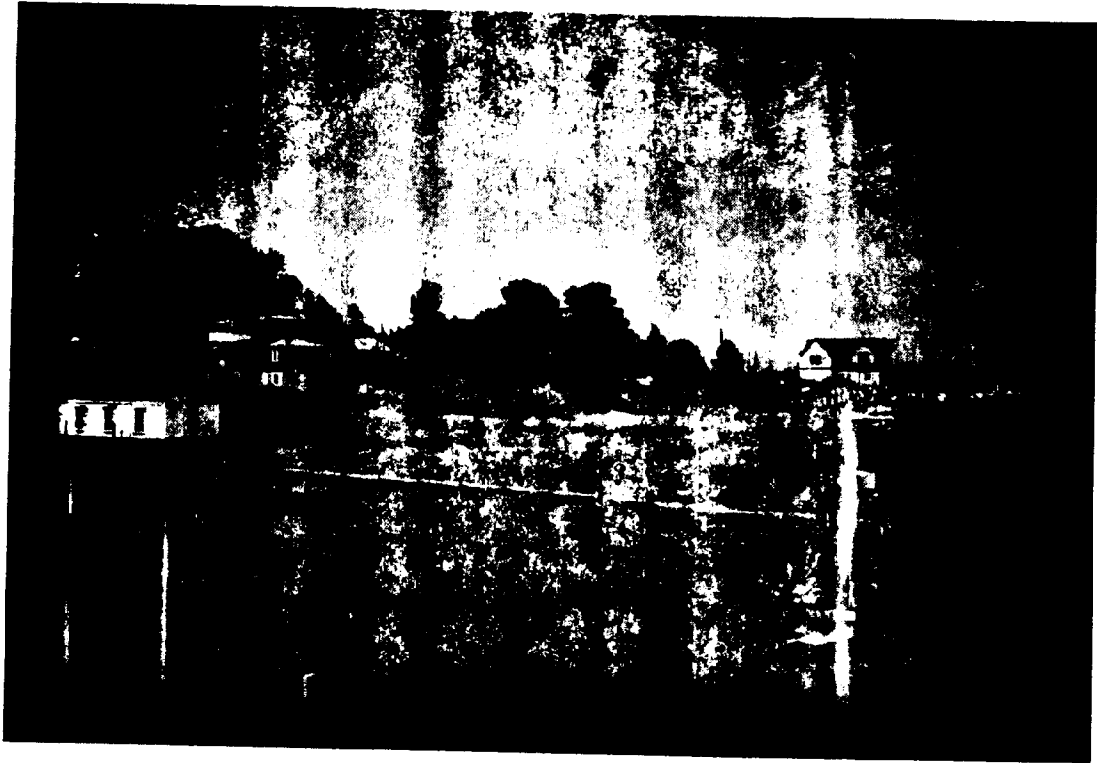
* 41. Pinelands National Reserve and Pinelands Protection Area (7:7E-3.42): None of the study area lies within the Pinelands Protection Area and is not, therefore, regulated by the Pinelands Protection Act. A portion of the study area lies within the Pinelands National Reserve according to Figure 8 of the Rules on Coastal Resources and Development (page 87).

42. Hackensack Meadowlands District (7:7E-3.43): This district does not lie within the study area.

* 43. Wild and Scenic River Corridors (7:7E-3.44): While not officially designated as Wild and Scenic Rivers, the Mullica River and Great Egg Harbor River have been proposed for designation.

* 44. Geodetic Control Reference Marks (7:7E-3.45): These include all the permanent benchmarks shown on the USGS topographic series for the study area.

The data sources used in the identification of the Special Areas for the Atlantic County Bayfront Public Access Plan include those listed in the Rules on Coastal Resources and Development (pp.222-225), as well as other sources provided by Atlantic County as noted above.



Section 2: Land Use

A. Generalized Pattern

The Atlantic County Bayfront Public Access Plan study area includes the bay area between the Mullica River and the Great Egg Harbor River. The western border of the study area is defined by Shore Road (Rte. 585) and US Route 9 from the Great Egg Harbor River in Somers Point (including Drag Island) in the south to the Mullica River in Port Republic in the north. The study area extends across the bay, with the eastern border formed by the Intracoastal Waterway.

The natural features of the study area can be characterized as a narrow band of upland along the mainland averaging 500 feet to 1.9 miles wide. To the east beyond this mainland edge lies the inner bay area comprised of salt marsh (dominated by Spartina spp.) interlaced by creeks, thorofares, coves, and numerous bays. To the east of the bay area are the barrier islands of Pullen, Brigantine, and Absecon Islands. Except for small areas of Atlantic City and Ventnor City (both are on Absecon Island), the barrier islands lie outside of the study area.

There are eight mainland municipalities in the study area: Port Republic, Galloway Township, Absecon, Pleasantville, Northfield, Linwood, Somers Point, and Egg Harbor Township.

The natural features and land uses vary considerably in each municipality. However, certain characteristics are similar enough to categorize the study area into three "subareas" designated north, southwest, and southeast. Each subarea is defined by municipal boundaries.

The north subarea includes Port Republic and Galloway Township and extends across the entire width of the study area. The physical features include the Mullica River and a large contiguous area of tidal marsh which lies almost completely within the Forsythe National Wildlife Refuge. A large water impoundment and dike system within the refuge is surrounded by Great Neck Road and provides approximately eight miles of public access roadway through the wetland marsh, as well as access to Perch Cove, Turtle Cove, and Grassy Bay.

Three creeks within the north subarea provide public access to the bay; all have facilities for launching small boats. Nacote Creek flows north into the Mullica River which then flows into Great Bay. Mott Creek and Oyster Creek both flow directly into Great Bay.

The upland area along Route 9 in the north subarea broadens into a peninsula-like landform bounded by Leeds Point and Oyster Creek Roads. This mainland triangle extends almost two miles eastward into the bay from Smithville. This upland area is typically wooded by an oak-pine forest, characteristic of this part

of southern New Jersey. Except for the residential and commercial village at Smithville, other development in the northern subarea occurs in scattered residential pockets adjacent to small agricultural fields. Overall, this subarea has a rural character.

The municipalities that form the second subarea, the southwest subarea, include Absecon, Pleasantville, Northfield, Linwood, Egg Harbor Township, and Somers Point. The upland area between Shore Road and the bay is narrower in this subarea than in the north subarea, ranging from 500 to 2000 feet wide. The area covered by tidal marsh is also smaller than in the north subarea.

Public access for small boats to the bay area is provided at Absecon Creek which extends from Shore Road to Absecon Bay. Pleasantville and West Atlantic City (Egg Harbor Township) front on Lakes Bay. Access to this bay is provided from the beach area between the bay and the commercial establishments along Verona Avenue (US 40) and from the marina area in Pleasantville. An existing channel is presently being dredged in Lakes Bay along the route of the previous channel. In Somers Point, Great Egg Harbor Bay and Ship Channel provide direct boat access to the bay area.

The dominant land use pattern in this subarea is moderately dense residential development along Shore Road, broken by small pockets of commercial uses and golf courses. Residential roads typically run perpendicular to Shore Road, dead-ending at the wetland edge. These dead-ends often provide expansive views across the marshes and are potential access points to the bay area.

A number of roads cross the bay, providing public access to parts of the bay and to the marshes, as well as to Atlantic City and the barrier islands. Many of these roads have similar land uses and character. Absecon Boulevard (US 30) Margate-Northfield Road (Rte. 563), and Longport Boulevard (Rte. 152) all have small pockets of commercial development (typically marina-related uses) and areas of vacant land adjacent to the road. These vacant areas are often used as undeveloped boat launch and parking areas. The Atlantic City Expressway and Pennsylvania Reading Seashore Railway also cross the bay, but there is little development along them because of the lack of access.

The third subarea, the southeast subarea, includes the tidal marshes of Egg Harbor Township, as well as the developed sections of Atlantic City and Ventnor City that front on the backbay. Neither Atlantic City nor Ventnor are part of the mainland bay area, but the backbay portions of those cities are included in this description.

With the exception of some small commercially developed parcels fronting on Longport and Margate-Northfield Boulevards, most of

Egg Harbor Township consists of undeveloped wetlands and islands.

The portions of Ventnor City and Atlantic City within the study area are separated from Absecon Island (the main barrier island) by the Intracoastal Waterway. There are two residential developments in this area, Ventnor Heights and Chelsea Heights. They are separated by an undeveloped wetland area. The bayside portion of this undeveloped wetland provides access to the bay. Non-residential land uses in this area include Bader Field municipal airport, a shopping center, and recreation areas.

B. Land Use

The Existing Land Use Map is derived from the Atlantic County Land Use Plan and has been updated through field investigation and 1986 aerial photographs. Existing land uses have been generalized into 12 categories:

- Residential: single-family and multi-family dwellings, apartments, and mobile homes
- Commercial: tourist-related uses (hotel, resort, etc.), commercial services, retail, wholesale, and general business offices
- Institutional: educational, religious, and governmental uses
- Industrial: manufacturing, warehousing, etc.
- Transportation and Utilities: roadways, railways, airports, utilities infrastructure, and storage
- Recreational Areas: public and private parks, campgrounds, golf courses, marinas, etc.
- Vacant Land: undeveloped filled land
- Agricultural Land: cropland, pastures, orchards, etc.
- Old Field: harvested forest in successional stages
- Quarries/Mines: inactive but unreclaimed mines or borrow pits
- Forest: typically oak-pine forests
- Wetlands: areas defined by the US Fish and Wildlife Wetlands Inventory and NJDEP Division of Coastal Resources including tidal, freshwater, and forested wetlands

C. Development Proposals

There were few large development proposals identified as being planned within the study area. Those that were identified include:

Egg Harbor Township

- * A 190 dwelling unit development adjacent to Bass Harbor
- * A possible aquarium at the spoil site adjacent to Broad Thorofare.
- * A housing development near the site of the Dunes Motel on Longport Boulevard.
- * A houseboat marina with 100+ spaces near the existing lagoon housing development on Longport Boulevard.
- * An additional 24 dwelling units at Seaview Harbor.
- * Further resort development along Verona Avenue in West Atlantic City.
- * A marine amphitheater at the east end of West Atlantic City.

Pleasantville

- * The "Gateway Site" on the spoil area adjacent to the Atlantic City Expressway. Proposals include up to 4,400 dwelling units a hotel, bus parking, and theaters.
- * The Pleasantville Yacht Basin, a mixed-use development proposal including a marina, housing, and marine commercial uses.

Galloway Township

- * A 301 unit planned unit development on Reeds Bay near the Seaview Country Club on Route 9.
- * Expanded restaurant and marina facilities at Mott Creek.

Absecon

- * The Atrium Hotel on Route 30.

Somers Point

- * A Comfort Inn at Maryland and Bay Avenues.
- * The Gateway Theater, to be relocated to an area near the Ocean City/Somers Point Bridge.

Section 3: Existing Conditions for Bayfront Access

A. Existing Facilities, Open Space, and Access

The southern portion of the study area includes some of the most urbanized and developed communities of Atlantic County. This area, south of Absecon Boulevard, includes Pleasantville, Northfield, Linwood, and Somers Point. Residential land uses predominate, with water-related activities such as marinas and boatyards concentrated along the waterfront in Somers Point. Somers Point is also the location of recent waterfront residential development. Within these developments, there is the potential for public access using either publicly-rented boat slips, or via pedestrian easements along the water's edge.

These sites are indicated on the following Existing Facilities and Access map (Map 4).

SOUTHERN PORTION

Somers Point

Site 1, Kennedy Park, is located along the southern waterfront of Somers Point away from the most developed area of the city. Park facilities include a ramp (used for windsurfers since trailer parking is prohibited), a parking lot, playground, picnic tables, and benches along the bulkhead. The park is well maintained and provides for both passive and active use.

Site 2 is City Beach, the only developed beach area in the bay area. The beach occupies a small lot on the developed waterfront of the city, between marinas and boatyards.

Site 3 consists of the extensive marina and boatyard facilities between the Ocean City and Longport causeways. According to the NOAA Intracoastal Waterway Chart, there are 12 marina and boatyard operations along this portion of the Somers Point waterfront. Facilities include 3 ramps, 6 lifts with capacities between 2.5 and 30 tons, and supplies and fuel. Five of these marinas have facilities for transients (that is, berths or moorings for short-term stays). Associated with two of these marinas are waterfront residential developments.

Egg Harbor Township

Site 4 is the public bulkhead at Anchorage Point, located along Longport Boulevard.

Site 5 consists of a boat ramp at the Broad Thorofare crossing of Longport Boulevard. This bridge crossing is presently being replaced. Like all crossings between the mainland and the barrier islands, these bridges are often used for fishing.



Existing Facilities
& Access

Map 4

Site 6 is the undeveloped beach area east of the intersection of Ocean City and Longport Boulevards. Parking is available at the site of the now abandoned Dunes Motel.

Site 7 is a boatyard and marina adjacent to the lagoon residential development west of Risley's Channel.

Site 8 is a boatyard and marina along Skillmans Creek. Transient berths are available.

Site 9 consists of two marinas along Whirlpool Channel. Transient facilities are available at each of these marinas.

Sites 8 and 9 are located along the Margate Bridge road.

Linwood

Site 10 is an undeveloped access point at the end of Seaview Road. There is an abandoned wharf (in disrepair), and a dirt parking area/turnaround. There is no bulkhead or ramp, but the grade to the water's edge is flat enough to permit trailer access.

Site 11 is a series of view access points from the dead ends of streets that cross Franklin Boulevard. Viewing platforms or parking are not provided, but Franklin Boulevard is wide enough to permit parking along both sides, so that no new parking areas are required.

Site 12 is located at the end of a Poplar Avenue on Scull Bay. The development potential of this site is limited since the access road crosses some of the fairways of the Linwood Country Club.

Northfield

Site 13 refers to the visual access points across the marshes south of Mill Road (Margate Causeway).

Pleasantville

Site 14 is a series of road ends that run to Lakes Bay. These access points pass through residential areas and provide views across the bay to Atlantic City and Ventnor.

Site 15 is the Municipal Yacht Basin. This facility is currently in a state of disrepair, but is still used by small powerboats. The channel across Lakes Bay is scheduled to be dredged in the near future, and improvements are to be made to the marina.

Egg Harbor Township (West Atlantic City)

Site 16 is the public beach along the north shore of Lakes Bay. The primary constraint to the development of this site is the lack of public parking. The beach is currently used for windsurfing.

NORTHERN PORTION

With the exception of Absecon, the northern portion of the study area is not extensively developed. Concentrated pockets of development exist around the Seaview Country Club, Oceanville, Smithville, Leeds Point and along Leeds Point Road, and near Nacote Creek. These parcels are separated by extensive parcels of undeveloped land and rural residential areas. In many areas, the boundary of the Forsythe National Wildlife Refuge extends to Route 9.

Absecon

Site 17 is the developed marina and pier area along Absecon Creek. Much of the riverfront is privately owned for individual wharves, but there is a marina and boat sales yard located along the creek.

Site 18 is the ramp and bulkhead at the corner of Faunce Landing Road. This public ramp has a parking area for trailers adjacent to the launch area. The City is presently studying the cost and feasibility of second ramp at this site.

Galloway

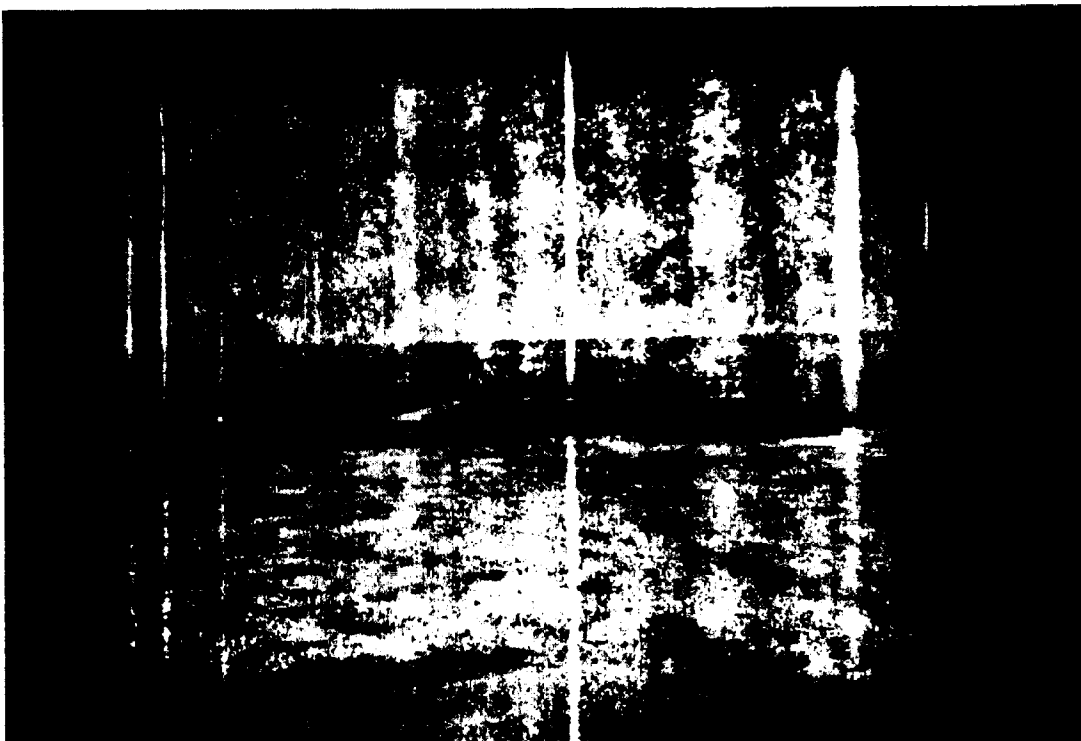
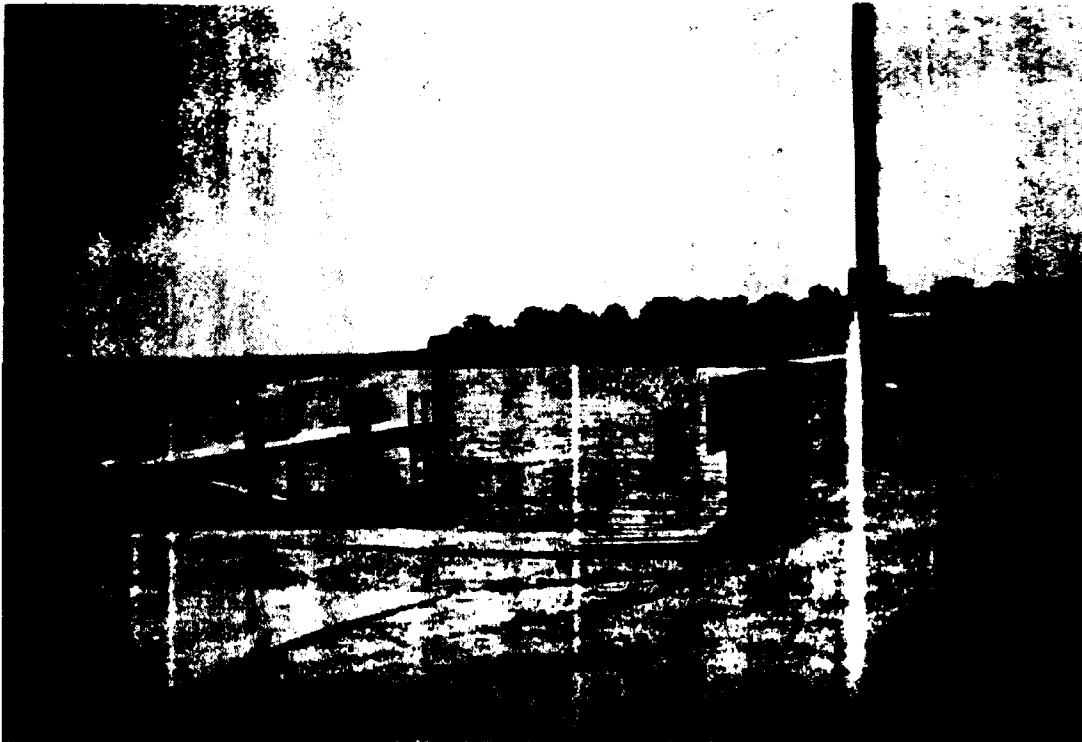
Site 19 is a small access point on Cordery Creek. At the end of the dirt road (Brook Lane), there is a small area where boat trailers are left. There is no improved ramp or surface into the creek.

Site 20 is another access point at the end of a dirt road (Ocean Avenue). Like the previous site, this site has no improvements, but trailer access is possible directly into Reeds Bay.

Site 21 is a developed boat launch area in the Forsythe National Wildlife Refuge at Scott's Landing. This site has parking, a ramp, and bulkhead.

Site 22 is the small fishing community at Oyster Creek. This area of seasonal homes includes a restaurant, marina, fishing sheds, piers, a ramp, and parking. A privately maintained channel provides access to Great Bay.

Site 23 is the fishing community at Mott Creek. This area has a year-round population. The facilities are the same as those at Oyster Creek, though not as well-developed or maintained.



Site 24 is Nacote Creek. The south side of the creek is more residential, with a small public access point near the end of the road. The north side has a boatyard and some homes. There are no access points to the water's edge.

Port Republic

Site 25 includes the extensive marina and boatyard operations found along old Route 9 north of Chestnut Neck Road. The marinas provide fuel, boat sales and service, restaurants, supplies, storage, and parking. The northern portion of the road is a private road, so that access to the Mullica River is not possible except at the marinas.

B. Zoning

The zoning of the eight bayfront municipalities was examined to evaluate its provision for ensuring future open space and bayfront access. The following summary of these provisions indicates the designations that provide for park or open space, or land set-asides and easements within private developments that can be used to provide bayfront access. These are shown on Map 5, Public Land, Zoning, and Access.

Zoning designations that provide for open space are now in place in each municipality within the study area. Some areas may be identified for bayfront access, but are not presently included within these zoning districts that provide for open space. In these instances, municipal zoning designations exist that may be used to ensure bayfront access.

Appendix 2 elaborates on the zoning districts in the study area within each municipality.

In many of the bayfront communities of Atlantic County there are adequate numbers of access points for passive recreation. Increased development and expanding residential areas have limited the number of areas where access may be provided for active recreational uses such as boating and fishing. In most of the residential areas of the southern portion of the study area, pedestrian access to the tidal wetlands is possible from the dead-ends of public roadways that run perpendicular to the bay. The extent of the marshes in this area, and therefore, the distance to open water, as well as the intensity of the adjacent development, would preclude the creation of active recreation sites and parking areas. In the northern portion of the County, there are increased opportunities for providing active recreation access points.

Except for Pleasantville, almost all areas landward of the tidal marsh edge are zoned for low density residential uses. In all of the bayfront communities, the tidal marsh areas are zoned Conservation (or similar designation). Small areas at the footings of bridges linking the Mainland to the barrier islands are zoned for marine-related uses in Egg Harbor Township.

None of the municipalities provide for easements or set-asides to ensure bay access from developed areas. The open space requirements of the HD-1 district in Absecon could be used to provide public access to Absecon Bay if this area was to be developed.

Municipalities may avail of various zoning-related methods for ensuring waterfront access. Given that most of the upland edge areas are developed, especially in the southern portion of the study area, a rezoning of this area would not be feasible. In the northern portion of the study area, new develop-

ment that fronts on the bayfront may be required to provide access easements in areas that are zoned for residential uses. The BHP district in Somers Point provides for the continuation of water-related activities. While public access is not required, the types of uses that are encouraged (boating, docks, etc.) will assure that there is access to the bayfront.

A zoning district overlay may be used in the developed areas of the bayfront. Here, a set of policies and/or guidelines that applies to all zoning categories within a prescribed distance from the tidal wetland edge could be used to ensure public access. For example, for all development, regardless of the zoning, access points or easements to the bay shall be provided every 1000 feet or every three lots. Implied rights-of-way may be extended to the bay from the end of developed thoroughfares that run perpendicular to the bay.

A third method to ensure bayfront access is through incentive zoning. Under this method, the allowable densities and/or uses within a zoning district may be increased if the developer provides certain amenities, in this case, public access to the bayfront. This method may be most appropriate in the higher density zoning districts along the bayfront in Pleasantville.

Table 1: Summary of Zoning by Municipality

MUNICIPALITY	ZONING	PERMITTED USES	MIN. LOT SIZE	OPEN SPACE/ PUBLIC ACCESS	COMMENTS
Absecon	R-1	Single-family homes, parks, public utility substations	15,000-20,000 square feet	Yes	Churches on 1 ac lots
	R-2	As above, and professional offices (secondary use)	10,000 sq. ft.	No	
	C-3	Marine commercial and water-oriented uses	25,000 sq. ft.	No	
	HC	Retail stores and services restaurants, offices, banks motels, service stations, auto sales and repair, golf courses, tennis courts, amusement halls	3 acres (auto) 30,000 sq. ft. (drive-in restaurants and motels) 15,000 sq.ft. (all other uses)	Yes	
Egg Harbor Township	HD-1	Mid-rise hotels and condominiums, offices townhouses	2.5 acres	Yes	30% common open space
	HD-2	Townhouses	3 acres	Yes	60% common open space, 8 du/ac
	Cons	Recreation, wildlife preserves, utility lines dams, culverts, bridges	None	Yes	
	R-5	Single-family homes, home offices, churches, non- profit and fraternal clubs fire, first aid, and rescue squads	6,000 sq. ft.	No	Home office less than 25% of gross floor area
	R-5 Apt	As above and multi-family residences	6,000 sq. ft. (R-5 uses) 5 acres (multi- family)	Yes	Planned Unit Dev

MUNICIPALITY	ZONING	PERMITTED USES	MIN. LOT SIZE	OPEN SPACE/ PUBLIC ACCESS	COMMENTS
Galloway	MC	Marinas, boat sales, boat storage and repair, marine sales shops	5 acres	Yes	Year round homes prohibited
	CRW	Single-family homes, farms, churches, golf courses, horse farms and stables, private schools, museums, non-profit and fraternal clubs fire, first aid and rescue squads	5 acres	Yes	PUDs and marinas prohibited
	R20	Single-family homes, parks churches, public buildings schools, farms	35,000 sq. ft. (unsewered) 20,000 sq. ft. (sewered)	Yes	
	NR	As above, and quarries, golf courses, and Planned Urban Developments	1 acre	Yes	PUD densities 1 du/0.8 acres unsewered and 1 du/4 acres sewered
Linwood	OC	R20 uses and single-family attached homes	10,000 sq. ft. (Commercial) 35,000 sq. ft. (Residential)	Yes	PUDs as above 10% commercial maximum
	CV	Farms, parks, and fish and game clubs	5 acres		
	Res A	Single-family dwellings	10,000 sq. ft.	No	
	Res B	Single-family dwellings	15,000 sq. ft.	No	Street frontage not required
	Res C	Multi-family dwellings	15,000 sq. ft.	No	Max. 2 du/struc

MUNICIPALITY	ZONING	PERMITTED USES	MIN. LOT SIZE	OPEN SPACE/ PUBLIC ACCESS	COMMENTS
	Flex	All Office and Commercial Uses	4,000 sq. ft.	No	All Residential Open space Institutional Uses prohibited
	Instit.	Institutional Uses	6,000 sq. ft.	No	Max. 40% lot coverage
	Rec/OS	Swimming pools, ball fields, tennis courts	None	Yes	No buildings except club and support buildings
	Cons	Municipal docks only	None	Yes	
Northfield	R-1	Single-family homes churches, libraries community buildings	10,000 sq. ft.	No	3-4 du/ac
	R-2	As above	7,500 sq. ft.	No	4-5 du/ac
	C-C	Golf courses, single- family homes	None	Yes	Garden apts and Townhouses cond. 1 du/ac gross & 5 du/ac net
	SC-1	Senior citizen townhouses	None	No	15 du/ac
Pleasantville	R-10	Single-family homes	10,000 sq. ft.	Yes	Churches, parks schools, home offices cond.
	HR-A	Highrise housing	40,000 sq. ft.	No	Max. 12 stories & 125 units
	MR	Townhouses	4 acres	Yes	Max. 40 units/ buildable acre & 6 stories

MUNICIPALITY	ZONING	PERMITTED USES	MIN. LOT SIZE	OPEN SPACE/ PUBLIC ACCESS	COMMENTS
Port Republic	TH-A	Townhouses	None	Yes	Max. 20 units/ac & 3 stories
	CBPD	All uses except convenience stores	None	No	Residential as accessory use
	CBD-B	All commercial uses	15,000 sq. ft. 1 ac auto dealers	No	Public buildings prohibited
	I-PID-B	Light industrial, R&D wholesale, hotels, gas stations, motels	1-2 acres	No	
	RSCD	Shopping centers, offices hotels/motels, theaters, restaurants, bakeries, auto dealers, libraries	150 acres	No	
Port Republic	RR	Single-family homes, parks truck farms, schools, golf courses, recreation areas, public buildings	1 acre	Yes	Lot size may be increased to 2.5 acres depending upon environ. constraints
	MC	Marinas and marina services, docks, bulkheads, hotels/ motels, restaurants, recreation areas	2 acres	Yes	Hotels/motels, restaurants & recreation areas excluded at Nacote Creek
Somers Point	Cons	All areas within Foythe NWR	None	Yes	
	R-1	Single-family homes	7,500 sq. ft.	No	
	HC-1	Retail, restaurants, offices banks, services, public buildings, gas stations	15,000 sq. ft.	No	

MUNICIPALITY	ZONING	PERMITTED USES	MIN. LOT SIZE	OPEN SPACE/ PUBLIC ACCESS	COMMENTS
	HC-2	As above, and motels	As above, and 30,000 sq. ft. for motels	No	
	BHP	Boat sales/storage, shops water-oriented services, restaurants, theaters, existing residential	None	No	
	TC	Motels, recreational facilities, restaurants	15,000- 30,000 sq. ft.	Yes	
	Rec-A	Recreation and related structures	None	Yes	
	FD	Floodplain, recreational uses, wildlife preserves	None	Yes	Uses may not require parking

None of the study area municipalities preclude bayfront access through their zoning designations. Opportunities exist within the current zoning ordinances of the eight study area municipalities to provide open space, either as a permitted use within a residential category such as the R-1 district in Absecon, or as the only use permitted within a conservation district as in Port Republic.

C. Erosion and Flooding

Flood Hazard

The FEMA-designated 100-year floodplain areas have been indicated on the Special Areas map. These are associated with the upland edge of the tidal wetland areas, as well as with many of the stream and river corridors within the study area. The delineation of floodplain boundaries is dependent upon the frequency of the flood, with more frequent floods covering much smaller areas than less frequent floods. The 100-year floodplain is defined as the area that would be covered during the maximum flood conditions that occur in a one hundred year period. This means that there is a 1% chance of a 100 year flood every year, although the flood could occur in any year.

The 100-year floodplain is generally accepted as that area from which development should be excluded unless that activity does not disrupt the floodplain, is unharmed by flooding, or is inseparable from the floodplain.

Disturbance to the floodplain through filling or development can result in hazardous and costly environmental impacts, including the following:

1. Reduction of on-site infiltration in proportion to the amount of impervious cover;
2. Increased overland flow from impervious cover;
3. Loss of the stormwater holding capacity of the floodplain;
4. Lower low flows due to declining water tables and decreasing groundwater recharge;
5. Higher and more frequent flood flows; and
6. Expanded floodplains downstream of disturbed or developed areas.

These impacts can result in increased hazards to human health, safety, and welfare, increased water pollution from runoff and erosion, increased flows in previously unaffected areas, reduced groundwater yields, loss of the aesthetic quality of the environment, and increased municipal costs from flood-related damage.

Development in floodplains is regulated by federal legislation. Flood hazard boundaries that are mapped by the Federal Emergency Management Agency (FEMA) can be used to determine areas that require floodplain development control. Bayfront access improvements recommended in this plan are not contrary to the limitations or policies relating to floodplains and would not create floodplain hazards.

Soil Erosion

According to the Atlantic County Soil Survey (1978), the soils found within the study area exhibit an erosion hazard of slight to moderate, with no soils of high erosion hazard present, however, an erosion problem has been reported along The Great Egg Harbor River Inlet in Egg Harbor Township.

A list of the soil types found within the study area and a summary of wetland disturbance mitigation policies is included in Appendix 1: Soil Erosion Hazard and Mitigation.

Section 4: The Plan

A. Basis of the Plan

The issue of providing public access to New Jersey's shore areas has been well documented. Recent decisions by the New Jersey courts have affirmed the public's right to access and use of tidal beachfront areas, while recognizing the right of waterfront municipalities to control this access. The back bay municipalities of Atlantic County are becoming increasingly urbanized, and the goal of ensuring that the public is not denied access to the recreational opportunities of the bay is the purpose of this plan.

The opportunities for access are limited by both the extent of the existing development (primarily in the southern portion of the study area) and by the distance to open water areas in the northern portion. In this area, vast expanses of tidal marsh lie between the upland edge and the open water of the bay. Given the sensitive nature of this marshland, existing access points should be used to minimize disturbance to the wetlands.

The Atlantic County Open Space Plan has identified deficits in both active and passive recreational activities and sites within the County. These include a regional park area, public swimming pools, back bay swimming areas, sports stadiums, canoe routes, tennis courts, public golf courses, basketball and handball courts, picnic areas, hiking trails, exercise trails, boat ramps and fishing access, public campsites, amphitheaters, and bike routes. There are opportunities for many of these activities within the study region.

At existing access points, current facilities can be improved and expanded to help address some of these identified deficiencies. As well, an improved system of signage and site identification is required, both for existing and proposed sites.

The proposed sites and facilities outlined in this plan shall address the four guiding priority principles outlined in the Open Space Plan. These are:

1. Facilities shall be designed and located to serve the regional open space and recreational demands of the County.
2. Water-oriented recreational activities shall be a priority criterion.
3. Self-sustaining and revenue-generating facilities will take priority.
4. Continue to provide support and assistance to municipal and state recreation and open space efforts.

The Bayfront Access Plan shall outline proposals for the study area that include the following elements:

- * significant linkage (pedestrian, bike, and automobile)
- * signage
- * boat ramps and marinas
- * viewpoints and vistas
- * fishing access
- * historic resources
- * parkland
- * beach access
- * parking
- * picnic areas
- * swimming areas

These are discussed within a locational framework in order to identify the most appropriate opportunities for each area. Planning areas include: Great Egg/Southern, Scull Bay, Lakes Bay, Absecon Bay/Reeds Bay, and Great Bay/Northern. The location of these sites is indicated by a letter on the following Access Opportunities Map (Map 6). The combination of existing and proposed facilities (access opportunities) is shown as Map Series 7 and the appended Access Plan Map (Map 8).



Atlantic County
Bayfront Public Access Plan



B. Bayfront Access Opportunities

Great Egg/Southern Planning Area

This planning area includes the waterfront of The Great Egg Harbor River and Ship Channel, Drag Island, and the areas along Longport Boulevard.

Drag Island (A) is a 40 acre site consisting of wetland and dredge spoil areas between Route 9 and the Garden State Parkway. Ownership of the island is currently being disputed between the New Jersey Department of Transportation (NJDOT) and a private citizen. As well, NJDEP has an interest, having once proposed the development of six acres between the two highways for boat ramps, and more recently, to remove sand to add to the beach at Ocean City, and to use a portion of the island as a wetlands mitigation site.

The Route 9 bridge crossing provides at-grade access for cars and trailers to launch small boats. When the issues of ownership and land use are resolved, Drag Island provides the opportunity for both active and passive recreation. At the Route 9 crossing, parking and a launch ramp can be provided for small boat access. As well, a small picnic area could be placed here. A pedestrian trail along the shore would provide fishing access along the river. At the eastern end of the island at the end of the hiking trail, a picnic area would provide fishing access and viewpoints across the bay. This would be dependent upon the ultimate use of this portion of the island by NJDEP.

Kennedy Park (B) is a city-maintained park along The Great Egg Harbor River. Existing facilities include a picnic area, a small boat ramp, a beach area, and playground equipment. Fishing is possible along the bulkhead. Currently, trailer parking is limited because of the small parking area. This situation minimizes the usefulness of the boat ramp which is now used primarily for launching windsurfers. Somers Point could add to its open space inventory by developing a nearby parking area to provide an area for trailer storage.

Access could be further enhanced in Somers Point by creating a bike and pedestrian path (C) between Kennedy Park and the city-owned beach and swimming area on Bay Avenue. The traffic circle at the intersection of Shore Road, Somers Point-Mays Landing Road, and the Ocean City causeway presents a safety problem on this route. A possible engineering solution that would require further study would be a detour under the causeway to bypass the circle.

The existing Longport Boulevard crossing of Broad Thorofare is being replaced by a new bridge (D). When the center section of the old bridge is removed, the existing approaches and bridge piers could be retained to provide access opportuni-

ACCESS PLAN

PORTION A

EXISTING FEATURES

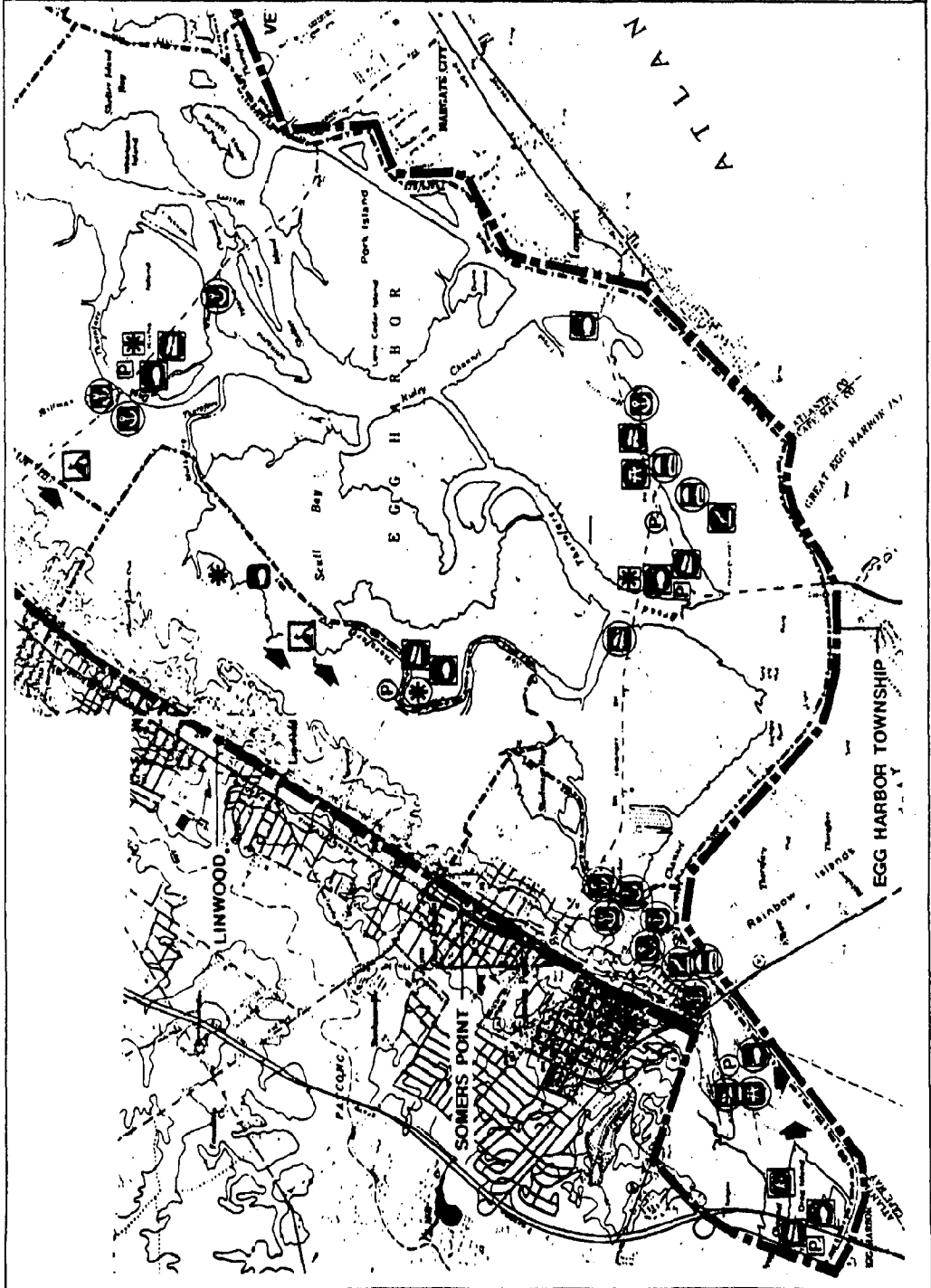
- BEACH
- MARINA (services only)

PROPOSED FACILITIES

- PARKING
- PICNIC
- PUBLIC ACCESS
- FOUNTYNE WALK
- VIEWS
- TRAMP
- FISHING ACCESS
- INTERPRETIVE TRAIL
- MARINA
- PARKING
- PARK
- PICNIC
- PUBLIC ACCESS
- RAMP
- SWIMMING
- VIEW PLATFORM

LEGEND

- 10 ACRES
- 0 2000 4000 6000 FT.
- North



Atlantic County
Egg Harbor Township
Public Access Plan

ties. Parking areas can be easily created along the abandoned sections of roadway, and the bridge piers can be used as fishing piers. Boat launch ramps into Broad Thorofare may also be provided. This is a unique opportunity for the county or Township to provide both fishing access and small boat access to the bay. Additionally, it will reduce the tendency for fishermen to use the bridge, a practice that is often unsafe and not permitted.

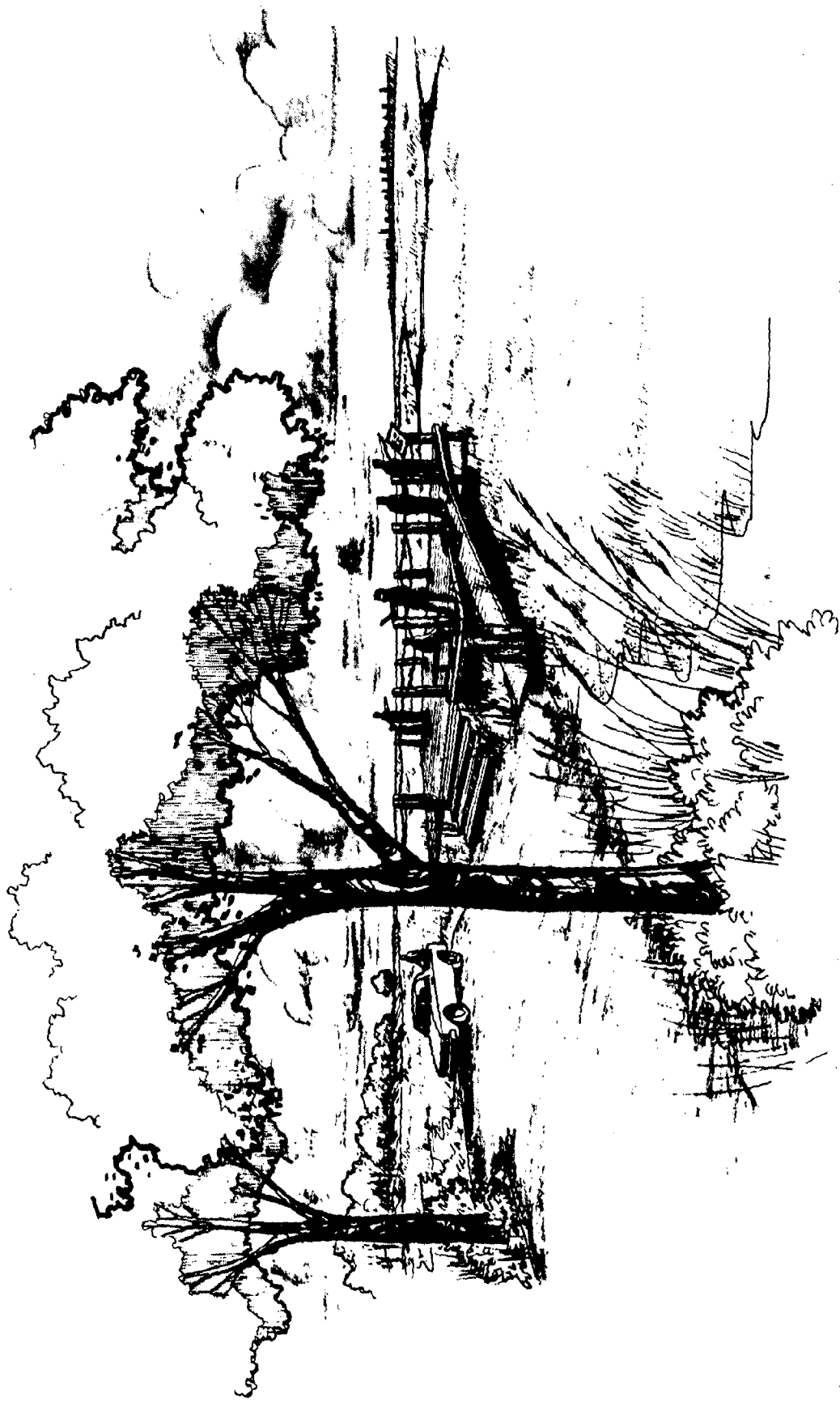
Near the intersection of the causeway to Ocean City and Longport Boulevard there is an undeveloped beach area (E). The beach and the land between the road and the beach is privately owned from the lagoon housing development to the Ocean City causeway. The following improvements would be possible if a public easement along the beach (or a portion) and access easements across the dunes could be obtained. Acquisition of the beach and access corridor is another option that may be considered by the Township.

A boardwalk could be placed across the dunes and marsh area to provide access to the beach. There is an existing parking lot at the abandoned motel that could be used by visitors to this site. It is proposed that the beach remain relatively undeveloped, with minimal services provided to ensure that the area is not degraded. Proposed facilities include picnic tables, change rooms, and washrooms. The beach would not be developed for or oriented towards beachgoers who would normally visit the shore beaches. The beach would be unpatrolled, and provide for more passive recreation such as shelling and clamming, bird watching, surf fishing, and picnicking. Active recreation and access sites are better located at Broad Thorofare, approximately one-half mile west of this site. At the bridge crossing at Risley Channel, fishing access may be provided adjacent to the bridge. A small parking area could be created on the west side of the crossing.

A bike and/or pedestrian path connecting these sites, from Broad Thorofare to Risley Channel, is not recommended because of the large volumes of traffic that use this road. This traffic volume could be expected to increase with the completion of the new bridge at Broad Thorofare. However, if future widening of the bridge is likely to occur, a bicycle lane should be incorporated.

Scull Bay Planning Area

This planning area includes the bayfront areas of Linwood and Northfield, and portions of Egg Harbor Township along Margate Boulevard. The mainland portion of this planning area is extensively developed, primarily in single-family homes. There are, however, opportunities for both passive and active recreation activities within the area.



Sketch of typical Viewpoint

At the end of Seaview Avenue (F) in Linwood there is an unimproved boat access area. Like the opportunities available at the Broad Thorofare crossing of Longport Boulevard, this access point is easily enhanced. Improvements recommended for this site include road upgrading, an improved launch ramp, an expanded parking area, and trash and picnic facilities. The views across the marshes and Scull Bay to Absecon Island are commanding. Interpretive plaques identifying the dominant species of plant and bird life could also be placed here. The site should be identified with a sign placed at the intersection with Shore Road. The nature of the signage shall be discussed further in the plan.

There are viewing areas available at the street ends of the cross streets of Franklin Boulevard in Linwood (G). This exceptionally wide residential street runs parallel to the bay, allowing the establishment of both a parking lane and a bike lane. The cross streets of Franklin Boulevard dead end at the marsh. Some of these could be developed with small boardwalk-like viewing platforms and seating areas that look out across the marsh and bay. Handicapped parking spaces could be designated by striping and located at the street ends. Interpretive plaques of the plant and animal life likely to be visible from these platforms would be placed on the platforms.

Facilities such as these platforms are not expected to be disruptive to the residential nature of the area and should not create neighborhood opposition given the passive nature and small size of the facilities. A bike path along Franklin Boulevard would connect these platforms (H). The bike path would have to detour to Shore Road where Franklin Boulevard is not continuous along the bay. This bikepath and the viewing platforms should be identified at Shore Road by directional signs. The bicycle route/pedestrian trail and interpretive signs could be designed to provide an informal nature trail focused on the wetland and bay environments.

There is another bay access site at the end of Poplar Road (I). The access potential of this site is less than other identified sites because the road crosses the fairways of the Linwood Country Club. The site has direct access into Scull Bay and could potentially be improved like the Seaview Avenue site.

There are other sites for viewing platforms in Northfield at the street ends on the bay side of Bay Avenue. Some of these sites could be improved like the street ends in Linwood.

Potential access sites are available at the channel crossings of Margate Boulevard (J). There are existing marinas at two of these crossings. Small parking areas could be placed along the road at the crossings to allow fishing access and boat launching and short-term (no overnight storage) trailer park-

ing. Given the high volume of traffic along this highway, adequate off-road parking and trailer storage would be necessary.

The large undeveloped portion of the County Complex (K) in Northfield is a prime site for a natural hiking trail and boardwalk into the marsh area. Parking and an interpretive/tourist information center could be located on a portion of the County Complex parcel opposite the County Building. Dolphin Avenue is currently being extended into this area to provide access to a new development. A hiking trail would leave a parking lot on Dolphin Avenue to a raised boardwalk that crosses the marshes and tidal channels. Boat access would not be provided in this area because of the distance across the marshes to open water. Interpretive plaques and county-sponsored nature programs would use the boardwalk area as a living laboratory of the back bay habitat.

Lakes Bay Planning Area

This planning area includes the bayfront portion of Pleasantville south of the Atlantic City Expressway and West Atlantic City (Egg Harbor Township). This area is the first view of the back bay for most visitors to the Atlantic City region who use the Atlantic City Expressway.

In Pleasantville, a series of streets run perpendicular to the bay just south of the Pleasantville municipal marina area (L). Many of these residential streets are developed to the bay and do not provide active access possibilities. Small fishing piers or bulkheads with limited on-street parking would serve the local residents and retain public access to the bay.

The marina rehabilitation (M) project provides an excellent opportunity for the region to expand its open space inventory. In conjunction with the municipally-sponsored improvements at the marina, a park and parking area could be created at the adjacent Pleasantville high school site. The high school is proposed to be moved to another location. The high school site could be used for marina-related activities, tennis courts, a playground, parking, and other passive and active uses associated with a park, as well as for the housing and marine commercial development associated with the current development proposal.

This park would be the western anchor of a linear park system that would follow the northern edge of Lakes Bay from the marina to the eastern point of West Atlantic City. In the developed area of Pleasantville, this park would be a pedestrian and bike path around the turning basin, using a marked lane on street where waterfront easements are not available because of existing development. The beach area along the bay could be linked to a parking area at the Atlantic City end. Parking

ACCESS PLAN

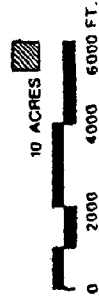
PORTION B

EXISTING FEATURES

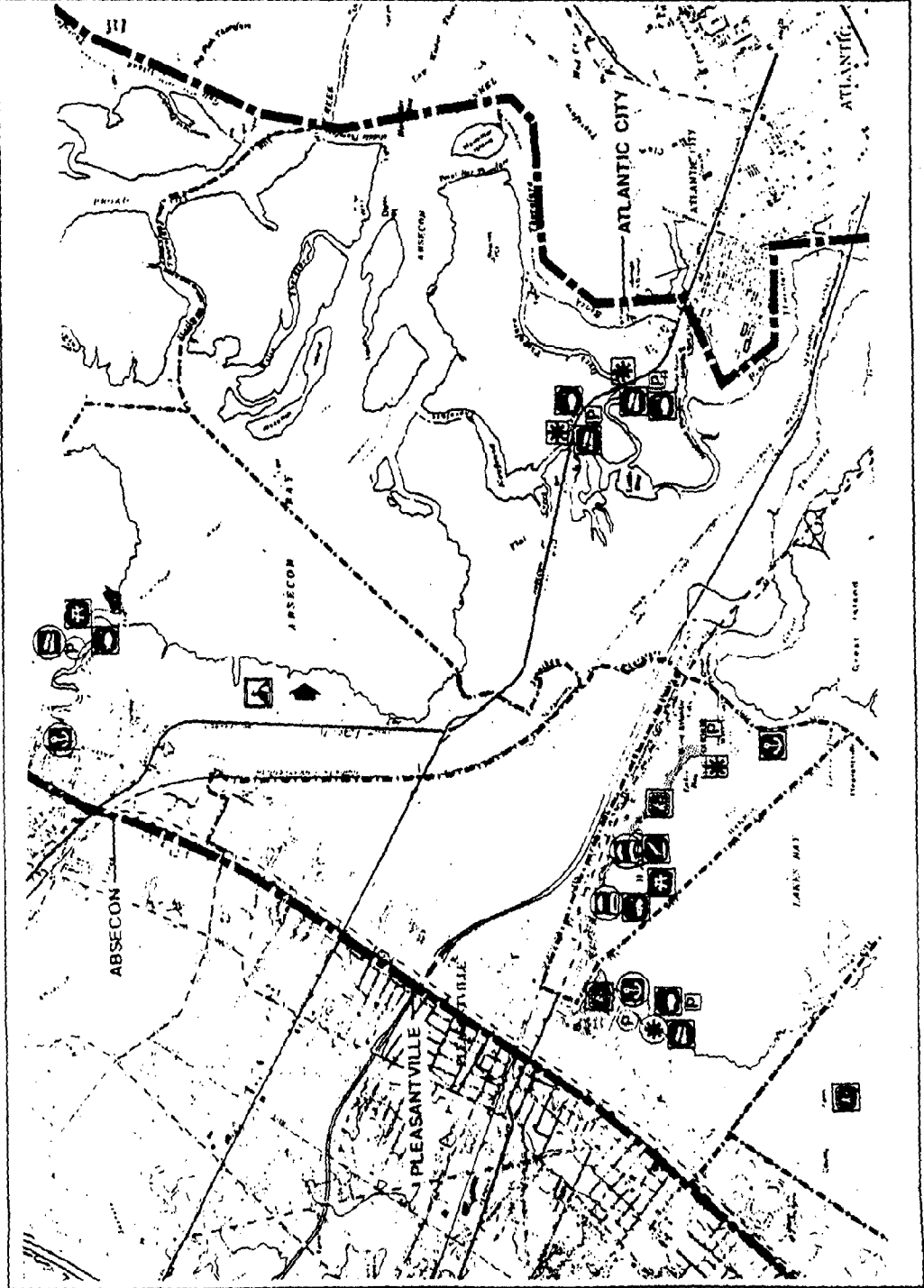
- BEACH
- MARINA (Imperial City)
- PARKING
- PICNIC
- PUBLIC ACCESS
- FORESTYRE HWY
- VIEWS
- RAMP

PROPOSED FACILITIES

- FISHING ACCESS
- INTERPRETIVE TRAIL
- MARINA
- PARKING
- PARK
- PICNIC
- PUBLIC ACCESS
- RAMP
- SWIMMING
- VIEW PLATFORM



Atlantic County
Payment Public Access Plan



for the beach is currently a problem. This proposal for a pedestrian/bicycle linkage provides access that is not totally dependent upon parking, particularly at the West Atlantic City end. The eastern end of the park could potentially be developed with a marina, given its proximity to the Intracoastal Waterway and Atlantic City.

Facilities to be provided in this waterfront park include the bike and pedestrian lanes, a parking lot, marina-related services that will not be provided by the City (a launch ramp, for example, if the marina rehabilitation program does not include one), picnic tables at the high school site and along the beach, change rooms and washrooms, and interpretive plaques of the bay wildlife likely to be encountered along the shoreline. A park of this type would also provide fishing access.

Absecon Bay/Reeds Bay Planning Area

This planning area includes much of the northern section of the study area. With the exception of the Absecon/Seaview Heights area this planning area is less developed than the southern section and exhibits a more rural character than the more developed municipalities south of Absecon Boulevard.

The Absecon Boulevard bridge crossings at both Duck Thorofare and Newfound Thorofare (N) are potential fishing access sites. In either of these locations, a parking area and launch ramp could be provided to allow access to the bay. Given the large volume of traffic carried by this highway, adequate off-road parking and trailer storage areas would be required.

Along the western stretch of the highway, a scenic overlook could be provided (O). This layby/overlook would consist of an extension of the highway shoulder that would allow cars to pull out of the traffic lanes. This layby could be located in an existing fill site that does not require the filling of any wetland. Interpretive plaques of the area's plant and animal life could be placed here, as well as markers identifying the landmarks of Atlantic City and Brigantine that can be seen from the overlook.

The shore of Absecon Creek is extensively developed with piers, boatyards, and homes (P). On the south side of the creek, street and viewing and fishing platforms for the use of the area's residents could be provided. The north and west sides of the creek are more appropriate for active recreational use and are developed accordingly. The existing launch ramp and parking area at Faunce Landing Road could be expanded to include a small picnic area. A bike lane in the streets on this side of the creek could connect the pier area and the boat landing. Interpretive plaques and landmark identifiers could be placed at the landing.

ACCESS PLAN PORTION C

EXISTING FEATURES

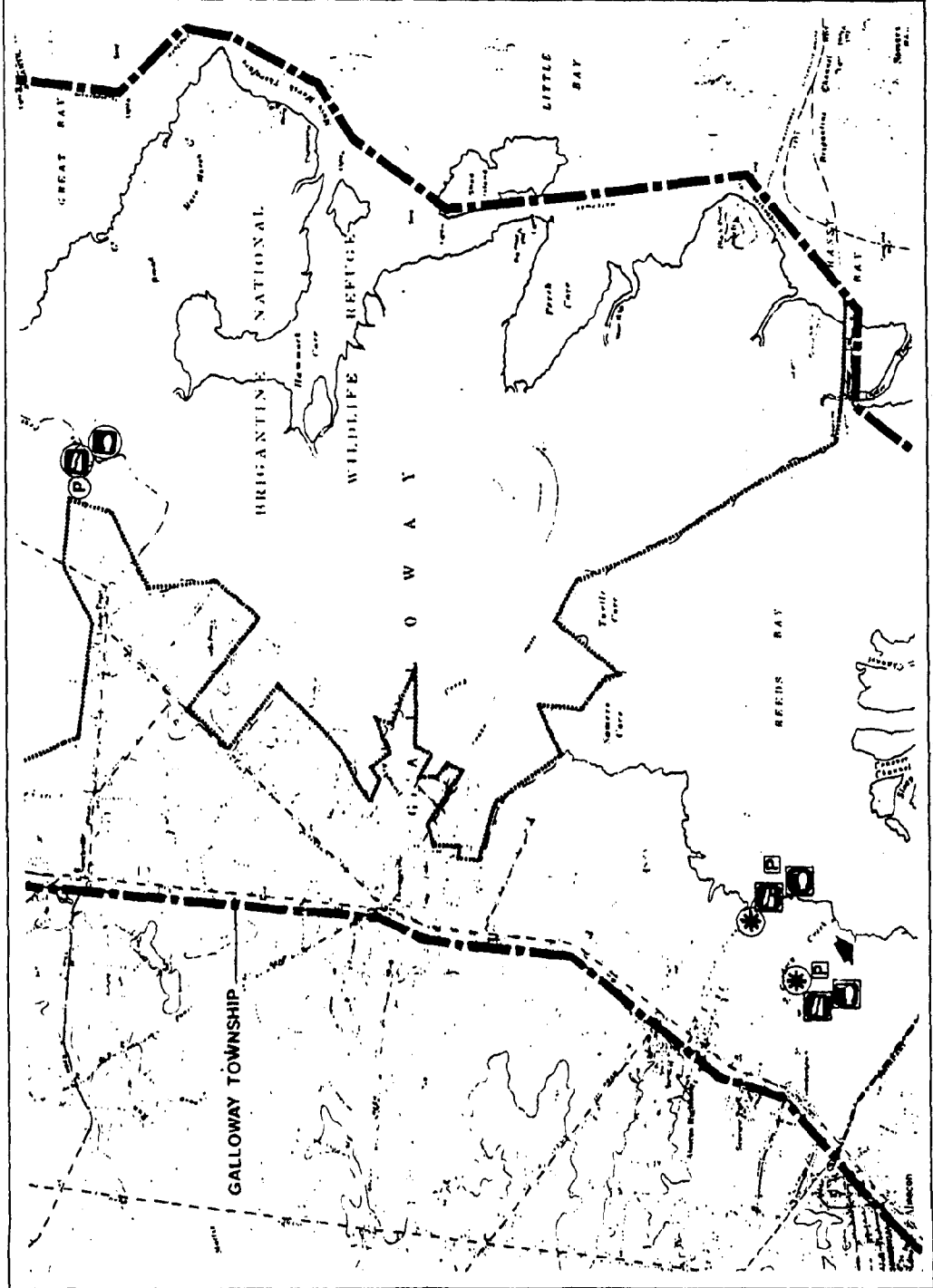
- BEACH
- MARINA (EXISTING ONLY)
- PARKING
- PICNIC
- PUBLIC ACCESS
- FORTYTH AVENUE
- VIEWS
- RAMP

PROPOSED FACILITIES

- FISHING ACCESS
- INTERPRETIVE TRAIL
- MARINA
- PARKING
- PARK
- PICNIC
- PUBLIC ACCESS
- RAMP
- SWIMMING
- VIEW PLATFORM



Adams County
Dayfront Public Access Plan



The end of Brook Lane (Q) is presently used as a small boat launch area into a series of canals and mosquito ditches that lead to Reeds Bay. Directional signage at Shore Road, road improvements, an expanded parking and storage area, trash cans, a launch ramp, and interpretive plaques could be placed at this access site. The end of Ocean Avenue (R) provides similar opportunities for bay access. This road runs across a larger marsh area than Brook Lane and provides opportunities for both passive and active recreational activities. There are commanding views across the bay from this access site. Similar facilities and improvements as proposed for Brook Lane could be located at this site.

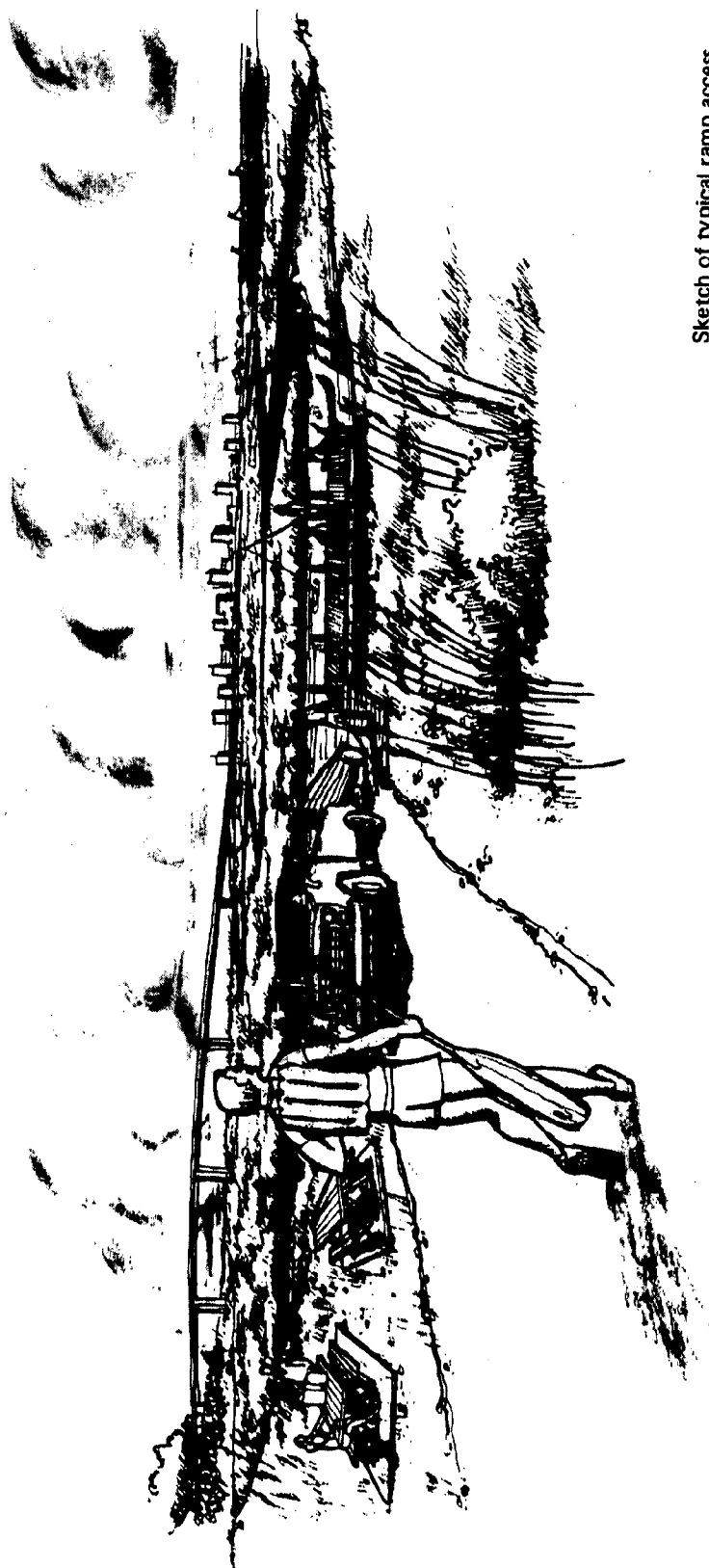
North of these sites, access to the bay area is provided within the Forsythe National Wildlife Refuge. County facilities within this area are not proposed.

Great Bay/Northern Planning Area

This planning area includes portions of Galloway Township and Port Republic. Much of this area lies within the Forsythe National Wildlife Refuge, but public access sites that may be developed are available. Two of these sites, Oyster Creek and Mott Creek, are small fishing communities located at the ends of roads that run across large expanses of tidal marsh.

Oyster Creek (S) is a seasonal fishing community located one and a half miles from Leeds Creek. There are currently private piers, a launch ramp, restaurant, and parking at the site. A privately bouyed channel leads to Great Bay. This site is a possible location for a County marina. The road to Oyster Creek passes through extensive marsh areas and could be part of an automobile and bicycle tour route that would include Mott Creek and the dike road in the Forsythe NWR. Signage indicating the facilities available, and marking this tour route should be placed in Leeds Point and at the intersection of Leeds Point Road and Route 9. A bicycle lane that begins in Smithville and continues down Leeds Point Road to Oyster Creek Road could be established to follow the auto tour route. Interpretive plaques and landmark indicators could be placed along the road and at the access site.

Mott Creek Road parallels Wigwam Creek to the village at the end of the road. There are some permanent residences along this road. The road would require upgrading for bicycles and would be part of the auto/bicycle tour route. The facilities at Mott Creek (T) are similar to those at Oyster Creek, though they are more locally-oriented and not as extensively developed. The County has a 200 foot wide easement from the road to the creek. This provides the opportunity for the County to construct a launch ramp to the creek to augment the facilities existing at the site. Interpretive plaques, public washrooms, and parking could also be provided.



Sketch of typical ramp access

At Nacote Creek, the local NJDEP Shellfish Office has a small ramp leading to the creek (U). This site would not be suitable for public boat access, but could be included as a rest stop area for a bicycle trail that would connect Nacote Creek to Mott Creek.

Just north of the NJDEP facility, the road along the south side of Nacote Creek provides residential access (V). At the end of the road, a viewing and fishing platform could be located. This site is not suitable for boat access because of the dangerous intersection of the access road and Route 9. The road on the north side of the creek leads to a marina and boatyard. A launch ramp and parking area could be located at this site. This road is more suitable for trailers because it does not serve as large a residential area as the road on the south side, and the intersection with Route 9 is not as dangerous.

The shore along the Mullica River (W) is the most extensively developed marina area in the northern portion of the study area. A large marina and boat storage facility, a restaurant, and launch ramp are located between Chestnut Neck Road and the Garden State Parkway bridge. There is also a series of private piers and homes north of the marina area. The Chestnut Creek Battle Monument is located near the intersection of Route 9 and Chestnut Creek Road and could serve as the start/end point of the northern area auto tour route. A small County information center or kiosk, indicated by signs on Route 9, could direct visitors to the facilities and attractions of Atlantic County. A map and information board could list current events, shore conditions, et cetera, as well as introduce visitors to Atlantic County.

ACCESS PLAN

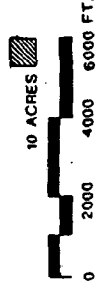
PORTION D

EXISTING FEATURES

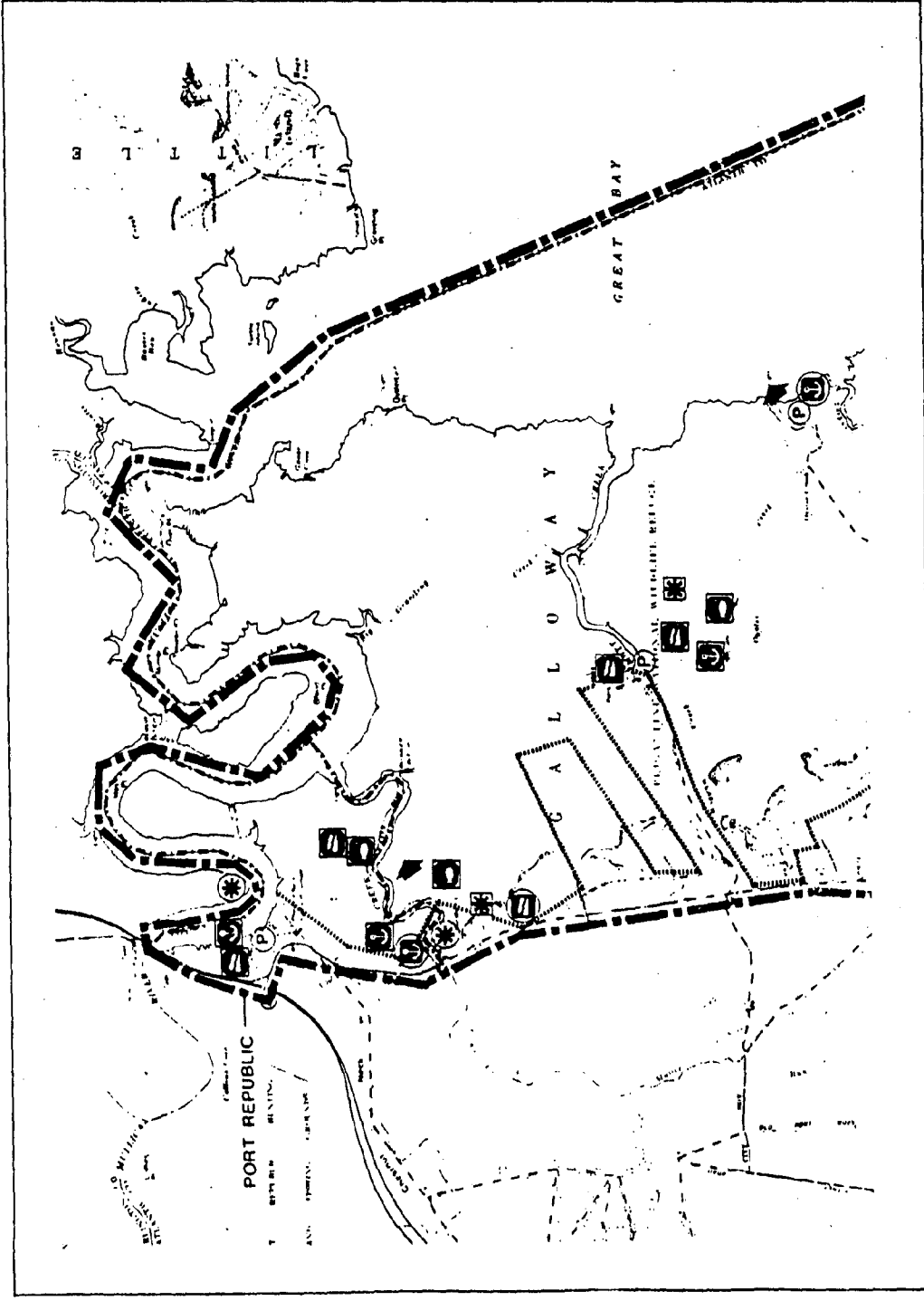
- BEACH
- MARINA (unimproved)

PROPOSED FACILITIES

- PARKING
- PICNIC
- PUBLIC ACCESS
- FORESTED HWY
- VIEW
- RAMP
- FISHING ACCESS
- INTERPRETIVE TRAIL
- MARINA
- PARKING
- PARK
- PICNIC
- PUBLIC ACCESS
- RAMP
- SWIMMING
- VIEW PLATFORM



Adams County
Bayfront Public Access Plan



C. Conclusions

This plan emphasizes the exceptional opportunities that exist or could be provided to enhance public access to the bay area and its resources. Opportunities range from simple improvements to signage to new waterfront facilities and linkages.

The focus of the plan is to improve bayfront access for the public without a significant acquisition program. Existing public areas offering new or improved access are the key elements of the plan. For this reason, a land acquisition plan has not been developed. The existing public access sites could provide the desired facilities and meet the needs currently recognized by the County. Without the expense of acquiring privately-held parcels, the County and the bayfront municipalities are better positioned to implement many of the elements of this plan. Access options identified in this plan can be implemented by the local jurisdictions individually or in partnership with Atlantic County and perhaps the State of New Jersey.

Additionally, the plan is a long-range proposal which assumes that elements of the plan can be phased in accordance with funding availability where acquisition may be required. As an example, an integrated system of directional and informational signs would indicate those facilities and services that currently exist.

The municipalities within the study area play a key role in insuring that public access to the bay is retained and enhanced. Within each municipality in the study area there are existing zoning designations that provide for open space. In areas where access to the bay has been identified as desirable and the applicable zoning district does not include a provision for open space, the municipality can revise the zoning to an existing designation to assure that access.

The initial phase of providing bayfront access is to heighten public awareness by identifying those facilities that currently exist. An integrated system of directional and informational signs would serve to connect these various facilities and sites. Easily readable graphic and symbolic representations of the recreational opportunities at each site could be placed on these signs which could be positioned at the access points such as along Route 9, Shore Road, and other highways serving the bay area.

D. Project Priority Plan

Discussions with study area municipalities have led the County to identify three project areas as high priorities because of their importance in ensuring bayfront access. These are the expansion of the existing facilities in Somers Point, the Pleasantville Yacht Basin project, and the expansion of the facilities at Mott Creek.

Through continued discussions with the municipalities, additional projects that address the current and future needs of the residents of the County and provide for expanded recreational opportunities in the bayfront area are expected to be identified.

TABLE 2: SUMMARY OF EXISTING AND PROPOSED BAYFRONT ACCESS OPPORTUNITIES

<u>Existing Opportunities</u>		<u>Proposed Opportunities</u>
<u>Municipality</u>		<u>Planning Area</u>
<u>Somers Point</u>		<u>Great Egg/Southern</u>
1. Kennedy Park - boat ramp, parking, playground, picnic area, beach		A. Drag Island - boat access, boat ramps, parking, picnic area, fishing, trail, views
2. City Beach - beach		B. Kennedy Park - picnic area, boat ramp, playground, fishing, new trailer parking.
3. Marina Area - boat ramps (3), lifts (6), supplies/fuel/services.		C. Bike/Pedestrian Path - link Kennedy Park and City Beach.
<u>Egg Harbor</u>		D. Broad Thorofare Bridge - fishing access, parking, boat ramps.
4. Bulkhead - fishing (private)		E. Dunes Motel Beach - new beach, parking, dune boardwalk, bathhouse, picnic area, fishing
5. Broad Thorofare - boat access, fishing, boat ramp		
6. Dunes Motel Beach - parking, beach access		<u>Scull Bay</u>
7. Boatyard/Marina - boating access, services & (Risley's Channel) facilities		F. Seaview Avenue - boat access, road upgrade, ramp, parking, picnic area, views, interpretive plaques
8. Boatyard/Marina - boating access, services & (Skillman's Creek) facilities		G. Cross Streets @ Franklin Blvd. - parking, bike lane, viewing platform, interpretive plaques
9. Boatyard/Marina (2) - boating access, services & (Whirpool Channel) facilities		H. Bicycle Path - marked route along Franklin Blvd., nature trail
<u>Linwood</u>		
10. Seaview Avenue - abandoned wharf, parking, boat access.		

- I. Poplar Avenue - boat access, road upgrade, ramp, parking picnic area, views, interpretive plaques
- J. Margate Blvd./Channel Crossings - parking, fishing access, boat ramp
- K. County Farm - park with nature trail/boardwalk, information center, parking

Lakes Bay

- L. Street Ends - viewing platform, parking, views, fishing
- M. Pleasantville Marina - park at high school site, refurbished marina, parking, playground, court sports, linkage along Lakes Bay to West Atlantic City, pedestrian/bike trail, beach, new marina, picnic area, bathhouse, interpretive plaques, fishing access

Absecon Bay/Reeds Bay

- N. Newfound & Duck Thorofare - fishing access, (Absecon Blvd. Bridge) parking, boat ramp, trailer parking and storage
- O. Absecon Blvd. Overlook - parking, views, interpretive plaques
- P. Absecon Creek - viewing platforms, fishing, picnic area, bike lane, interpretive plaques
- Q. Brook Lane - road improvements, parking,

- 11. Cross Streets at Franklin Blvd. - pedestrian (Street Ends) access, on-street parking, views

- 12. Poplar Road Street End - views

Northfield

- 13. Margate Causeway - views.

Pleasantville

- 14. Street Ends at Lakes Bay - views

- 15. Municipal Yacht Basin - small boat marina (disrepair), shallow channel

Egg Harbor (West A.C.)

- 16. Public Beach (Lakes Bay) - limited parking, beach, water access

Absecon

- 17. Marina - boat access, services & facilities

- 18. Faunce Landing - boat ramp, bulkhead, fishing, parking

Galloway

- 19. Cordery Creek/Brook Lane - water & boat access, dirt road, parking

- 20. Reeds Bay/Ocean Ave. - water & boat access, parking

- 21. Scott's Landing (Forsythe NWR) - parking, boat ramp, bulkhead

22. Oyster Creek - restaurant, marina, fishing, piers, ramp, parking, access to Great Bay
23. Mott Creek - small restaurant, boatyard, fishing, ramp, parking, access to Great Bay
24. Nocote Creek - limited water access, private marina
- Port Republic
25. Boatyard/Marina - boat access, facilities & services, (Rt. 9), restaurant, Chestnut Creek Battle Monument
- trailer storage, ramp, interpretive plaques, views
- R. Ocean Avenue - road improvements, parking, picnic area, bike lane, interpretive plaques, views
- Great Bay/Northern
- S. Oyster Creek - new public (County) marina, pedestrian/auto/bike route, road improvements, parking, interpretive plaques, ramp
- T. Mott Creek - road improvements, new ramp in County easement, interpretive plaques, restrooms, parking
- U. N.J. DEP Shellfish Office - point of interest for bike trail
- V. Nocote Creek - fishing/view platform, limited parking, (south); boat ramp, parking, trailer storage, water access (north)
- W. Boatyard/Marina - pedestrian/auto/bike route, (Chestnut Neck Road to GSP) views, highlight entrance to County

Source: WRT, September 1987, "Atlantic County Bayfront Access Plan" (Draft)

APPENDIX 1: SOIL EROSION HAZARD AND MITIGATION

Soil Erosion

The following soils have been identified within the study area's eight municipalities. None of the soils found within the study area were found to exhibit high erosion hazard. One area in Egg Harbor Township along The Great Egg Harbor River Inlet was identified by Township authorities as a site of high erosion hazard and may require stabilization.

Soils within the study area include:

Ac: Atsion sand - slight hazard of water erosion and soil blowing in newly cleared areas.

ArA: Aura sandy loam, 0 to 2% - slight hazard of erosion.

ArB: Aura sandy loam 2 to 5% slopes - slight to moderate hazard of erosion.

BP: Borrow Pit

Cu: Coastal beach - urban land complex

DoA: Downer loamy sand, 0 to 5% slopes - slight hazard of erosion and windthrow hazard.

EvB: Evesboro sand, 0 to 5% slopes - hazard of soil blowing.

FL: Fill land

FM: Fill land over tidal marsh

HaA: Hammonton loamy sand, 0 to 3% slopes - slight erosion hazard and slight windthrow hazard.

KmA: Klej loamy sand, 0 to 3% slopes - slight erosion hazard and slight windthrow hazard.

KnA: Klej loamy sand, Clayey substratum, 0 to 3% slopes - slight erosion hazard and slight windthrow hazard.

LaA: Lakehurst sand, 0 to 3% slopes - slight erosion hazard and slight windthrow hazard.

LeC: Lakewood sand, 5 to 10% slopes - moderate hazard of soil erosion. Slight windthrow hazard.

Po: Pocomoke sandy loam - slight erosion hazard. Severe windthrow hazard.

SaA: Sassafras sand loam, 0 to 2% slopes - slight hazard of water erosion. Slight windthrow hazard.

SaB: Sassafras sand loam, 2 to 5% slopes - slight to moderate hazard of erosion. Slight windthrow hazard.
TD: Tidal marsh, deep - severe hazard of storm-tide flooding.
TM: Tidal marsh, moderately deep - severe hazard of storm-tide flooding.
TS: Tidal marsh, shallow - severe hazard of storm-tide flooding.

All of the soil types in the study are of Atlantic County Bayfront Public Access Plan exhibit an erosion and windthrow hazard from slight to moderate.

According to the Rules on Coastal Resources and Development (NJAC 7:7E - 1.1 et. seq., February 3, 1986), section 7:7E - 3.23 defines the policy relating to erosion hazard areas. This is:

Development is prohibited in erosion hazard areas, except for:

1. Linear development which meets the policy on location of linear development (N.J. AC. 7:E - 6.1) and
2. Shore protection activities which meet the appropriate Coastal Engineering Use Policies (N.J. AC 7:E - 7.11).

The following list includes the soil types found within each municipality in the study area.

Port Republic

KmA
TM
TD

Galloway

KmA
DoA
Ac
TM
LaA
EvB
LeC
ArB
SaB
Po

Absecon

TD
KmA
Po
TM
FM

Linwood

Po
TM
TD
KmA

Pleasantville

TD
TM
DoA
SaA
Po
ArA
BP (Borrow Pit)
HaA
FM
EvB
KmA

Northfield

DoA
SaA
KmA
EvB
TM
Po
KmA

Egg Harbor Township

FM
TD
Cu
TM

Somers Point

KmA
TM
TD
HaA
FM
FL
SaA

Current publications relating to erosion hazard areas include:

- . New Jersey's Barrier Islands: An Ever-Changing Public Resource
Rutgers Center for Coastal and Environmental Studies, 1980
- . New Jersey Coastal Management Program: Summary and Management System
Reprinted from: New Jersey Coastal Management Program and Final Environmental Impact Statement, August, 1980
- . New Jersey Riparian Rights Handbook
State of New Jersey County and Municipality Commission
Prepared for the Commission by Lewis P. Goldshore, Esquire.
Second Edition, November, 1979
- . Evaluation of Artificial Salt Marshes in New Jersey
Prepared by Joseph K. Shisler and David J. Charette, June, 1984
- . Assessment of Dune and Shore Protection Ordinances in New Jersey
Presented to Governor Thomas H. Kean and the members of the New Jersey Legislature by New Jersey Department of Environmental Protection, Division of Coastal Resources, December, 1984
- . New Jersey Coastal Development Handbook
New Jersey Department of Environmental Protection, Division of Coastal Resources - Revised October, 1983
- . Rules on Coastal Resources and Development
NJAC 7:7E - 1.1 et. seq. as of February 3, 1986
New Jersey Department of Environmental Protection, Division of Coastal Resources
- . Coastal Permit Program Regulations
NJAC 7:7
New Jersey Department of Environmental Protection, Division of Coastal Resources - Adopted effective June 1, 1984, as amended to May 18, 1987

Mitigation

Much of the study area lies within identified wetland areas, and is governed by state and federal rules that apply to any disturbance of these coastal and inland wetlands. Both state and federal agencies have developed policies regarding mitigation measures for wetlands that would pertain to activities that could possibly occur in the study area.

According to Rules on Coastal Resources and Development (NJAC 7:7E -1.1. et. seq.,) and specifically the policy as mentioned in Section 7:7E -1.6, permits that would allow the disturbance or loss of wetlands (see section 7:7E - 3.25) by filling or other means must provide for compensation through acceptable mitigation.

The mitigation concept is based upon governmental attempts to prevent and/or minimize adverse impacts on valuable natural habitats while permitting some types of human development in environmentally sensitive areas.

New Jersey Department of Environmental Protection, Division of Coastal Resources, Bureau of Planning and Project Review cites Evaluation of Artificial Salt Marshes in New Jersey by Joseph K. Shisler and David J. Charette for recommended guidelines for designing marsh creation and restoration projects. The recommended guidelines are explained in pages 134 through 150 of the reference study.

The areas within the designated municipalities of the bayfront study zone have been identified as having only slight to moderate hazard of erosion. As well, none of the erosion hazard characteristics enumerated in section 7:7E - 3.23 are found to be present in the study area.

Although coastal engineering policy as stated in section 7:7E - 7.11 includes a variety of structural and non-structural measures to manage water areas and the shoreline for natural effects of erosion, storms, and sediment and sand movement, vegetative shore protection and non-structural solutions are preferred. An example of mitigation technique as required by New Jersey Department of Environmental Protection, Division of Coastal Resources might be for new vegetative wetland and fill areas to be created seaward of a newly constructed bulkhead.

On the federal level, (33 CFR part 320, Final Rule for Regulatory Programs of the Corps of Engineers) "mitigation" as broadly defined by the U.S. Army Corps of Engineers means practically any permit condition or best management practice designed to avoid or reduce adverse effects.

Mitigation considerations occur throughout the permit application review process and are conducted in consultation with state and federal agencies responsible for fish and wildlife resource

es. Pre-application meetings are encouraged by the Corps of Engineers for large or potentially controversial projects. For applications involving any site development fills for recreational purposes, Section 404 of the Clean Water Act requires mitigation and authorization as specified by the Corps of Engineers. Other laws such as the Endangered Species Act may also lead to mitigation requirements to ensure that a proposal complies with the law. In addition, National Environmental Policy Act procedures provide for further mitigation should the public interest review indicate.

A form of mitigation is "compensatory mitigation," defined as "compensating for the impact by replacing or providing substitute resources or environments." Federal and state natural resource agencies might ask the Corps to require permit application to compensate for destroyed wetlands by constructing or enhancing a wetland; by dedicating wetland acreage for public use; or by contributing to the construction of "mitigation lands." This is known as "off-site" mitigation.

Current federal publications relating to wetlands and wetland mitigation policies include:

The United States Army Corps of Engineers

Information Poster with Public Notice cover memo.
(NAPOP-R) December 9, 1985

United States Army Corps of Engineers
Regulatory Program
Applicant Information (pamphlet EP1145-2-1) May, 1985

Federal Register, Thursday, November 13, 1987
Part II, Department of Defense
Corps of Engineers, Department of the Army
33 CFR, Parts 320 through 330, Regulatory Programs
of the Corps of Engineers; Final Rule

Are you Planning Work in a Waterway or Wetland - U.S. Army Corps
of Engineers, Philadelphia District (pamphlet).

Environmental Questionnaire for Corps of Engineers
Permit Application, Philadelphia District, October, 1981

Public Notices

Public Notice of General Permit Issuance, December 9, 1982
State Program General Permit, State of New Jersey
U.S. Army Corps of Engineers, Philadelphia and New York Dis-
tricts, NAPOP-R - New Jersey - GP17

"Consistency Certification" with Approved State Coastal Zone
Management Programs, August 1, 1986,
NAPOP-R - Coastal Zone Management

Public Notice of Approval of General Permit Modification,
October 3, 1986, NAPOP-R - New Jersey - SPGP - 19

Corps of Engineers Regulatory Program, Reauthorization of the
Nationwide Permits, November 13, 1986, NAPOP-R - NP's - New
Jersey

Public Notice - Permit Application Information, June 11, 1987
CENAP - OP - R

Regulatory Mission - Presentation to the New Jersey Society of
Municipal Engineers, Wednesday, February 4, 1987, prepared by
the U.S. Army Corps of Engineers, Philadelphia District

APPENDIX 2: ZONING

The eight municipalities in the bayfront study area are primarily residential communities. The southern portion of the study area (Absecon and south) is nearly fully developed, with access points to the bayfront limited for the most part to privately developed marinas. There are two public parks in Somers Point, City Beach and Kennedy Park, that provide direct access to the bay. Between Somers Point and Absecon, there are no developed public access points except the dilapidated municipal marina in Pleasantville. The northern portion of the study area is considerably less developed, with public access points provided in Absecon along Faunce Landing Road, and in Galloway at Scotts Landing in the Forsythe National Wildlife Refuge.

In order to ensure that public access is provided in these communities, a policy for bayfront access that is compatible with the zoning of these municipalities is necessary. The following narrative outlines the existing zoning designations found within the portions of the municipalities that lie within the study area.

Zoning is indicated on the Public Land, Zoning, and Access map.

Absecon

R1: Low Density Residential

This designation provides for single family dwellings, parks, and public utility substations. Churches are conditionally permitted on 1 acre lots. The minimum lot size in this district is 15,000 to 20,000 square feet, depending on Planning Commission approval.

R2: Moderate Density Residential

This designation provides for the same uses as the R1 zone, with professional offices secondary to the residential use conditionally permitted. The minimum lot size in this district is 10,000 square feet.

C3: Marine Commercial

This designation applies to most of the area along Absecon Creek. Allowable uses include marine and marine service facilities, and water-oriented service facilities. The minimum lot size is 25,000 square feet.

HC: Highway Commercial

This designation applies to the developed strip retail area along Absecon Boulevard. Permitted uses include retail stores and services, enclosed restaurants and drinking establishments, general business and professional offices, banks, motels, service stations and auto sales and repair shops, golf courses and tennis courts, and amusement halls. The minimum

lot size is 3 acres for auto sales and service (with 200 feet frontage), 30,000 square feet for drive-in restaurants and motels, and 15,000 square feet for all other uses.

HD-1: Highway Development

This zoning district, along with HD-1, includes the large undeveloped fill parcels along Absecon Boulevard. Permitted uses are mid-rise hotels and condominiums, professional offices, and townhouses. The minimum lot size is 2.5 acres of upland, with a 30% common open space requirement.

HD-2: Highway Development

This district is intended for townhouse development. The minimum lot size is 3 acres, with a density of 8 units per acre with a maximum of 8 dwelling units per building. There is a 60% common open space requirement.

Cons: Conservation-Recreation

This district includes most of the area of Absecon that lies within the study area. The only permitted uses within this zone are recreational uses not requiring construction, wildlife preserves, and transmission lines, dams, culverts, and bridges (with applicable permits). This designation is intended to preserve the extensive wetlands found in the bay area, and to ensure that development does not encroach upon these sensitive areas.

Egg Harbor Township

R5: Residential

This high density residential district allows single-family dwellings, professional home offices (covering 25% or less of the gross floor area), churches, non-profit clubs, fraternal organization, fire companies, rescue squads, and first aid squads, on 6,000 square foot lots.

R5 Apartment: Residential Apartment

This district permits the uses of the R5 District on 6,000 square foot lots, as well as multi-family residential uses on 5 acre lots (to a maximum density of 12 units per acre), and Planned Unit Developments, subject to Planning Board review.

MC: Marine Commercial

This district is intended to provide marine and recreational facilities that will assure public access to the waterfront area. permitted uses on 5 acre lots are new and used boat sales, marinas, marine supply shops, and buildings for boat storage, repair and construction. Year-round residential structures are not permitted.

CRW: Conservation, Recreation, Wetland

This district allows single-family dwellings, farming and agricultural operations, churches, golf courses, stables and horse farms, private schools, museums, non-profit clubs, fra-

ternal organizations, fire companies, and rescue squads and and first aid squads. Accessory uses include roadside produce stands and professional home offices (to a maximum of 25% of the gross floor area). Planned Unit Developments and marinas are conditional uses. The minimum lot size for the CRW Zone is 5 acres.

Galloway

R20: Residential

This category permits single-family detached residences, churches, public buildings, schools, parks, and farms on lots of 35,000 square feet for unsewered areas and 20,000 square feet in sewerred areas.

NR: Planned Neighborhood Residential

This district allows the uses of the R20 Zone, as well as quarries, golf courses, and Planned Urban Developments. These PUD's allow single family dwellings, townhouses, and garden apartments, with a maximum of 5% commercial development. Minimum lot size in this district is 1 acre. In PUD's, densities of 1 dwelling unit/0.8 acres in unsewered, and 1 dwelling unit/2 acres in sewerred developments are allowed.

CC: Planned Commercial District

This district permits the uses of the R20 district, as well as single family attached dwellings and community commercial uses. In PUD's, there is a maximum of 10% commercial development. Minimum lot sizes are 10,000 square feet for commercial uses, and 35,000 square feet for residential uses. In PUD's, densities of 1 dwelling unit/0.8 acres unsewered, and 1 dwelling unit/4 acres sewerred are permitted.

CV: Conservation

This district encompasses both wetland and agricultural areas. Permitted uses include farms, parks, and fish and game clubs. The minimum lot size is 5 acres.

Linwood

Residential A:

This district permits single-family dwellings only on 10,000 square foot lots.

Residential B:

This district provides for estate housing and the development of lots that do not have frontage on public thoroughfares. Single family dwellings on 15,000 square foot lots are permitted. Access is to be provided by private drives.

Residential C:

This district allows multi-family units, with a maximum of 2 dwelling units per structure on 15,000 square foot lots.

Flex:

This zone provides for innovative design for office and commercial uses. All residential, institutional, open space (including farming), fast food, gas stations, and auto repair uses are excluded. The minimum building size is 4,000 square feet.

Institutional:

Institutional uses in minimum 6,000 square foot buildings are permitted. Maximum lot coverage is 40%.

Recreation/Open Space:

No buildings except club and support buildings associated with pools, tennis courts, and ball fields are permitted.

Conservation:

This district includes the tidal wetlands. No buildings are permitted, and only municipal docks are allowed.

Northfield

R1: Residential

Single-family dwellings, churches, and community buildings/libraries are permitted on 10,000 square foot lots. Residential density is 3 to 4 dwelling units per acre.

R2: Residential

R1 uses are permitted on 7,500 square foot lots. Residential densities of 4 to 5 dwelling units per acre are allowed.

C-C: Country Club

This zone allows golf courses and single-family dwellings. Garden apartments and townhouses are conditional uses, with maximum gross densities of 1 dwelling unit/acre and net densities of 5 dwelling units/acre (maximum 50 units).

SC-1: Senior Citizen Housing

This district allows for high density senior citizen townhouse units to a maximum of 15 dwelling units/acre.

Pleasantville

R-10: Residential

Single family dwellings on 10,000 square foot lots are permitted. Churches, schools, parks, and home professional offices are conditional uses in this zone.

HR-A: Highrise A

Highrise housing (maximum 12 stories and 125 units) is permitted on 40,000 square foot lots.

MR: Midrise

Townhouses are encouraged as the principal use on 4 acre lots. There is a maximum of 40 units per buildable acre to a maximum height of 6 stories.

TH-A: Townhouse

Townhouse structures with a maximum of 3 stories are permitted to a density of 20 dwelling units per acre.

CBPD: Central Business Preservation District

All uses except convenience stores are permitted. Residential uses are permitted as accessory uses.

CBD: Commercial B

All commercial uses on 15,000 square foot lots are permitted. Auto dealers require minimum 1 acre lots. Public buildings are not permitted.

I-PID-B: Industrial/Planned Industrial Development

Light industrial, restaurants, research and development, utility, and wholesale/storage uses are permitted on 2 acre lots. Gas stations, hotels, and motels are permitted on 1 acre lots.

RSCD: Regional Shopping Center

Shopping centers, professional offices, hotels/motels, auto dealers, theaters, restaurants, bakeries, and libraries are permitted on 150 acre lots.

Port Republic

RR: Rural Residential

This district permits single-family dwellings, schools, parks and recreation areas, public buildings, truck farming, and golf courses on minimum 1 acre lots. Minimum lot sizes may be increased to 1 dwelling unit per 2.5 acres depending upon environmental constraints.

MC: Marine Commercial

Mullica: Uses permitted in this district along the Mullica River include marinas and marine service and storage uses such as boat repairs, sales, rentals, ship building, docks, and bulkheads, as well as hotels/motels, restaurants, recreation areas, and marine-oriented gift shops. The minimum lot size is 2 acres.

Nacote: Uses permitted in this district along the Nacote Creek are same as for the MC Mullica district, except that hotels/motels, restaurants, and recreation areas are excluded. The minimum lot size is 2 acres.

Conservation:

All areas designated conservation lie within the Forsythe National Wildlife Refuge, and so are protected from development.

Somers Point

R-1: Residential

This district permits single-family dwellings on 7,500 square foot lots.

HC-1: Highway Commercial 1

This district permits retail uses, restaurants, offices, banks, service establishments, public buildings, and gas stations on 15,000 square foot lots.

HC-2: Highway Commercial 2

This district permits HC-1 uses on 15,000 square foot lots, and motels on 30,000 square foot lots.

BHP: Business Historic Preservation

This district includes the traditional downtown waterfront area of Somers Point. Permitted uses include boat sales, storage, and maintenance, water-oriented services, restaurants, theaters, shops, and existing residential uses. There is no prescribed minimum lot size.

TC: Tourist Commercial

This district is located near Route 9, and provides for motels, recreational facilities, and restaurants. Motels and recreational facilities require 30,000 square foot lots, and eating and drinking establishments require 15,000 square foot lots.

Rec-A: Recreation A

This district provides for active and passive recreation uses and any related structures only.

FD: Floodplain District

These areas permit recreational uses not requiring parking, and wildlife preserves.

New Jersey Natural Heritage Program

Office of Natural Lands Management
109 W. State Street, Trenton, New Jersey 08608
(609) 984-1339

November 4, 1987

Ms. Theresa Fowler
Atlantic Co. Dept. of Regional Planning and Development
Division of Planning
1333 Atlantic Avenue
Atlantic City, NJ 08401

Dear Ms. Fowler:

Thank you for your recent request for information on endangered species at the Atlantic County Bayfront Public Access Plan project area. Attached is a list of species, sorted by municipality, which have been documented to occur within the project area. Included in the list are the federal status, state status, and natural heritage ranks of each species. Also attached is a similar list of species which occur outside the project area within 4,000 ft. of the project boundary. Explanations of federal status codes and natural heritage ranks are enclosed. Animal species which are officially listed as endangered or threatened in the state are identified as 'LE' or 'LT' respectively under state status. There currently is no official statewide list of endangered and threatened plant species.

In addition I have enclosed a list of rare and endangered vertebrates of Atlantic County together with habitat descriptions for each species. For additional information on how proposed projects may impact these or other rare animals, please contact the Division of Fish, Game and Wildlife.

The quantity and quality of data collected by the Natural Heritage Program is dependent on the research and observations of many individuals and organizations. Not all of this information is the result of comprehensive or site-specific field surveys. Some natural areas in New Jersey have never been thoroughly surveyed. As a result, new locations for plant and animal species are continuously added to the data base. Since data acquisition is a dynamic, ongoing process, the Natural Heritage Program cannot provide a definitive statement on the presence, absence, or condition of biological elements in any part of New Jersey.

Information supplied by the Natural Heritage Program summarizes existing data known to the program at the time of the request regarding the biological elements or locations in question. They should never be regarded as final statements on the elements or areas being considered, nor should they be substituted for on-site surveys required for environmental assessments. The Natural Heritage Program must be credited as an information source in any publication of this data.

Thank you for consulting the Natural Heritage Program. The fee for processing this data request is \$60.00. Payment should be made to the Nature Conservancy- The NJ Natural Heritage Program.

Please feel free to contact us again regarding any future data requests.

Sincerely,

Thomas F. Breden

Thomas F. Breden
Coordinator

cc: JoAnn Frier-Murza
Thomas Hampton

DOCUMENTED RARE AND ENDANGERED SPECIES OCCURRENCES
ADJACENT TO ATLANTIC COUNTY BAYFRONT PUBLIC ACCESS AREA

NEW JERSEY NATURAL HERITAGE PROGRAM

NAME	COMMON NAME	FEDERAL STATUS	GLOBAL STATUS	DATE OBSERVED
** MUNICIPALITY ATLANTIC CITY				
NYCTICORAX VIOLACEUS	YELLOW-CROWNED NIGHT-HERON	LT	G5	S2 1985-06-??
COASTAL HERON ROOKERY	COASTAL HERON ROOKERY		U	S3 1986-06-??
FALCO PEREGRINUS	PEREGRINE FALCON	LE	G3	S2 1985-SUMMER
SIDA HERNANDREZII	VIRGINIA MALLOW		G3	SXSE? 1877-??-??
** MUNICIPALITY EGG HARBOR TWP.				
STERNA ANTILLARUM	LEAST TERN	LE	G4	S2 1984-??-??
** MUNICIPALITY GALLOWAY TWP.				
BARTRAMIA LONGICAUDA	UPLAND SANDPIPER	LE	G5	S1 1977-??-??
COASTAL HERON ROOKERY	COASTAL HERON ROOKERY		U	S3 1985-06-??
COASTAL HERON ROOKERY	COASTAL HERON ROOKERY		U	S3 1983-06-??
HYLA ANDERSONII	PINE BARRENS TREEFROG	C2	G4	S4 1981-06-23
HYLA ANDERSONII	PINE BARRENS TREEFROG	C2	G4	S4 1979-06-10
CLEMmys INSCULPTA	WOOD TURTLE	LT	G5	S4 1945-07-03
STRIX VARIA	BARRED OWL	LT	G5	S3 1979-09-06
PITUOPHIS MELANOLEUCUS	PINE SNAKE	LT	G5	S3 1979-08-29
** MUNICIPALITY MARGATE CITY				
NYCTICORAX VIOLACEUS	YELLOW-CROWNED NIGHT-HERON	LT	G5	S2 1978-06-??
COASTAL HERON ROOKERY	COASTAL HERON ROOKERY		U	S3 1978-06-??
** MUNICIPALITY VENTNOR CITY				
STERNA ANTILLARUM	LEAST TERN	LE	G4	S2 1977-??-??
RANUNCULUS CYMBALARIA	SEA-SIDE CROWFOOT		G5	SH 1898-08-11

DOCUMENTED RARE AND ENDANGERED SPECIES OCCURRENCES
WITHIN ATLANTIC COUNTY BAYFRONT PUBLIC ACCESS AREA

NEW JERSEY NATURAL HERITAGE PROGRAM

NAME	COMMON NAME	FEDERAL STATUS	GLOBAL STATUS	DATE OBSERVED
** MUNICIPALITY ABSECON CITY				
STERNA ANTILLARUM	LEAST TERN	LE	G4 S2	1984-??-??
** MUNICIPALITY ATLANTIC CITY				
STERNA ANTILLARUM	LEAST TERN	LE	G4 S2	1982-??-??
STERNA ANTILLARUM	LEAST TERN	LE	G4 S2	1984-??-??
** MUNICIPALITY EGG HARBOR TWP.				
COASTAL HERON ROOKERY	COASTAL HERON ROOKERY		U S3	1985-06-??
CHARADRIUS MELCOUS	PIPING PLOVER	LELT	G2 S1	1985-07-??
NYCTICORAX VIOLACEUS	YELLOW-CROWNED NIGHT-HERON	LT	G5 S2	1985-06-??
NYCTICORAX VIOLACEUS	YELLOW-CROWNED NIGHT-HERON	LT	G5 S2	1985-06-??
NYCTICORAX VIOLACEUS	YELLOW-CROWNED NIGHT-HERON	LT	G5 S2	1985-06-??
COASTAL HERON ROOKERY	COASTAL HERON ROOKERY	U	S3	1985-06-??
COASTAL HERON ROOKERY	COASTAL HERON ROOKERY	U	S3	1985-06-??
COASTAL HERON ROOKERY	COASTAL HERON ROOKERY	U	S3	1985-06-??
STERNA ANTILLARUM	LEAST TERN	LE	G4 S2	1977-??-??
STERNA ANTILLARUM	LEAST TERN	LE	G4 S2	1981-??-??
STERNA ANTILLARUM	LEAST TERN	LE	G4 S2	1978-??-??
NYCTICORAX VIOLACEUS	YELLOW-CROWNED NIGHT-HERON	LT	G5 S2	1985-06-??
COASTAL HERON ROOKERY	COASTAL HERON ROOKERY	U	S3	1985-06-??
** MUNICIPALITY GALLOWAY TWP.				
AMBYSTOMA TIGRINUM	TIGER SALAMANDER		G5 S2	1979-??-??
PODILYMBUS PODICEPS	PIED-BILLED GREBE	LE	G5 S1	1981-??-??
NYCTICORAX VIOLACEUS	YELLOW-CROWNED NIGHT-HERON	LT	G5 S2	1977-06-??
COASTAL HERON ROOKERY	COASTAL HERON ROOKERY	U	S3	1985-06-??
COASTAL HERON ROOKERY	COASTAL HERON ROOKERY	U	S3	1977-06-??
COASTAL HERON ROOKERY	COASTAL HERON ROOKERY	U	S3	1985-06-??
FALCO PEREGRINUS	PEREGRINE FALCON	LE	G3 S2	1986-SUMMR
CISTOTHORUS PLATENSIS	SEDGE WREN	LE	G5 S1	1977-??-??

DOCUMENTED RARE AND ENDANGERED SPECIES OCCURRENCES
WITHIN ATLANTIC COUNTY BAYFRONT PUBLIC ACCESS AREA

NEW JERSEY NATURAL HERITAGE PROGRAM

NAME	COMMON NAME	FEDERAL STATE GLOBAL STATE DATE			
		STATUS	STATUS RANK	RANK	OBSERVED
** MUNICIPALITY PLEASANTVILLE CITY					
CIRSIUM VIRGINIANUM	VIRGINIA THISTLE	G7	S1		1918-08-30

EXPLANATION OF RANKS

GLOBAL ELEMENT RANKS:

- G1 = Critically imperiled globally because of extreme rarity (5 or fewer occurrences or very few remaining individuals or acres) or because of some factor(s) making it especially vulnerable to extinction.
- G2 = Imperiled globally because of rarity (6 to 20 occurrences or few remaining individuals or acres) or because of some factor(s) making it very vulnerable to extinction throughout its range.
- G3 = Either very rare and local throughout its range or found locally (even abundantly at some of its locations) in a restricted range (e.g., a single western state, a physiographic region in the East) or because of other factors making it vulnerable to extinction throughout its range; in terms of occurrences, in the range of 21 to 100.
- G4 = Apparently secure globally, though it may be quite rare in parts of its range, especially at the periphery.
- G5 = Demonstrably secure globally, though it may be quite rare in parts of its range, especially at the periphery.
- GH = Of historical occurrence throughout its range, i.e., formerly part of the established biota, with the expectation that it may be rediscovered.
- GU = Possibly in peril range-wide but status uncertain; need more information. To express uncertainty, the most likely rank is assigned and a question mark added (e.g., G2?). A range is indicated by combining two ranks (e.g., G1G2, G1G3).
- GX = Believed to be extinct throughout range (e.g., Passenger Pigeon) with virtually no likelihood that it will be rediscovered.
- G? = Species has not yet been ranked.

STATE ELEMENT RANKS:

- S1 - Critically imperiled in state because of extreme rarity, usually 5 or fewer sites or with very few remaining individuals or acres. Elements so ranked are often restricted to very specialized conditions or habitats and/or restricted to an extremely small geographical area of the state. Also included are elements which were formerly more abundant, but now through habitat destruction or some other critical factor of its biology have been demonstrably reduced in abundance. In essence, these are elements that even with intensive searching sizable additional occurrences are unlikely to be discovered.
- S2 - Imperiled in state because of rarity, on the order of 6 to 20 occurrences. Historically many of these elements may have been more frequent but are now known from very few extant occurrences. Habitat destruction being the primary cause of their rarity. Diligent searching may yield additional occurrences.
- S3 - Rare in state with 21 to 100 occurrences (Plant species in this category have only 21 - 50 occurrences). Includes elements which are widely distributed in the state but with small populations/acreage or elements with restricted distribution, but locally abundant. Not yet imperiled in state but may soon be if current trends continue. Searching often yields additional occurrences.
- S4 - Apparently secure in state, with many occurrences.
- S5 - Demonstrably secure in state and essentially ineradicable under present conditions.
- SA - Accidental in state, including species (usually birds or butterflies) recorded once or twice or only at very great intervals, hundreds or even thousands of miles outside their usual range; a few of these species may even have bred on the one or two occasions they were recorded; examples include european strays or western birds on the East Coast and vice-versa.
- SE - A species clearly exotic in New Jersey which includes those species not native to North America as well as any other species deliberately or accidentally introduced into the state and are therefore not a conservation priority (viable introduced occurrences of G1 or G2 elements may be exceptions).
- SH - Despite some searching of both historic occurrences and suitable habitat, no extant occurrences currently are known.

Not all historic occurrences have been checked, and unsearched potential habitat remains. Until all leads are reasonably exhausted, elements ranked SH are considered possibly extant. While the last observed dates for most elements ranked SH are 50 or more years old, elements observed much more recently are also included when the only known occurrences have been destroyed.

- SN - Regularly occurring, usually migratory and typically nonbreeding species for which no significant or effective habitat conservation measures can be taken in the state; this category includes migratory birds, bats, sea turtles, and cetaceans which do not breed in the state but pass through twice a year or may remain in the winter (or, in a few cases, the summer); included also are certain lepidoptera which regularly migrate to a state where they reproduce, but then completely die out every year with no return migration. Species in this category are so widely and unreliably distributed during migration or in winter that no small set of sites could be set aside with the hope of significantly furthering their conservation. Other nonbreeding, high globally-ranked species (such as the bald eagle, whooping crane or some seal species) which regularly spend some portion of the year at definite localities (and therefore have a valid conservation need in the state) are not ranked SN, but rather S1, S2, etc.
- SR - Reported from the state, but without persuasive documentation which would provide a basis for either accepting or rejecting (e.g., misidentified specimen) the report. Some of these are very recent discoveries for which NJNHP hasn't yet received first-hand information; others are old, obscure reports that are hard to dismiss because the habitat is now destroyed.
- SRF - Reported falsely (in error) from New Jersey but this error persisting in the literature.
- SU - Believed to be in peril but status uncertain. More information is needed to rank accurately. Wherever possible the most likely rank is combined with a question mark (e.g. S2?) to express uncertainty; or a range is indicated by combining two ranks (e.g. S1S2).
- SX - Apparently extirpated from state. All historic occurrences checked and a thorough search of potential habitat completed. The localities for many of these elements have been destroyed or greatly altered.

Note: A 'T' appearing in either the G Rank or S Rank, indicates that the infraspecific taxa is being ranked differently than the species. A 'Q' in the rank indicates that there is taxonomic uncertainty about the taxa being ranked (e.i., taxa is being accepted as full species in this list but may be treated as a variety or form by others).

Updated 87-01-14

U.S. FISH AND WILDLIFE CATEGORIES OF ENDANGERED AND
THREATENED PLANTS

The following definitions are extracted from the September 27, 1985, U.S. Fish and Wildlife Service notice in the Federal Register:

LE--Taxa formally listed as endangered.

LT--Taxa formally listed as threatened.

PE--Taxa proposed to be formally listed as endangered.

PT--Taxa proposed to be formally listed as threatened.

S --Synonyms.

C1 --Taxa for which the Service currently has on file substantial information on biological vulnerability and threat(s) to support the appropriateness of proposing to list them as endangered or threatened species.

C2 --Taxa for which information now in possession of the Service indicates that proposing to list them as endangered or threatened species is possibly appropriate, but for which substantial data on biological vulnerability and threat(s) are not currently known or on file to support the immediate preparation of rules.

C3 --Taxa that are no longer being considered for listing as threatened or endangered species. Such taxa are further coded to indicate three subcategories, depending on the reason(s) for removal from consideration.

3A--Taxa for which the Service has persuasive evidence of extinction.

3B--Names that, on the basis of current taxonomic understanding, usually as represented in published revisions and monographs, do not represent taxa meeting the Act's definition of "species."

3C--Taxa that have proven to be more abundant or widespread than was previously believed and/or those that are not subject to any identifiable threat.



Endangered and Threatened Wildlife in New Jersey

Endangered species are those whose prospects for survival in the state are in immediate danger because of a loss or change of habitat, over-exploitation, predation, competition or disease. Immediate assistance is needed to prevent extinction.

Threatened species are those who may become endangered if conditions surrounding the species begin or continue to deteriorate.

FISH

Endangered

Shortnose Sturgeon *

Threatened

Atlantic Sturgeon
American Shad
Brook Trout
Atlantic Tomcod

AMPHIBIANS

Endangered

Tremblay's Salamander
Blue-spotted Salamander
Eastern Tiger Salamander
Pine Barrens Treefrog
Southern Gray Treefrog

Threatened

Long-tailed Salamander
Eastern Mud Salamander

REPTILES

Endangered

Corn Snake
Bog Turtle
Timber Rattlesnake
Atlantic Hawksbill Turtle*
Atlantic Loggerhead Turtle*
Atlantic Ridley Turtle*
Atlantic Leatherback Turtle*

Threatened

Wood Turtle
Northern Pine Snake
Atlantic Green Turtle



Continued

Endangered and Nongame Species Program

List Established: December 19, 1974

List Revised: March 29, 1979

*

January 17, 1984

*

May 6, 1985

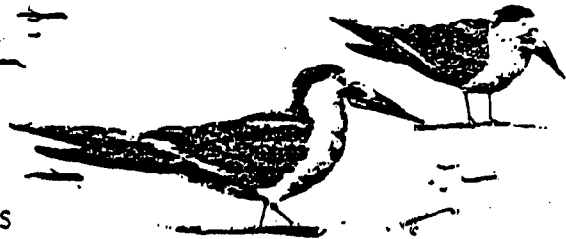
BIRDS

Endangered

Pied-billed Grebe^b
 Cooper's Hawk
 Northern Harrier^b
 Bald Eagle*
 Peregrine Falcon*
 Piping Plover
 Upland Sandpiper
 Least Tern
 Roseate Tern
 Black Skimmer
 Short-eared Owl^b
 Cliff Swallow^b
 Sedge Wren
 Henslow's Sparrow
 Vesper Sparrow^b

Threatened

Osprey
 Red-shouldered Hawk
 Merlin
 Great Blue Heron
 Yellow-crowned Night Heron
 Barred Owl
 Red-headed Woodpecker
 Bobolink
 Savannah Sparrow
 Ipswich Sparrow
 Grasshopper Sparrow



MAMMALS

Endangered

Sperm Whale*
 Blue Whale*
 Finback Whale*
 Sei Whale*
 Humpback Whale*
 Right Whale*

(* indicates Federal and State endangered status.)

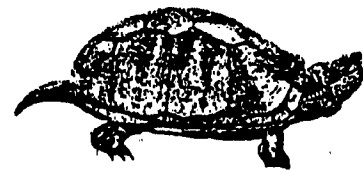
(^b only Breeding population endangered)

PERSPECTIVE

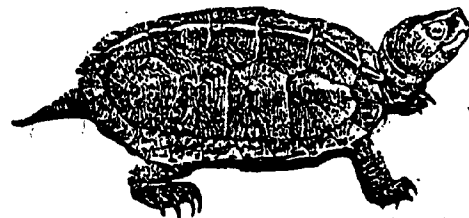
Species are listed as endangered when record of past and present population indicate that the species is on the decline. Habitat - that place that animals need to live - is ever changing and when habitats change, some species survive and others decline. In New Jersey habitat change is partially responsible for the decline of 54 endangered and threatened species. The Endangered and Nongame Species Program is responsible for protecting these species found in the state.

YOUR HELP

Reports of sightings of endangered and threatened species are welcome! When you observe any species listed, jot down the date, time, exact location and any behavioral observations and send to CN 400, Trenton, NJ 08625. Your contributions to the Endangered and Nongame Wildlife Conservation Fund on your NJ Income Tax form continue to make endangered species protection possible.



HABITAT + REPRODUCTION = SURVIVAL



NEW JERSEY NATURAL HERITAGE PROGRAM
POTENTIAL THREATENED AND ENDANGERED VERTEBRATE SPECIES
IN ATLANTIC COUNTY

AMERICAN BITTERN	FEDERAL STATUS:	COUNTY
<u>BOTAURUS LENTIGINOSUS</u>	STATE STATUS: LT	OCCURRENCE: Y

HABITAT COMMENTS

Fresh water bogs, swamps, wet fields, cattail and bulrush marshes, brackish and saltwater marshes and meadows.

BALD EAGLE	FEDERAL STATUS: LE	COUNTY
<u>HALIAEETUS LEUCOCEPHALUS</u>	STATE STATUS: LE	OCCURRENCE: W*

HABITAT COMMENTS

Primarily near seacoasts, rivers, and large lakes.

BARRED OWL	FEDERAL STATUS:	COUNTY
<u>STRIX VARIA</u>	STATE STATUS: LT	OCCURRENCE: Y

HABITAT COMMENTS

Dense woodland and forest (conif. or hardwood), swamps, wooded river valleys, cabbage palm-live oak hammocks, especially where bordering streams, marshes, and meadows

BLACK RAIL	FEDERAL STATUS:	COUNTY
<u>LATTERALLUS JAMAICENSIS</u>	STATE STATUS: LT	OCCURRENCE: B

HABITAT COMMENTS

Salt, brackish, and freshwater marshes, wet meadows, and grassy swamps.

BLACK SKIMMER	FEDERAL STATUS:	COUNTY
<u>RYNCHOPS NIGER</u>	STATE STATUS: LE	OCCURRENCE: B

HABITAT COMMENTS

Primarily coastal waters, including bays, estuaries, lagoons and mudflats in migration and winter.

BOG TURTLE	FEDERAL STATUS: C2	COUNTY
<u>CLEMMYS MUHLENBERGII</u>	STATE STATUS: LE	OCCURRENCE: Y

HABITAT COMMENTS

Slow, shallow rivulets of sphagnum bogs, swamps, and marshy meadows; sea level to 1200 m in Appalachians. Commonly basks on tussocks in morning in spring and early summer. Hibernates in subterreanean rivulet or seepage area.

5\18\87

BROOK TROUT
SALVELINUS FONTINALIS

FEDERAL STATUS:
STATE STATUS: LT

COUNTY
OCCURRENCE: Y

HABITAT COMMENTS

Clear cool well-oxygenated streams and lakes. May move from streams into lakes or sea to avoid high temps. in summer.

COOPER'S HAWK
ACCIPITER COOPERII

FEDERAL STATUS:
STATE STATUS: LE

COUNTY
OCCURRENCE: W*

HABITAT COMMENTS

Primarily mature forest, either broadleaf or coniferous, mostly the former; also open woodland and forest edge.

CORN SNAKE
ELAPHE GUTTATA

FEDERAL STATUS:
STATE STATUS: LE

COUNTY
OCCURRENCE: Y

HABITAT COMMENTS

Rocky hillsides, meadows, along stream courses and river bottoms, canyons and arroyos, barnyards, abandoned houses and ranch buildings, near springs, in caves, wooded areas. Terrestrial, arboreal, and subterranean. Stays hidden by day.

GRASSHOPPER SPARROW
AMMODRAMUS SAVANNARUM

FEDERAL STATUS:
STATE STATUS: LT

COUNTY
OCCURRENCE: Y

HABITAT COMMENTS

Prairie, old fields, open grasslands, cultivated fields, savanna.

GREAT BLUE HERON
ARDEA HERODIAS

FEDERAL STATUS:
STATE STATUS: LT

COUNTY
OCCURRENCE: Y

HABITAT COMMENTS

Freshwater and brackish marshes, along lakes, rivers, bays, lagoons, ocean beaches, mangroves, fields, and meadows.

LEAST TERN
STERNA ANTILLARUM

FEDERAL STATUS:
STATE STATUS: LE

COUNTY
OCCURRENCE: B

HABITAT COMMENTS

Seacoasts, beaches, bays, estuaries, lagoons, lakes, and rivers.

LOGGERHEAD SHRIKE
LANIUS LUDOVICIANUS MIGRANS

FEDERAL STATUS: C2
STATE STATUS: LE

COUNTY
OCCURRENCE: W

HABITAT COMMENTS

"Open country with scattered trees and shrubs, savanna, desert scrub and, occasionally, open woodland, often found on poles, wires or fenceposts (Tropical to Temperate zones)."

5\18\87

MERLIN
FALCO COLUMBARIUS

FEDERAL STATUS:
STATE STATUS: LT

COUNTY
OCCURRENCE: W

HABITAT COMMENTS

During the breeding season inhabits coniferous or deciduous open woodlands, wooded prairies. At other times of the year found in a wide variety of habitats including: marshes and deserts, seacoasts, open woodlands, fields, etc.

MUD SALAMANDER
PSEUDOTRITON MONTANUS

FEDERAL STATUS:
STATE STATUS: LT

COUNTY
OCCURRENCE: ?

HABITAT COMMENTS

Muddy springs, slow floodplain streams, and swamps along slow streams. Nonlarval forms usually found beneath logs and rocks, in decaying vegetation, and in muddy stream-bank burrows. Occasionally disperses from wet muddy areas.

NORTHERN HARRIER
CIRCUS CYANEUS

FEDERAL STATUS:
STATE STATUS: LE

COUNTY
OCCURRENCE: Y

HABITAT COMMENTS

Marshes, meadows, grasslands, and cultivated fields. Perches on ground or on stumps or posts.

OSPREY
PANDION HALIAETUS

FEDERAL STATUS:
STATE STATUS: LT

COUNTY
OCCURRENCE: B

HABITAT COMMENTS

Primarily along rivers, lakes, and seacoasts, occurring widely in migration, often crossing land between bodies of water.

PEREGRINE FALCON
FALCO PEREGRINUS

FEDERAL STATUS: LE
STATE STATUS: LE

COUNTY
OCCURRENCE: Y

HABITAT COMMENTS

"A variety of open situations from tundra, moorlands, steppe and seacoasts, especially where there are suitable nesting cliffs, to high mountains, more open forested regions, and even human population centers...".

PIED-BILLED GREBE
PODILYMBUS PODICEPS

FEDERAL STATUS:
STATE STATUS: LE

COUNTY
OCCURRENCE: Y

HABITAT COMMENTS

Lakes, ponds, sluggish streams, and marshes; in migration and in winter also in brackish bays and estuaries.

5\18\87

PINE BARRENS TREEFROG
HYLA ANDERSONII

FEDERAL STATUS: C2 COUNTY
STATE STATUS: LE OCCURRENCE: Y

HABITAT COMMENTS

Streams, ponds, cranberry bogs, and other wetland habitats. Post-breeding habitat the woodlands bordering these areas.

PINE SNAKE
PITUOPHIS MELANOLEUCUS

FEDERAL STATUS: COUNTY
STATE STATUS: LT OCCURRENCE: Y

HABITAT COMMENTS

Lowlands to mountains; desert, prairie, brushland, woodland, open coniferous forest, farmland, marshes. Terrestrial, fossorial, and arboreal. Underground in cold weather.

PIPING PLOVER
CHARADRIUS MELODUS

FEDERAL STATUS: LE COUNTY
STATE STATUS: LE OCCURRENCE: B

HABITAT COMMENTS

Sandy beaches, especially where scattered grass tufts are present, sparsely vegetated shores and islands of shallow lakes, ponds, and impoundments. In migration and winter also mudflats, flooded fields.

RED-HEADED WOODPECKER
MELANERPES ERYTHROCEPHALUS

FEDERAL STATUS: COUNTY
STATE STATUS: LT OCCURRENCE: Y

HABITAT COMMENTS

Open woodland, especially with beech or oak, open situations with scattered trees, parks, cultivated areas and gardens.

RED-SHOULDERED HAWK
BUTEO LINEATUS

FEDERAL STATUS: COUNTY
STATE STATUS: LT OCCURRENCE: W*

HABITAT COMMENTS

Moist and riverine forest, and in e. N. Am. in wooded swamps, foraging in forest edge and open woodland.

ROSEATE TERN
STERNA DOUGALLII

FEDERAL STATUS: PEPT COUNTY
STATE STATUS: LE OCCURRENCE: ?

HABITAT COMMENTS

Seacoasts, bays, estuaries.

5\18\87

SAVANNAH SPARROW
PASSERCULUS SANDWICHENSIS

FEDERAL STATUS: COUNTY
STATE STATUS: LT OCCURRENCE: W*

HABITAT COMMENTS

"Open areas, especially grasslands, tundra, meadows, bogs, farmlands, grassy areas with scattered bushes, and marshes, including salt marshes in the BELDINGI and ROSTRATUS groups (Subtropical and Temperate zones)".

SEDGE WREN
CISTOTHORUS PLATENSIS

FEDERAL STATUS: COUNTY
STATE STATUS: LE OCCURRENCE: ?

HABITAT COMMENTS

Grasslands and savanna, especially where wet or boggy, sedge marshes, locally in dry cultivated grainfields. In migration and winter also in brushy grasslands.

SHORT-EARED OWL
ASIO FLAMMEUS

FEDERAL STATUS: COUNTY
STATE STATUS: LE/S OCCURRENCE: W*

HABITAT COMMENTS

Open country, including prairie, meadows, tundra, moorlands, marshes, savanna, dunes, fields, and open woodland. Roosts by day on ground or on low open perches.

TIGER SALAMANDER
AMBYSTOMA TIGRINUM

FEDERAL STATUS: COUNTY
STATE STATUS: LE OCCURRENCE: Y

HABITAT COMMENTS

Found in virtually any habitat, providing there is a body of water nearby suitable for breeding. Terrestrial adults primarily subterranean.

TIMBER RATTLESNAKE
CROTALUS HORRIDUS

FEDERAL STATUS: COUNTY
STATE STATUS: LE OCCURRENCE: ?

HABITAT COMMENTS

Wooded rocky hillsides in north; swampy areas, canebrake thickets, and floodplains in south. Near streams in late summer in some areas. Often hibernates in burrows and crevices of rock outcroppings.

UPLAND SANDPIPER
BARTRAMIA LONGICAUDA

FEDERAL STATUS: COUNTY
STATE STATUS: LE OCCURRENCE: Y

HABITAT COMMENTS

Grasslands, especially prairies, dry meadows, pastures, and (in Alaska) scattered woodlands at timberline; very rarely in migration along shores and mudflats.

5\18\87

VESPER SPARROW
POOECETES GRAMINEUS

FEDERAL STATUS:
STATE STATUS: LE

COUNTY
OCCURRENCE: Y

HABITAT COMMENTS

"Plains, prairie, dry shrublands, savanna, weedy pastures, fields, sagebrush, arid scrub and woodland clearings".

YELLOW-CROWNED NIGHT-HERON
NYCTICORAX VIOLACEUS

FEDERAL STATUS:
STATE STATUS: LT

COUNTY
OCCURRENCE: B

HABITAT COMMENTS

Marshes, swamps, lakes, lagoons, and mangroves.

DEFINITION OF ACRONYMS

FEDERAL STATUS

LE=listed endangered.
LT=listed threatened.
PE=proposed endangered.
PT=proposed threatened.
C2=candidate for listing.

STATE STATUS

LE=listed as endangered. (short-eared owl winter pop. listed as
stable:S)
LT=listed as threatened.

COUNTY OCCURRENCE

Y=present year-round, breeds.
N=present year-round, not recorded breeding.
B=present during the summer, breeds.
W=present during the winter.
T=present as a transient.
?=present status undetermined.
*=indicates that the county is within the species known breeding
range.

Beach Haven Inlet to Cape May

LAND CONFIGURATION AND WATER DEPTH

From Beach Haven Inlet to Cape May the shoreline is formed by a number of low lying sandy barrier islands that vary from 3 to 7 miles in length and from a few hundred yards to $1\frac{1}{4}$ miles in width. They are separated from each other by shoals and inlets and from the mainland by a network of saltmarshes and shallow estuaries which is usually several miles wide. By tradition the irregular shaped saltmarshes are called meadows or sedges and the large patches of open estuarine water, bays and sounds. Narrow interconnecting waterways, often called thoroughfares, form a kind of lattice work as viewed from a high flying airplane. Along this stretch of coast there are only two places where sizable rivers join and flow to the sea. One, the Mullica River and its important tributaries, Wading and Bass Rivers, flows into Great Bay. The other, Great Egg Harbor River, is joined by the Middle and Tuckahoe Rivers near its mouth before flowing into Great Egg Harbor Bay.

Off this section of New Jersey, the sea bottom slopes downward at a moderate rate to a depth of 35 feet about a mile offshore. From there to about the 300-foot bottom contour, located 60 miles farther offshore, the descent is very gradual. For the most part the bottom over this part of the continental shelf is virtually a level sandy plateau, interrupted by scattered shoals, the most famous and extensive of which is Five Fathom Bank. This series of gullies and sand mounds, some of which rise to within 17 feet of the surface, has been an excellent fishing ground for nearly 300 years.

HISTORY

In precolonial and colonial times, people fished mostly in the brackish and salt water at the mouths of the various rivers and bays, where fish as well as crabs and clams tend to concentrate. For over two centuries after the first colonial settlement in 1648, most of the people living near the shore depended largely on the bays for their livelihood. Those that "followed the bay" during the entire year, oystering and soft clamming during cold months and fishing, crabbing, and quahauging during warm ones, became known as *baymen*. During this period the bays provided a good living.

Unfortunately, catches of many species today fall far short of those in the past. For example, even though striped bass and white perch still overwinter in the Mullica and Great Egg Harbor Rivers, their present abundance yields far less than the catch of 250,000 pounds such as was usual during the late 1800's. Although the weakfish, more often called gray sea trout, have been returning to this area recently after about 15 years of scarcity, this excellent game fish is still far less abundant than it was a century ago when 2½ million pounds were caught yearly, and by hook and line at that! Only limited demand kept the catch from exceeding even that amount. Sheepshead, a species now rarely occurring in New Jersey, were caught by the thousands of pounds and ranked next to weakfish in importance. Although hard-shell clams or quahaugs are important today, the total harvest is only about half its former amount of about 200,000 bushels. Great Bay alone once yielded 40,000 bushels annually; Lakes Bay, behind Atlantic City, 18,000 bushels; and Little Egg Harbor, 25,000 bushels.

During the latter part of the 1800's and the first 20 years of the 1900's, large summer resorts such as Ocean City, Sea Isle City, Avalon, and Wildwood came into being. Hotels with rooms for hundreds, sometimes even thousands, of visitors were the order of the day. As more and more people spent their summers along the shore, the demand for seafood gradually surpassed the local supply. To meet it, fishermen sailed longer distances in the bay to increase their catches; after a while they found it necessary to go out to sea. Before long, fishing smacks were sailing from Atlantic City to catch black sea bass in summer and cod in winter. Gradually fall fisheries developed along the ocean beaches for weakfish weighing 2 to 8 pounds. And during the summer and fall hundreds of small boats trolled, or squidded as it was called, for bluefish, some sailing from the various inlets and others being launched through the surf.

Although sport fishing, or pleasure fishing as it was then called, existed since the mid-1750's, perhaps even before that, it was not until the latter part of the 1800's that it supported a substantial industry. Then almost every village had small yachts for carrying pleasure parties on fishing excursions; Tuckerton and Beach Haven had 30, and Atlantic City had 80. In all, along this stretch of coast there were over 200 boats engaged in pleasure fishing from June to September. During the first third of the 20th century, railroads ran "Fisherman's Specials" each weekend from Philadelphia to New Jersey's shore. The cost of a one-day round trip was a dollar.

As fishing pressure increased, pleasure-boat captains were forced to go farther to make consistently good catches. In the early 1930's some of the captains in the Cape May and Wildwood areas conceived a brilliant plan to improve fishing. Their idea was "to construct a fishing ground by planting in the bed of the ocean, within an area of four square miles, old boats, automobiles, weighted pilings, railroad ties, cedar trees, tanks, steel drums and any other form of debris upon which shellfish and minute salt water organisms might cling and build up vast colonies of the various species of aquatic life." Called a fishing preserve when the idea became a reality in 1935, this undertaking became the first large-scale artificial fishing reef ever to be constructed in the Atlantic Ocean. This reef, located about 10 miles southeast of Cape May Inlet, is still a favorite fishing spot.

FISH AND FISHING

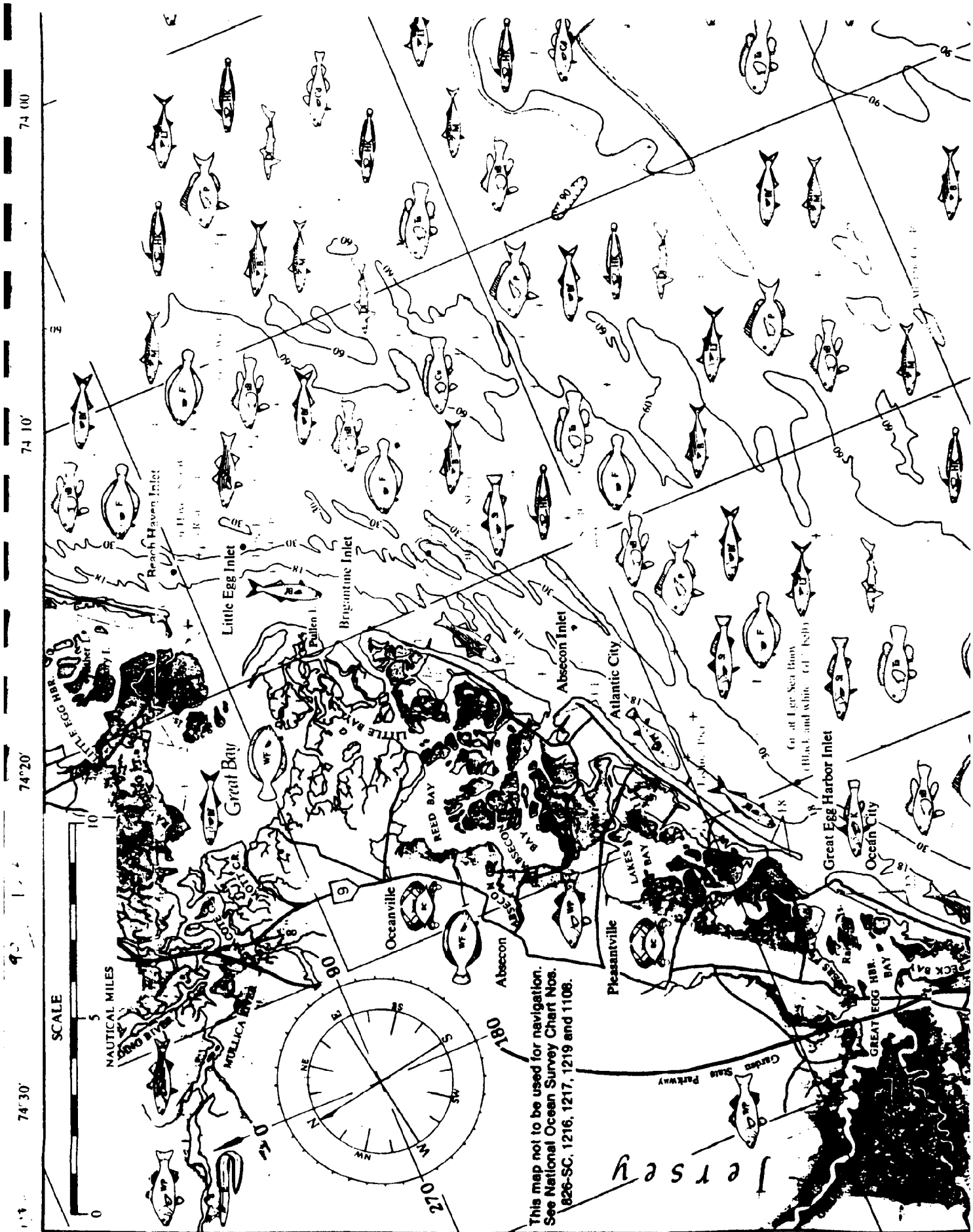
As the cold, strong northwest winds of winter subside and the weather becomes milder, ocean temperatures begin to rise. When the water over the inner third of the continental shelf reaches about 45° or 46°F, sometime early in April, Atlantic mackerel usually arrive inshore. After overwintering at middepths in the warm band of water overlying the outer edge of the continental shelf, they migrate inshore and begin feeding on the profusion of zooplankton, primarily copepods.

Within the western North Atlantic there are two groups of Atlantic mackerel, northern and southern, which have a combined distribution ranging from Newfoundland to North Carolina. These have different wintering and summering areas and different routes to reach them. The southern group, which occurs off this stretch of coast, comes in from offshore towards New Jersey during spring, beginning to spawn en route over the continental shelf. The spawning is heaviest, however, off New Jersey and Long Island where the adults pause for a month or so before passing eastward to Nantucket Shoals and eventually, about midsummer, into the western part of the Gulf of Maine.

Unlike the adults, juvenile mackerel spawned off New Jersey remain through the summer, apparently in or near the area where they were hatched. We know this because tuna and other large pelagic fishes caught off Cape May, Atlantic City, and Beach Haven are often gorged with mackerel 2 to 6 inches long. Sometimes these juveniles swim inshore, entering the bays and sounds along this stretch of coast in great quantities, especially in the fall.

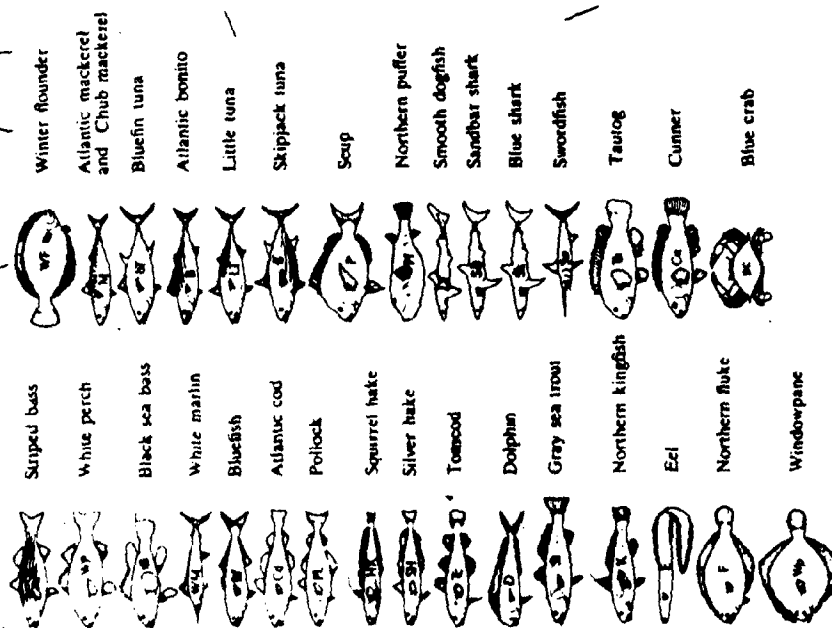
During some years, chub mackerel, a closely related species, are plentiful throughout the summer. This fish prefers water that is generally too warm for adult Atlantic mackerel.

In the fall, as the coastal water begins to chill, chub mackerel and the juvenile Atlantic mackerel, by now as long as 8 inches, move offshore and southward. At the same time or soon thereafter, larger Atlantic mackerel again appear along the shore. This fall run is smaller than that of the spring and lasts only about 2 or 3 weeks. It is during this run that we can see how much these fish have grown and fattened during the summer. One-year-old fish that had measured 10 inches and weighed about one-half of a pound in the spring are now 13 or 14 inches and just less than a pound. Two-year-olds that had measured 14 inches and weighed about a pound after spawning for the first time are 14½ inches and 1¼ pounds in the fall. After mackerel reach maturity, they grow very slowly, for although some often live to be 8 years old, they rarely exceed 18 inches or 2½ pounds.



This map not to be used for navigation.
See National Ocean Survey Chart Nos.
1226-SC, 1216, 1217, 1219 and 1108.

1. LEGEND /



Wreck

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Artificial Fishing Reef

Interstate Highway

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State Highway

28

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