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AN INVENTORY OF THE NEW JERSEY COASTAL AREA

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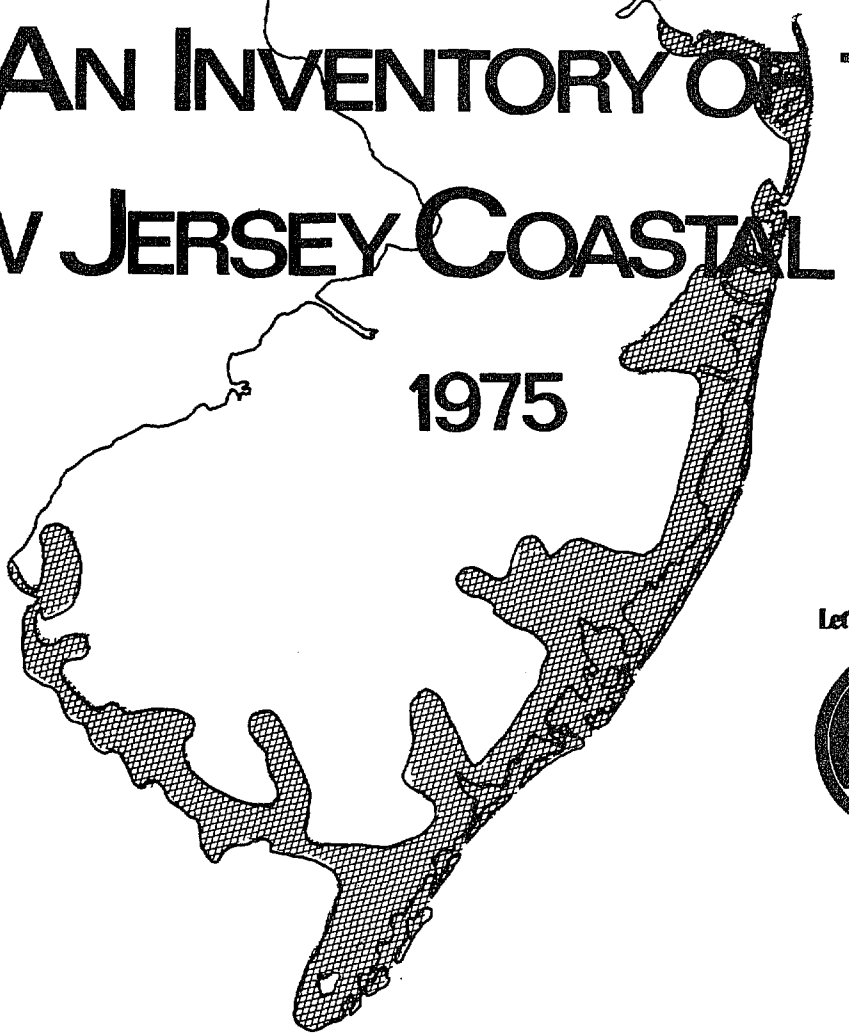

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ARTMENT OF ENVIRONMENTAL PROTECTION

New Jersey. Dept. of Environmental Protection

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AN INVENTORY OF THE NEW JERSEY COASTAL AREA

A REPORT TO THE GOVERNOR AND LEGISLATURE

by

David J. Bardin, Commissioner

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STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DAVID J. BARDIN, COMMISSIONER
P. O. BOX 1390
TRENTON, N. J. 08625
609-292-2885

September 19, 1975

To the Honorable Brendan T. Byrne, Governor,
and the Legislature of the State of New Jersey:

I am submitting to you the attached environmental inventory, as required by Section 16 of the Coastal Area Facility Review Act (CAFRA) of 1973 (c. 185, L. 1973; N.J.S.A. 13:19-1 et seq.):

> The commissioner shall, within 2 years of the taking effect of this act, prepare an environmental inventory of the environmental resources of the coastal area and of the existing facilities and land use developments within the coastal area and an estimate of the capability of the various area within the coastal area to absorb and react to man-made stresses. The commissioner shall, within 3 years of the taking effect of this act, develop from this environmental inventory alternate long-term environmental management strategies which take into account the paramount need for preserving environmental values and the legitimate need for economic and residential growth within the coastal area. The commissioner shall, within 4 years of the taking effect of this act, select from the alternate environmental management strategies an environmental design for the coastal area. The environmental design shall be the approved environmental management strategy for the coastal area and shall include a delineation of various areas appropriate for the development of residential and industrial facilities of various types, depending on the sensitivity and fragility of the adjacent environment to the existence of such facilities. The environmental inventory, the alternate long-term environmental management strategies and the environmental design for the coastal area shall be presented to the Governor and the Legislature within the time frame indicated herein.

The inventory represents a major step toward meeting the broad objectives of the CAFRA statute. We are now at the half-way mark toward selection of a management strategy for the coastal area, to be completed by September 1977, in accordance with the four-year statutory timetable.

The inventory broadly covers man's built and natural environment in the Coastal Area. The CAFRA law calls for a balancing of social, economic, aesthetic, and recreational, as well as ecological values. The environmental inventory therefore sketches a portrait of the unique and delicately balanced coastal area and discusses the range of issues that should be confronted squarely in coastal planning. It presents extensive samples of the information collected and identified by my Department as helpful in making wise decisions on the use of our valuable land and water coastal resources. The information should help my Department and those other agencies, organizations, and individuals with an interest in the coast. Further, the inventory shows where to obtain this information. In addition to the efforts of the Department of Environmental Protection, please note that the Department of Community Affairs and the Department of Labor and Industry have provided able assistance and helped balance the perspective of this Department in the CAFRA process.

In short, the New Jersey coast must meet the diverse needs of the present, but the irreplaceable qualities of the coastal environment must also be protected for future generations. CAFRA constitutes a challenge and an opportunity, a mechanism to achieve this goal and manage the coastal area in the best interest of the people of the State.

Faithfully,

David J. Bardin
Commissioner

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1.0 INTRODUCTION

This report constitutes the environmental inventory mandated under CAFRA. It aims to take stock of the diverse resources, problems, and opportunities of New Jersey's coast. This introduction defines the role of the inventory in the CAFRA process and explains the status of related aspects of the State's coastal zone management program.

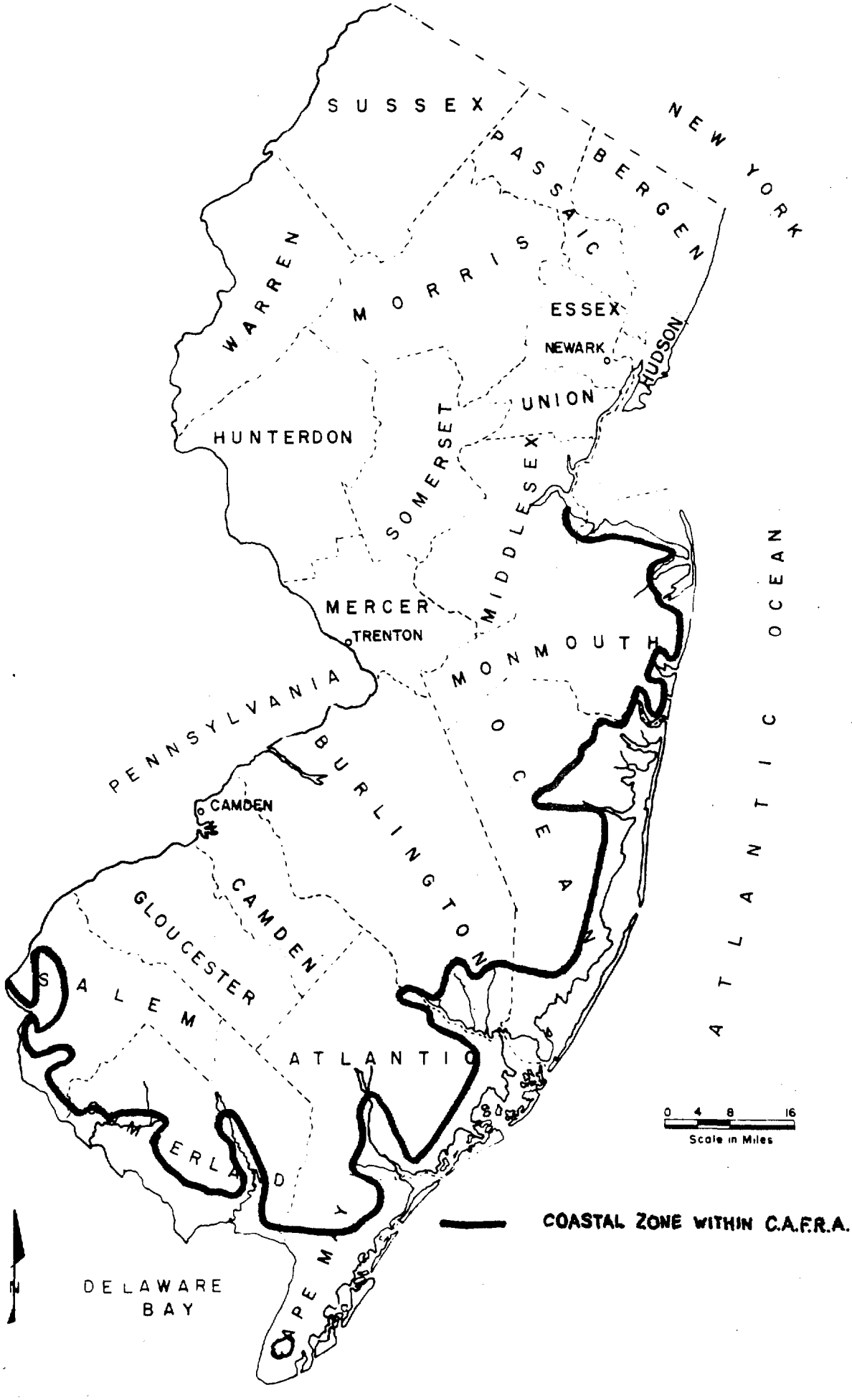
The CAFRA statute entrusted the Department of Environmental Protection (DEP) with both planning and land use regulatory responsibilities for a carefully delineated 1,376 square mile "coastal area" that stretches from Raritan Bay and Sandy Hook along the Atlantic Ocean coastline around Cape May and up the Delaware estuary to near the Delaware Memorial Bridge. This varied coastal area, indicated in Figure I, includes pristine barrier beaches, decaying urban resort centers, sprawling, leapfrogging suburban subdivisions, valuable, specialized agricultural lands, and unique pine barrens. At some points the statutory coastal area reaches 24 miles inland.

This inventory is the first milestone in the planning process for this coastal area. The next steps in the planning process mandated by the CAFRA statute are preparation of alternative management strategies by September 1976 and selection of a plan or environmental design for the coastal area by September 1977.

Program development grants under the federal Coastal Zone Management Act of 1972, administered by the U.S. Department of Commerce, National Oceanic and Atmospheric Administration, assist in funding DEP's coastal planning. This federal statute authorizes grants to coastal states for a three-year effort to develop a management program for each state's coastal zone. The substantive tasks, requirements, and timeframe for the federally-funded coastal planning effort are compatible with the mandate of CAFRA. The geographic scope of the coastal zone for planning purposes under the federal grant is, however, broader than the legislatively-defined "coastal area" under CAFRA. All 17 New Jersey counties with tidal or saline waters are included in this study zone, as indicated in Figure II.

This report, therefore, includes facts, issues, and information pertinent to the 17-county coastal zone and the entire state, but focuses necessarily on the statutory CAFRA "coastal area."

Figure I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ESSEX
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HUNTERDON
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TRENTON
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OCEAN
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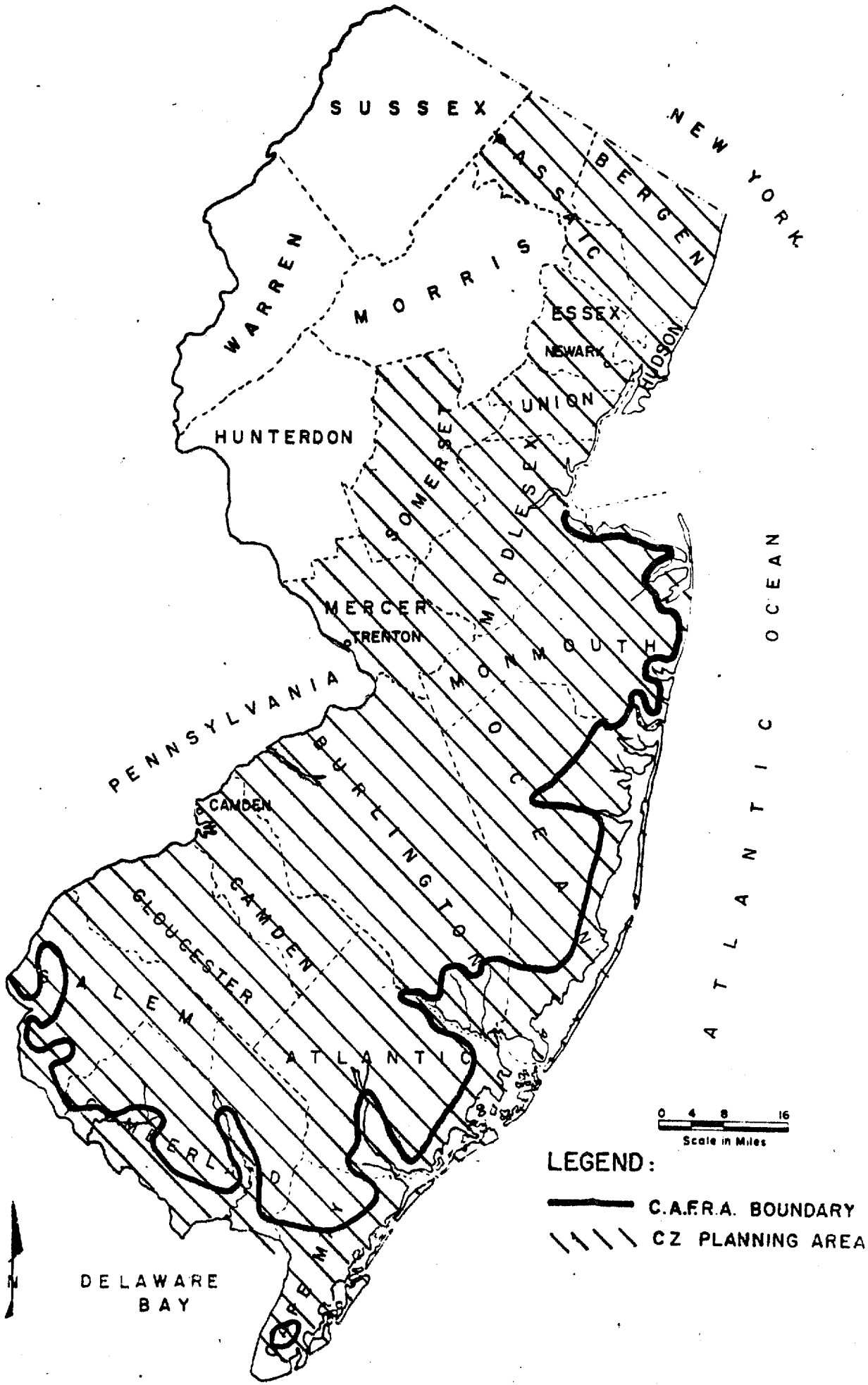
Scale in Miles
COASTAL ZONE WITHIN C.A.F.R.A.

Figure II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C.A.F.R.A. BOUNDARY
CZ PLANNING AREA

This inventory documents the existing information, resources, uses of land and water, and pressures on the coastal area. It is important to stress, however, that the process of inventorying the coastal area is an ever continuous task due to the dynamic quality of the built and natural environment. The on-going process of examining the coastal area and maintaining an up-to-date inventory is vital for making sound plans.

This report is intended and expected to be widely used by those agencies, organizations, and individuals with an interest in the coastal zone. We invite users of this report to identify gaps, desirable additions, and suggested changes in the inventory. Please direct comments and inquiries on the inventory and other aspects of DEP's CAFRA planning and coastal zone management program development efforts to:

Coastal Zone Management Program
Department of Environmental Protection
State of New Jersey
P.O. Box 1390
Trenton, New Jersey 08625
(609)-292-8206

2.0 THE COASTAL AREA AT A GLANCE

This section provides a succinct profile of New Jersey's coastal area, as defined by the Coastal Area Facility Review Act. It presents key facts concerning the geography, resources, and economy of this region.

The coastal area is characterized as:

.....comprising 1,376 square miles of New Jersey's 7,505 square mile land area, or 18% of the State and approximately 75% of the State's water area.

.....extending from Raritan Bay south to Cape May and up the Delaware Bay, a shoreline distance of 273 miles. The 126 mile portion of Atlantic coastline is New Jersey's most valuable recreation resource.

.....varying in width from several thousand feet in the Asbury Park area to almost 24 miles at the Mullica River.

.....including portions of 8 of the 21 counties; including all or portions of 126 of New Jersey's 567 municipalities.

.....accommodating approximately 700,000 year round residents, or nearly 10% of the total State population.

.....having areas with high population density. Densities in the barrier beach municipalities range up to 4,000 persons per square mile for permanent residents alone.

With respect to natural resources:

.....Approximately 40% of the coastal area consists of forest land. Oaks and pines are the most common species. Holly forests, found principally at Sandy Hook, Cape May, and Island Beach are unique to the region.

.....New Jersey has notable agricultural activities. The State ranks second nationally in cultivated blueberry production and third in production of both tomatoes and cranberries. Each of these crops is a significant product of the coastal area.

.....Coastal wetlands and associated shoal waters provide spawning and nursery areas for fish and shellfish. In addition, the 250,000 acres of wetlands include several fish and wildlife management areas and two federal wildlife refuges. A quarter million waterfowl winter in New Jersey's coastal marshes, along with countless gulls, terns, and shorebirds.

.....The coastal area has an abundance of ground water. The underlying aquifers are a reliable water source for the southwestern and eastern coastal regions.

With respect to the economy:

.....The largest industry in the coastal area, and the second largest in all of New Jersey, is the recreation - resort industry which generates approximately $3 billion annually in goods and services. More than twice as many people are employed in this industry in the summer, than in the winter.

.....Much of the recreation is water oriented. Currently 350,000 boats are owned by New Jersey residents. Over 16,000 clamming licenses were issued this year. More than 40,000 waterfowl hunters and 600,000 crabbers use the coastal area as a recreational resource. The hunters alone spend nearly $5 million annually.

.....New Jersey ranks 7th nationally in tonnage of commercial fish landings. In 1973, nearly 210 million pounds of fish worth over $18 million were caught.

.....Two of the most popular shore parks are Island Beach State Park and Gateway National Park at Sandy Hook. These facilities combined receive over 1,350,000 visitors annually.

.....As of 1970, over 85,000 homes were built to accommodate seasonal residents. Roughly one half of the housing units in Cape May County consists of such vacation homes.

.....The coastal area has enjoyed prosperity in the last decade. Over one half of New Jersey's authorized residential construction in the early 1970's was located there.

.....The coastal area has experienced a rapid influx of permanent residents. Ocean County alone nearly doubled in population between 1960 and 1970, in part because 80% of the State's retirement communities are in this county. A significant portion of coastal area residents are senior citizens. They constitute more than a quarter of the State's senior citizen population.

The following facts also describe the coastal area:

.....Approximately 395,000 acres of estuarine waters are suitable for shellfish harvesting. However, 25% of these waters are either restricted or condemned because of high bacteriological counts.

.....Nearly one quarter million acres of tidal wetlands exist today, but 25% of the State's total marsh area was destroyed during the 1950's and 1960's. This trend of destruction was reversed through the implementation of the New Jersey Wetlands Act of 1970.

.....Approximately 44 miles of sand dunes stabilize New Jersey's beaches. Half of these dunes need repair to prevent significant shoreline erosion.

.....Moratoria on new construction exist in 19 coastal municipalities because of inadequate public sewerage.

.....Housing options are also limited in coastal counties as 90% or more of the residential land is zoned for single-family housing.

.....Salt water intrusion into water-bearing aquifers is a major problem along the shoreline of many of the counties.

.....Development on barrier beaches is extremely vulnerable to natural disaster. For example, a single major storm along the Ocean County coastline in 1962 caused the total destruction of nearly 400 buildings, severe damage to another 900, and approximately $30 million worth of losses (1962 prices).

.....Unemployment continues to be a serious problem. The current level in New Jersey is 13%, but Cape May County has unemployment rate of 18%.

New Jersey's Coastal Zone Management Program is currently at the following stage:

.....New Jersey is in the second year of a three-year federally funded grant program; $275,000 was received in Fiscal Year 1975 and $470,750 in Fiscal Year 1976.

.....The federal grant provides funds for coastal planning in all counties with tidal waters: 17 of New Jersey's 21. Excluded are Morris, Warren, Sussex, and Hunterdon counties.

.....The Department of Community Affairs, the Department of Labor and Industry, and Rutgers University-Marine Sciences Center, have undertaken assignments to assist the Department of Environmental Protection in this coastal planning process.

.....The Department of Environmental Protection is coordinating its planning efforts with a number of inter-state planning agencies, various state and federal air, water, transportation, and other planning programs, and the coastal county planning boards.

3.0 ISSUES IN MANAGING THE COASTAL AREA

Numerous pressures, opportunities, and problems face the coastal area and must be addressed in the development of a plan for the coastal area. Participants from private organizations and public agencies at advisory conferences held by DEP in February 1975 and May 1975 as part of the coastal zone management program raised and discussed many of these issues. This section of the report sketches the complexity and depth of the identified demands and stresses placed upon New Jersey's coastal resources. It briefly defines and discusses several key issues in order to indicate the range of issues that constitute the agenda for coastal zone management.

3.1 Issue: Public Access to the Coast

Significant sections of the 126 mile Atlantic Ocean coast from Sandy Hook to Cape May Point are not accessible to the public despite various forms of public ownership of these lands. The sandy beaches along this coast include both lands flowed by the tide, known as riparian lands or tidelands, and the immediately adjacent, sandy coastal uplands. Public access to these beaches is a complex issue for several reasons: (1) the pattern of mixed public and private coastline ownership, (2) the expanding concept of the public trust doctrine, (3) the public interest in reasonable access to beaches and natural recreational resources, (4) respect for legitimate private property rights, (5) the expenditure of public funds for shore protection and (6) difficulties in striking the appropriate balance between local and state interests in this use of the coast.

The State owns all riparian lands now or formerly flowed by the mean high tide, unless title has been conveyed to another owner by means of a riparian grant. These lands are administered as a public trust for the support of the free public schools. Late in the 19th century and in the early 1900's the State made numerous riparian grants along the Atlantic coastline to stimulate development of the coastal area. Approximately one-third of the riparian lands along the Atlantic coast have been granted by the State. The following table presents the present status of tidelands ownership, by county, along the Atlantic coastline, in miles.

	Monmouth	Ocean	Atlantic	Cape May	Total
Total Distance	26.2	42.7	17.1	34.6	120.6
Granted Distance	7.9	5.5	8.3	16.6	38.3
Private Grants	6.5	5.5	6.6	16.5	35.1
Municipal Grants	1.4	0	1.7	0.1	3.2
Ungranted Distance	18.3	37.2	8.8	18.0	82.3

NOTE: The total riparian distance of 120.6 miles does not include various inlets that are included in the full sweep of the 126 mile Atlantic coast. This table is based on data obtained from the Division of Marine Services, New Jersey Department of Environmental Protection.

Access to beaches is further complicated by the diverse ownership of lands immediately upland from riparian lands. The following table approximately presents the status of shoreline ownership along the Atlantic coastline:

Owner	Miles	%
Private	32.6	26.3
Public-Local	63.0	50.8
Public-State	14.0	11.4
Public-Federal	14.2	11.5
	123.8	100%

NOTE: This table is based on data from the U.S. Army Corps of Engineers National Ocean Survey (1971). The total distance does not include certain inlets.

Public access to numerous beaches along the New Jersey coast is presently subject to both de jure and de facto restrictions. A beach is defined here as those lands flowed by the tide and the adjacent sandy uplands that together constitute a natural area for outdoor recreation. An open beach is defined as a beach whose use is legally open to the general public, either without charge or for a reasonable and non-discriminatory beach fee, and is physically accessible directly from a public right-of-way or easement, either streets, paths, sidewalks, promenades, or parking areas. Beach clubs with discriminatory or unreasonable membership requirements are not considered open beaches. Approximately 11% of the beaches along the Atlantic coast are not "open beaches" according to the above definition. Furthermore, public access to even so-called "open beaches" may be subject to de facto restrictions as a result of municipal policy and action, such as: (1) limitations on on-street parking, (2) insufficient parking spaces, (3) anti-disrobing and other ordinances which have the effect of limiting access, (4) lack of changing facilities, (5) lack of public sanitary facilities, and (6) inadequate public transportation.

To increase public access to the coast, and particularly to its beaches, the State is pursuing four courses of action. First, public access is a condition of DEP's state aid shore protection grants. Second, public access to and use of beaches is a condition of DEP's CAFRA permits for oceanfront projects which include the creation of so-called "private beaches." Third, the Attorney General is initiating litigation against municipalities that charge unreasonable and inequitable beach fees. Fourth, the Department of the Public Advocate has initiated litigation against private property owners and a municipality over the issue of restricted access across the uplands to the public trust-riparian lands.

3.2 Issue: Recreation

Tourism, resorts, and associated private and public recreation facilities and services constitute the State's second largest and the coastal area's most important industry. A high quality coastal environment is necessary to preserve and expand this segment of the economy. New Jersey's beaches are one of its most valuable assets for recreation. Yet, several beach and shore related recreation issues must be considered.

First, the shore itself must be protected from erosion, flooding, and natural disasters. Second, public access to beaches is restricted along portions of the Atlantic coastline for numerous reasons. Third, the decline of certain urban coastal resort centers wastes previous public and private capital investments and results in further social, economic, and human resource problems. Fourth, coastal recreation requires good coastal water quality, otherwise swimming, scuba diving, sport fishing, boating and other water-related recreational activities cannot take place. Fifth, some coastal-dependent and water-dependent recreational activities require use of the shoreline.

Several additional recreation issues concern the coastal area in general. For example, appropriate balances must be struck between public and private, active and passive, and individual and group recreational activities. The physical and legal accessibility of recreational facilities must be considered. Provision for adequate private open space and recreation facilities within new residential projects may also help meet the recreation needs of residents of the coastal area.

3.3 Issue: Energy Facility Siting

Energy siting demands for New Jersey's coast include onshore and offshore projects. Ultimately the offshore projects will create stress situations onshore. The three principal proposed offshore projects are Outer Continental Shelf (OCS) oil and gas exploration and development, deepwater ports and a floating nuclear power plant. Likely onshore projects include new nuclear power plants and liquified natural gas terminals and processing plants.

To help DEP better carry out its responsibilities for coastal planning for the future location of energy facilities, the Department has initiated a proposed "Call for Information" requesting energy industries, government agencies, and others to provide energy facilities siting information. A proper balance must be struck between energy needs and other potential land uses in the coastal zone. The requested information will enable DEP to base its coastal energy facilities planning on a meaningful dialogue as to principles, criteria, and hard facts. DEP will review and aggregate the information received and publish an estimate of the likely energy facility demands on the coastal area.

The beginning of OCS exploration is imminent. A lease sale of offshore tracts is scheduled by the U.S. Department of the Interior for the Spring of 1976. Recent estimates have significantly revised downward the amount of oil and gas which may be recoverable from the areas off New Jersey. The long term onshore impact on the New Jersey coast is difficult to predict until the size of the offshore oil and gas fields is determined.

Even if only relatively small fields are discovered, two key issues must be addressed: the location of staging-supply areas and conflicts between offshore energy development and the natural and built environment. Cape May, Atlantic City, and the Atlantic Highlands have been suggested by the oil industry as suitable for staging areas. If any of these areas is used, there will be competition with boating, swimming and other recreational uses of the water. Supply vessels for the offshore fields may compete with commercial fishing vessels and pleasure craft for dock and supply facilities and cause marine traffic problems. The secondary impacts of staging areas are also important, including temporary intensive demands for housing and other services which can inflate the local

economy, creating hardships for local residents. Staging areas located away from population centers may conflict with preservation of fragile wetlands. OCS exploration and development may adversely affect the commercial fishing industry, due to the potential for oil spills and the location of drilling rigs near prime fishing grounds.

Increased shortages of natural gas in recent years have led utilities to seek alternative sources of energy supply, including liquified natural gas (LNG). This form of energy is natural gas which has been cooled to temperatures of minus 265°F, is thereby liquified and may then be transported in specially designed ships. Ultimately the liquid gas is warmed and transformed back into a gaseous state. Two sites along the New Jersey shore of the Delaware River have been proposed for an LNG docking terminal and processing plant. These sites will have some impact on coastal wetlands. Safety considerations are of a paramount concern with LNG because of existing heavy petrochemical-tanker traffic on the Delaware River and the potential for explosion. Several basic questions must be addressed concerning the siting of LNG facilities in the coastal area. How will the LNG terminals affect wetlands? What degree of safety is needed to prevent major accidents? Should State policy encourage concentration of these facilities on the coast or insist on separation of LNG ship terminals and the processing plants? Finally, what are the environmental, social, and economic costs involved for each alternative.

The federal Deepwater Ports Act of 1974 gives the U.S. Department of Transportation licensing and regulatory authority over deepwater ports. Deepwater ports became a major issue in the State when a U.S. Army Corps of Engineers study recommended two locations off New Jersey as suitable for such ports. More recently, the U.S. Congress Office of Technology Assessment has informally considered a third site off Ocean County.

Major legal questions are involved in a deepwater port project. The pertinent federal act gives a governor of an "adjacent state" a veto over the construction of pipelines connecting a deep water port to onshore storage facilities. The federal Submerged Lands Act of 1953 also gives the states control over the ocean bottom, out to 3 miles from shore, where oil pipelines to the port would cross. (The federal Natural Gas Act of 1938, however, denies state control with respect to natural gas pipelines.) Deepwater ports would keep super tankers far offshore, where groundings

and collisions would be minimized. If leaks in the connecting pipeline occurred, it is unclear how quickly this pollution problem could be solved. The location of tank farms to store the oil from the port is another key land use issue.

The coastal area already hosts one operating nuclear power facility at Oyster Creek, another is under construction at Artificial Island, and a CAFRA permit application was recently conditionally approved for a third, known as Hope Creek Station, also at Artificial Island on the Delaware River. A floating nuclear facility, with reactors surrounded by a breakwater, has been proposed for an offshore site near Atlantic City.

Nuclear energy facilities raise numerous significant issues, including the disposal of radioactive waste and thermal effluent, radiation-safety problems, and aesthetic considerations. In addition, a floating nuclear plant presents special safety problems, particularly in the design of the breakwater surrounding the reactors. Finally, the broad implications of the growth in the coastal area which will inevitably result from the construction of there energy facilities must be considered.

3.4 Issue: Economic Development

The scarce and irreplaceable natural resources of the coastal area must be balanced with the economic development requirements both of citizens who live in the area and of the general public. The simple solution of "no growth" does not appear to be a reasonable alternative, nor, at the other extreme, does the obliteration of all natural resources in the coastal area. Instead, CAFRA charges DEP with striking a sensitive balance between environmental protection and economic development.

Several specific economic growth questions must be answered: how much growth and what kind at what locations? Some coastal counties, for example, seek a wider economic base, while others are less concerned with expansion. The question of seasonal employment is of great concern, as is the larger question of unemployment and resulting social problems that result from low incomes.

The coastal counties face important economic problems. Median family income is more than a thousand dollars less in those counties than in the state as a whole; the dollar value per acre in 1973 was less than a fifth of the average for the state as a whole; labor force participation is 8 percent less in coastal counties. The proportion of population receiving welfare payments is 20 percent higher than the rest of the state.

Economic activity in the coastal area, as indicated by employment, is quite similar to the rest of the state. Manufacturing, wholesale and retail trade, and construction are the industries with the largest labor force. Agriculture and fishing do not exceed 2 percent in any of the coastal counties.

Other major economic generators in the coastal area may be classified into the following categories: tourism/recreation, extraction and related glass industry, retirement communities, energy facilities, and military bases. Each category raises its own set of economic development issues.

Tourism/Recreation are principal components of the economy of most of the CAFRA counties. Some resorts have national reputations. Commercial fishing is a significant industry in Cape May, Atlantic, Ocean and Monmouth counties. Clearly fishing and tourism/recreation are complimentary economic components. The possible future intrusion of OCS staging areas into the

CAFRA counties may upset the established tourism and fishing industries, through pollution and competition for land. Tourism and fishing depend upon a high quality natural environment, while the economic viability of some Outer Continental Shelf activities is independent of such concerns. Unfortunately, jobs directly connected to the resort/tourist industry are among the least secure and the worst paid. The median earnings of workers in "eating and drinking places," "hotels and lodging places," and "entertainment and recreation" were almost $3,000 less in New Jersey than the median earnings of all employed workers. Moreover, employment is variable and seasonal. Less than 60 percent of those workers are employed full-time, compared with almost 75 percent of all New Jersey workers.

Retirement communities in Ocean County stimulate the expansion of health care services and facilities and services. The construction industry is also closely tied to the retirement community and second home industries. The construction of residential development can give a false impression of prosperity in the beginning but, once completed and occupied, these developments may make no more contribution to the economy of the area than comes from the increase in population. Retirement communities are an even more doubtful economic boon because their residents are likely to be recipients of fixed incomes that do not increase with inflation.

The federal government through its military presence at Fort Monmouth (Army), Lakehurst and Earle (Navy), and Cape May (Coast Guard) adds a substantial infusion of civilian jobs, either on the bases or in supporting commercial and industrial concerns. Additionally, sewage effluents are added to the coastal area by these installations. Fluctuations in levels of civilian and military jobs at Fort Monmouth, for example, has proved to be a prime concern to the economic stability of Monmouth County.

Light manufacturing also accounts for substantial numbers of jobs in the coastal area. Computer software and electronic component firms located in Monmouth County are often dependent upon federal government contracts and thus job levels are again subject to fluctuation.

Open land preservation for agriculture is a vital concern in southeast Burlington County where large harvests of blueberries and cranberries are realized.

Additionally, truck farming in Salem County is a major industry. Construction of new housing and agriculture may provide intensely competing and conflicting uses for open space. A delicate balance must be struck between environmental concerns and the economic vitality of the coastal area.

3.5 Issue: State Land Use and Environmental Controls

New Jersey already possesses numerous legal tools for coastal zone management in the form of specialized environmental statutes. Adequate state control over land and water uses is essential for implementing a coastal area plan. The State presently regulates land use in the coastal area under the authority of three statutes: The Coastal Area Facilities Review Act of 1973 (CAFRA), the Wetlands Act of 1970, and the Riparian Lands statutes. These statutes can restrict development in certain areas of the coast. All three laws are limited in that they can only direct development into certain areas by their power to deny construction permits in other parts of the coastal area.

The Coastal Area Facilities Review Act (CAFRA) is the lead statute on land use regulation for the coast. Questions confronting CAFRA include: (1) the relationship of municipal zoning authority to the statute, (2) controlling the stresses on the coastal area caused by residential and commercial construction immediately outside the statutory boundary of CAFRA, (3) the to what degree may the use of land be controlled without the regulation becoming a taking of land without just compensation, and (4) in the absence of a comprehensive land use law, how are municipalities split by the CAFRA boundary to plan for development?

The State already possesses direct and indirect forms of land use authority, but the principal basis of land use authority still resides in zoning power delegated to municipalities. The system of local land use regulation by local planning and zoning has changed little since its inception in the late 1920's and early 1930's. This system provides for the adoption of master plans and zoning ordinances by municipalities. The use districts controlling land uses and types of structures by the stipulation of area, height, and setback limitations that constitute the mechanism of this system may not of themselves meet or address adequately the land use issues faced today. Ultimately, land use problems and comprehensive coastal planning can best be solved and effectuated by a municipal-state cooperative relationship.

3.6 Issue: Housing

New Jersey currently faces a critical housing shortage. Although no state-wide housing plan exists, housing problems and goals have been articulated from the executive, legislative and judicial perspectives. Recently the New Jersey Supreme Court addressed the issue of housing responsibility in a regional context. Housing issues which are of concern to the CAFRA area include: (1) seasonal versus year-round housing needs, (2) restricted housing choice and variety, (3) senior citizens housing and retirement communities, (4) urban housing needs, (5) regional housing responsibility and (6) housing costs.

The existing seasonal character of land use in the CAFRA municipalities offers no relief to year round residents seeking new and better shelter. Seasonal housing in the coastal zone is concentrated along the barrier beaches and bayshore communities. Residents seeking year round housing adjacent to the shore and ocean front must seek housing elsewhere. Conversion of seasonal to year round dwellings places a burden on smaller municipalities which must now cope with sharply increased population and demand for municipal services.

Small, single-family, owner-occupied dwelling units are needed to accommodate the housing needs of two growing age groups: those in the household formation years of 20-34 throughout the coastal area and those 35 years or older in Monmouth, Cape May and Ocean counties. This need is exacerbated by zoning ordinances that require large minimum dwelling and lot sizes, which have the effect of limiting the construction of small, single family dwellings. Increased rental housing is needed in Cumberland, Monmouth and Cape May counties. Mobile and modular houses constitute another housing option for families, although this building type poses special land use and municipal services problems in some coastal communities.

Some resident senior citizens are unable to compete in the housing market with other age groups. Further, there is a distinct market for retirement homes. The rapid growth of retirement communities in the coastal area has placed substantial burdens upon the local and regional services and facilities, especially those related to health needs.

The New Jersey Supreme Court, in a recent ruling generally referred to as the Mount Laurel Decision, held that a "developing" municipality must provide an opportunity, through its zoning, for the development of its fair share of housing for low and moderate income families within the community. Many CAFRA communities

may be classified as "developing" municipalities. This decision has raised numerous questions which must be answered in considering regional housing responsibility. What is the region? How is it defined? How does it change? What is fair share? What regional needs must the municipality meet? Must the desire to live in a more attractive community be accommodated? Must a community provide housing within that community for workers who live outside? To what degree may environmental, fiscal capacity, and job opportunity concerns be considered in defining a developing municipality's regional housing responsibility?

The needed rehabilitation of housing units in urban centers in the CAFRA counties is an immediate issue, given the concentration of the bulk of coastal population and housing stock in these centers. Both minor as well as major improvements in existing housing are needed. The areas in need in urban centers vary from one concentrated neighborhood to pockets of decay scattered throughout a city.

As a result of the housing crisis in New Jersey, many households cannot afford the housing units currently on the market. Hardest hit by the spiraling cost of housing are families with low incomes. Without subsidies, the housing industry is not capable of developing new units which can be offered at rents which these families can reasonably afford.

The availability of money to purchase the housing is a closely related issue. Potential home-buyers obtain mortgages with great difficulty and at high interest rates. In addition to social impacts, the coastal area may also experience adverse environmental impacts as the result of increasing housing costs. While some socio-economic groups may be forced out of the region due to increased housing costs, they may commute back to job centers within the region, resulting in increases in energy consumption and potential air pollution problems.

3.7 Issue: Marine Resources

New Jersey's principal marine resource is the recreational and commercial fishing industry. Fisheries resources are potentially capable of infinite renewal when proper management techniques are employed. The variety and quantity of fish species off New Jersey's coast make it one of the more fertile and profitable areas of a highly productive Atlantic Coast. Unfortunately several user conflicts now threaten the vitality of this resource. Overfishing by domestic and foreign trawler fleets in international waters and competition between sport and commercial fishermen for dwindling numbers of fish demand positive management initiatives.

Poor water quality due to ocean waste disposal in areas off Sandy Hook, popularly known as the "Dead Sea," may pose a continuing threat to the fisheries. The issue of unregulated fishing of certain fish stocks by out-of-state, New Jersey, and sport fishermen also must be considered. Overfishing may endanger the economic vitality of the following species: menhaden, striped bass, fluke, flounder, porgy, lobsters, scallops, and crabs.

3.8 Issue: Air Quality

Clean air is a basic valuable resource of the coastal area. Parts of the coast have the cleanest air in the state. Air quality varies throughout the coastal area; Monmouth and Middlesex counties, for example, do not meet the ambient air standards under the federal Clean Air Act. Air pollutants originate from numerous sources, especially motor vehicles, fossil-fuel electric plants and industrial operations. Petro-chemical complexes along the Arthur Kill, Raritan Bay, and Delaware River provide significant sources of pollutants which affect air quality in the coastal area.

Air quality is closely linked to urbanization. This accentuates the importance of the land use and transportation planning elements of coastal zone management, since, for example, increased use of public transportation systems reduces automobile emissions. Air quality planning aims at maintaining specified ambient air quality standards by using measures such as: implementing approved regional development plans, phasing-out or prohibiting emission sources, or encouraging energy conservation measures.

3.9 Issue: Transportation

The present transportation system in the coastal area emphasizes the private automobile. The Garden State Parkway acts as a backbone for the Atlantic coast, serving as a commuter artery for industry and commerce, as well as a landscaped connection among shore resort and recreation areas and between the coast and northern New Jersey. The expressway spur from South Brunswick to Toms River proposed by the New Jersey Turnpike Authority would further increase the accessibility of the coast for private automobiles, trucks, and buses, although the Turnpike Authority is exploring the option of using the proposed right-of-way for a mass transit system. The Atlantic City Expressway and other parallel and radiating highways from the Philadelphia-Camden metropolitan area funnel automobile traffic to the Jersey Shore. A new Interstate Highway, I-195, strikes east from Trenton towards Monmouth and Ocean counties. The rising price of gasoline has, however, significantly raised the cost of transportation, and particularly commuting, for coastal residents.

Some public transportation does serve the coastal area. Manhattan-oriented commuter rail service operates in Monmouth County. Extremely limited rail service, connecting with the PATCO Lindenwold Line to Philadelphia, reaches Atlantic City, Tuckahoe, Ocean City, and Cape May. Regular inter-city bus service links Monmouth, Ocean and Atlantic County communities with each other and with northern New Jersey and New York City. Similar bus service links the Philadelphia-Camden metropolitan area with selected Atlantic County shore communities. Limited regular inter-city bus service does exist within Cape May County. Ocean County is proposing a county bus system to serve that rapidly developing region. Finally, some seasonal bus service links Trenton and other cities with several coastal resort and beach communities.

This limited existing public transportation system is, however, increasingly inadequate to meet the diverse transportation needs of coastal residents and other existing and potential users of the coast. Continued low density suburbanization makes certain modes of public transportation difficult to organize, operate, and sustain. A key issue is how to integrate land use and transportation planning to make convenient and efficient public transportation possible. Improved public transportation -- bus, rail and air -- could further stimulate and expand the vital tourism/resort economy of the coast, increase public access to the area's natural resources, and conserve energy.

3.10 Issue: Water Resources

Water is an abundant resource in the coastal area, yet several issues must still be addressed. First, the coastal water supply is largely groundwater and subject to contamination from salt-water intrusion, due to excessive withdrawals, and from solid waste leachate. Second, good water quality is a prerequisite to the vitality of the coast's major industry, recreation. For example, forced beach closings due to contaminated waters are an extreme, but not uncommon symptom of poor water quality. The sewer connection bans currently in effect in several coastal counties also indicate the danger to water quality of further urbanization without adequate wastewater treatment facilities. Third, while new sewer systems will improve water quality, they may also stimulate new land development.

3.11 Issue: Land

Land is a precious and finite resource, particularly in the coastal area where the pressures of urbanization exert special stresses on a sensitive natural environment. The desired pace, extent, and form of urbanization must be addressed in the process of coastal zone management, as much of the coastal area still remains undeveloped. Considerable coastal land is covered by forests. Some vacant land should perhaps remain undeveloped in order to achieve other purposes such as farmland and open space preservation. Other undeveloped land should be converted to urban uses to meet the residential, commercial, institutional, and industrial needs of present and future coastal residents. Finally, some built-up land may be suitable for re-use or redevelopment to achieve specific objectives, such as revitalizing urban centers through intensive development of service sector jobs.

The basic issue here is whether the land is to be abused in the short-term or used wisely for the long-term. In the short-term, the CAFRA permit program has provided a mechanism to protect planning options for certain coastal sites. As a result of denial of permit applications, alternative uses of these sites may be considered or the applicant's proposed use of the site may be re-evaluated in the context of the comprehensive plan for the coastal area. In addition to a regulatory approach to preventing land abuse and protecting options, incentives may be a productive way of encouraging sensitive use of land in the coastal area.

4.0 AMERICAN ARBITRATION ASSOCIATION DATA VALIDATION EXPERIMENT

Coastal zone management requires using various facts of varying quality and from diverse sources to make decisions. The public and private participants involved in this decision-making process may, however, disagree on specific decisions. One reason for such disagreements may be a lack of agreement on the facts themselves. The American Arbitration Association believes that if mediation and dispute settlement techniques are used at the beginning of a decision-making process to achieve consensus on the validity of facts, or data, and the assumptions and constraints for their use, then later disagreement on decisions may well be easier to resolve.

In cooperation with the Department of Environmental Protection, and under a grant from the Rockefeller Foundation, the American Arbitration Association (AAA) is conducting an experiment in data validation to test the thesis that validated data will facilitate dispute settlement in environmental decision-making. This experiment is a supplementary, but integral component of DEP's coastal zone management program. The CAFRA statute mandated preparation of an inventory of the coastal area as a basic tool for coastal zone management decision-making. With AAA assistance and counsel, DEP has embarked upon a seven-step procedure to validate the data entering this inventory. This data validation process includes the following steps:

(1) Identify data to be gathered;

(2) Identify the possible limitations, constraints and proposed uses of the data;

(3) Submit the data, with identified limitations, constraints, and proposed uses, to public scrutiny for comment and validation by public agencies and private organizations with an interest in the coastal zone;

(4) Identify validated data;

(5) Identify disputed data or disputed uses of data, attempt to achieve consensus on the data and its uses, and state clearly any agreed upon limitations or constraints on the data or its use;

(6) Narrow the differences over disputed data or uses of data through mediation where consensus is impossible to achieve;

(7) Label clearly the disputes over data or uses of data which cannot be resolved sufficiently for the data to be included in the inventory of validated data.

DEP held the first data validation meeting on May 2, 1975, in Trenton, N.J. DEP staff presented several inventory items in nine general categories of data: Bathymetry, Flood Areas, Geology, Ground Water, Land Use, Slope, Soils, Tidal Wetlands, and Vegetation. More than 70 representatives from public agencies and private organizations scrutinized the data, raised objections, and made comments. After tabulating the data validation forms completed by these participants, reviewing their written comments, and analyzing the transcript of the meeting, DEP staff concluded, and AAA concurred, that the first data has been validated in four categories: Soils, Geology, Tidal Wetlands, and Slope. Items submitted in three other categories -- Flood Areas, Bathymetry, and Ground Water -- did not obtain consensus and are being submitted to a process of AAA data mediation. The items initially presented in the Land Use and Vegetation categories, together with additional items in those categories suggested by meeting participants, will be resubmitted for validation.

Each item included in the inventory used by DEP for coastal zone management will have its data validation status identified. Each Reference Profile in Section 5.0 of this report specifies, for example, whether the particular item is validated, submitted but pending, or not yet submitted to the data validation process.

Some data will undoubtedly be used before it can be validated, due to the time constraints facing the coastal zone management program. DEP is, however, committed to involving the public, through public agencies and private organizations, in deciding what and how data is to be used. As additional data is validated, this data will be included in the inventory of validated data. DEP also expects the American Arbitration Association to continue to play a mediatory role as DEP makes difficult and complex decisions in the process of coastal zone managment.

5.0 CATALOGUE OF THE NATURAL AND BUILT ENVIRONMENT

The coastal zone inventory is the backbone of the coastal zone management program. Materials in DEP's inventory include a wide range of items, from maps, photographs, and charts, to books, reports, studies, journals, microfiche, and computer-compatible media. This inventory contains hundreds of items, which are: (1) organized by general subject categories, (2) indexed using a card catalogue or automated system of reference indexing, and (3) located in DEP's Trenton or Toms River offices, or (4) located elsewhere but identified in the inventory index. This section of the report indicates the scope of these inventory materials and presents extensive samples of the most frequently consulted, pertinent, and helpful items.

This catalogue thus constitutes a basic, working inventory of information useful for coastal resource decision-making.

DEP's inventory information is organized by subject categories. These categories range from generalized planning tools (eg. AERIAL PHOTOGRAPHY; PLANNING, COASTAL ZONE) to specific aspects of the natural environment (eg., GEOLOGY, WILDLIFE) and the built environment (eg., LAND-USE, SOCIAL). As inventory preparation is a continuing process, additional items will be added to the inventory in each subject category as they are identified. Further subject categories will be added as the need arises. A complete list of the present subject categories follows: Aerial Photography, Agriculture, Air Resources, Bathymetry, Economic, Energy, Environmental Impact Statements, Fisheries, Flood Plains, Geology, Information System, Land Use, Legal, Natural Resource Studies, Noise, Oceanography, Outer Continental Shelf, Planning - Coastal Zone, Planning - General, Political, Recreation, Reference Works, Social, Soils, Solid Waste, Topography, Transportation, Vegetation, Water Resources, Wildlife, and Wetlands.

Sample inventory items for most subject categories are described in "Reference Profile" sheets that constitute this section of the report. Each sheet includes a citation, abstract, the status of data validation, uses and constraints of the inventory item in coastal zone management, and an 8½" x 11" excerpt of a sample of the item, if appropriate.

Where to find the inventory item, or its location, is also identified on the "Reference Profile" sheet.

Of particular interest to potential users are the symbols "DEP/CZM" and "DEP/Toms River Office." Items annotated with "DEP/CZM" may be consulted at the Trenton office of the coastal zone management program:

Coastal Zone Management Program
Department of Environmental Protection
State of New Jersey
Room 710, Labor and Industry Building
John Fitch Plaza
Trenton, New Jersey 08625
(609)-292-8206

In the interest of greater public access to this information, several series of specialized coastal area maps featured in this inventory, and annotated with "DEP/Toms River Office," are now available for public consultation in the coastal area at the following location:

Division of Marine Services
Department of Environmental Protection
State of New Jersey
1433 Hooper Avenue
Toms River, New Jersey 08753
(201)-341-3977

NOTE: The Reference Profile sheets that follow are grouped by subject categories. Each sheet is numbered ac cording to its subject category, such as "AP-1" for the first sheet under Aerial Photography. This page numbering system facilitates additions and revisions. The conventional page numbers resume at section 6.0.

REFERENCE PROFILE

CITATION:

Wetlands Photography

Mark Hurd Aerial Surveys, Inc., NJDEP - Series of Photos, Trenton, New Jersey NJDEP, (1971-1972)

LOCATION:

DEP/CZM

ABSTRACT:

Photography covers the coastal wetlands as they are outlined in the Wetlands Act of 1970. The amount of development versus undeveloped land of these areas is documented for the time period.

Frames are of a 9"x9" format with a 60% forward and a 30% side overlap for stereo coverage. Photography is available in natural color and color infrared at a scale of 1:12,000.

The series is completed.

DATA VALIDATION STATUS:

Not Submitted

USE IN COASTAL ZONE MANAGEMENT:

This photography documents the situation in part of the CAFRA area prior to enactment of the law. It is a useful tool for determining land use trends, by making comparisions with more recent photography.

CONSTRAINTS FOR COASTAL ZONE MANAGEMENT:

The area photographed does not include the entire CAFRA area. Only the tidal wetlands portion is included. The scale is too large for regional or state-wide planning.

SAMPLE:

Photo

September, 1975

8-24-71
1:12000
CUP-COL-624

REFERENCE PROFILE

CITATION:

High Altitude Photography

Mark Hurd Aerial Survey, Inc.; NJDEP
series of photos, Trenton, NJ, NJDEP, (1972)

LOCATION:

DEP/CZM

ABSTRACT:

This photography covers the entire State of New Jersey, documenting land use.

Frames are of a 9"x9" format with a 60% forward and a 30% side overlap for stereo coverage. The photography is available in natural color and color infrared at a scale of 1:80,000.

The series is complete.

DATA VALIDATION STATUS:

Not submitted

USE IN COASTAL ZONE MANAGEMENT:

These photos give an overall view of the state prior to enactment of CAFRA. Comparisons of this photography with more recent sets (e.g. the coastal zone photography) allows planners to determine developmental trends.

CONSTRAINTS FOR COASTAL ZONE MANAGEMENT:

Details are sometimes difficult to determine.

Sample:

Aerial photograph

September, 1975

CNO

REFERENCE PROFILE

CITATION:

Panchromatic Photos

Various Authors, Series of Photos, Trenton, NJ DEP/OEA (1930-1964)

LOCATION:

DEP/Division of Marine Services

ABSTRACT:

Four sets of panchromatic photos give complete aerial photo coverage of the state for 1930, 1940, and 1963-64 to show changes in land use.

Stereo coverage exists for the 1940 and 1963-64 photography only.

Scales vary from 1:6,000 to 1:20,000. The series is complete.

DATA VALIDATION STATUS:

Not Submitted

USE IN COASTAL ZONE MANAGEMENT:

Photos sequentially depicit land use, so temporal changes can be detected.

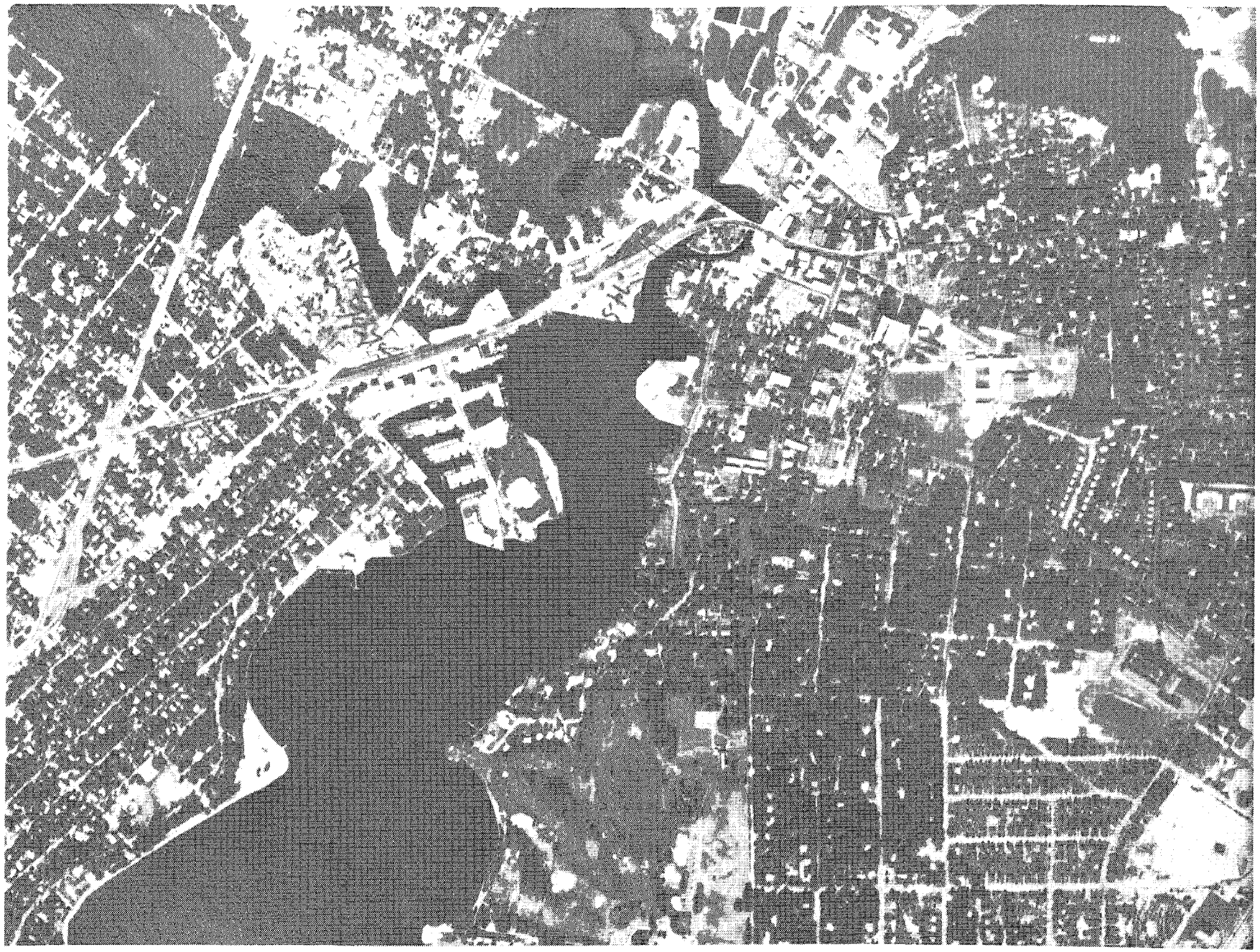
CONSTRAINTS FOR COASTAL ZONE MANAGEMENT:

Scale too large for regional planning.

SAMPLE:

Aerial photograph

September, 1975



REFERENCE PROFILE

CITATION:

United States Geological Survey Photomosaics,
U.S.G.S. (from Aerial Photographs Acquired by NASA)

Series of Photomosaics, Washington, D.C., U.S.G.S., (1973)

LOCATION:

DEP/CZM; U.S.G.S., Washington, D.C.

ABSTRACT:

The U.S.G.S. has produced land use maps for the Central-Atlantic Regional Ecological Test Site (CARETS). Covering the CAFRA area are the Bridgeton, Dover, Burlington, Atlantic City, Cape May, Toms River and Little Egg Harbor photomosaics. The photomosaics have 5 minute geographic projection ticks and a 1000 meter grid and are at a scale of 1:100,000.

Land use conditions are documented and the series is complete.

DATA VALIDATION STATUS:

Not Submitted

USE IN COASTAL ZONE MANAGEMENT:

These photomosacis document land use.

September, 1975

REFERENCE PROFILE

CITATION:

Coastal Zone Photography

Mark Hurd Aerial Surveys Inc., NJDEP - Series of Photos, Trenton, New Jersey, NJDEP, 1973

LOCATION:

DEP/CZM

ABSTRACT:

The photography covers the coastal area as defined in CAFRA. Land use at the time of the enactment of the law is documented (September, 1973). Frames are of a 9"x9" format with a 60% forward and a 30% side overlap for stereo coverage. The photography is available in color infrared at a scale of 1:35,000.

The series is complete.

DATA VALIDATION STATUS:

Not Submitted

USE IN COASTAL ZONE MANAGEMENT:

The photography records baseline conditions of the CAFRA area at the time of the enactment of the law. Comparision of the current situation with that shown on the photos will help planners and the reviewers of permit application make decisions concerning future development.

CONSTRAINTS FOR COASTAL ZONE MANAGEMENT:

No constraints

SAMPLE:

Photo

September, 1975

10-1-73
1:15000
DDE - IRC-540

REFERENCE PROFILE

CITATION:

Report of the Blueprint Commission on the Future of New Jersey Agriculture

Phillip Alampi, et al - Trenton, N.J., New Jersey Department of Agriculture, April (1973) 38 pp.

LOCATION:

DEP/CZM; Department of Agriculture

ABSTRACT:

This report deals with issues and recommendations concerning New Jersey's agricultural lands, including those related to land policy, education, farm labor, farmland assessment, taxes, management, marketing, natural resources, organizations, recycling waste, and research. Included with the report is a 1:250,000 scale map of Prime Open Agricultural Lands.

DATA VALIDATION STATUS:

Not Submitted

USE IN COASTAL ZONE MANAGEMENT:

The issues and recommendations discussed in this report are a result of a continuing planning program of the Department of Agriculture. Many of these issues are those which the coastal zone program must also face.

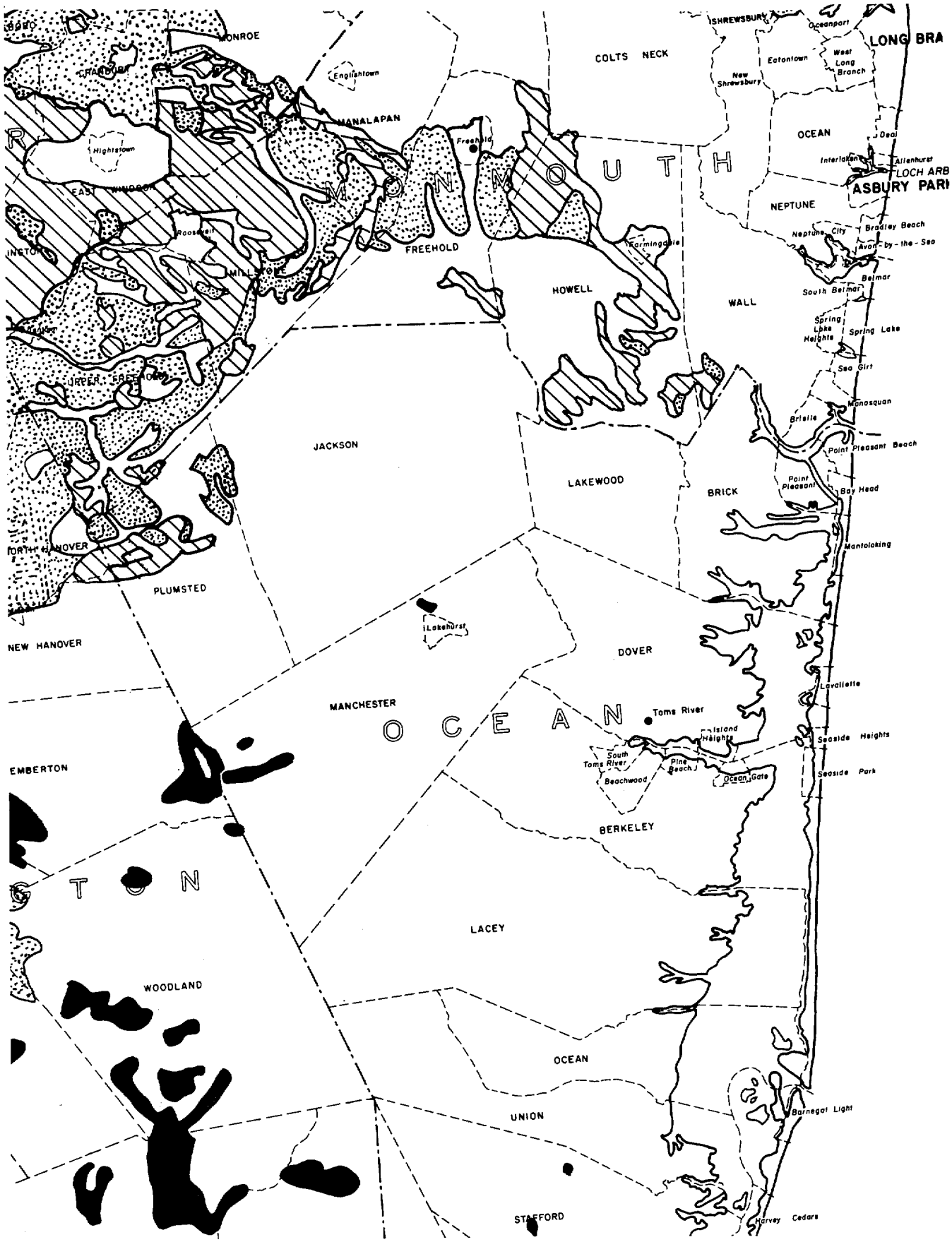
CONSTRAINTS FOR COASTAL ZONE MANAGEMENT:

There has been no detailed delineation of prime agricultural lands, nor have final recommendations been submitted.

SAMPLE:

Segment of Prime Open Agricultural Lands Map

September, 1975


MONMOUTH
OCEAN
MONROE
CRANBURY
Englishtown
COLTS NECK
SHREWSBURY
Oceanport
LONG BRA
Eatontown
West Long Branch
New Shrewsbury
MANALAPAN
Freehold
Hightstown
EAST WINDSOR
Roosevelt
FREEHOLD
Farmingdale
HOWELL
WALL
OCEAN
Deal
Interlaken
Allenhurst
LOCH ARB
ASBURY PARI
NEPTUNE
Neptune City
Bradley Beach
Avon-by-the-Sea
Belmar
South Belmar
Spring Lake Heights
Spring Lake
Sea Girt
Monasquan
Brielle
Point Pleasant Beach
Point Pleasant
Bay Head
Mantoloking
JACKSON
LAKEWOOD
BRICK
PLUMSTED
NEW HANOVER
Lakehurst
DOVER
Lavallette
MANCHESTER
Toms River
Island Heights
Seaside Heights
Seaside Park
South Toms River
Beachwood
Pine Beach
Ocean Gate
BERKELEY
LACEY
WOODLAND
UNION
Barnegat Light
STAFFORD
Harvey Cedars

REFERENCE PROFILE

CITATION:

Monitoring Site Locations

N.J. Department of Environmental Protection, Bureau of Air Pollution Control, Trenton, NJ, (1974)

LOCATION:

DEP/Bureau of Air Pollution Control

CITATION:

All air monitoring sites, including comprehensive laboratory trailers, air monitoring stations, and high volume air samplers are located on U.S.G.S. 7.5 minute (topographic) series maps at a scale of 1:24,000. UTM grid coordinates are also supplied.

DATA VALIDATION STATUS:

Not Submitted

USE IN COASTAL ZONE MANAGEMENT:

Geographic depiction of the monitoring sites, which may be used in conjunction with monitoring site descriptions facilitate planning analysis.

CONSTRAINTS FOR COASTAL ZONE MANAGEMENT:

Only monitoring sites are shown. Supplementary information such as the operating equipment at the site and the ambient air data must be obtained from other sources.

SAMPLE:

Excerpt from Atlantic City Quadrangle.

September, 1975

UNITED STATES
DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY

REFERENCE PROFILE

CITATION:

Continuous Air Monitoring Network

N.J. DEP, Bureau of Air Pollution Control
Trenton, NJ, July, (1972), Technical Bulletin A-72-1; N.J.

LOCATION:

DEP/CZM; DEP/Bureau of Air Pollution Control

ABSTRACT:

The N.J. Continuous Air Monitoring Network is described in broad terms without delving too deeply into its technology. The system's capabilities are detailed, and the procedures used in operating it are explained.

DATA VALIDATION STATUS:

Not Submitted

USE IN COASTAL ZONE MANAGEMENT:

The air monitoring system and data provide a sound basis for planning involving air quality considerations.

CONSTRAINTS IN COASTAL ZONE MANAGEMENT:

There are fewer monitoring sites in the coastal area than needed to provide a complete air quality profile.

September, 1975

REFERENCE PROFILE

CITATION:

Air Pollution Control Program

N.J. Department of Health, Division of Clean Air and Water, Trenton, N.J., N.J. State Department of Health, (1969). Technical Bulletin #A-69-1

LOCATION:

DEP/CZM; DEP/Bureau of Air Pollution Control

ABSTRACT:

This technical bulletin sets forth the historical development of New Jersey's air monitoring systems, indicates the sampling locations, and describes the sampling and analytical procedures. In addition, air quality for all State sites for the period October, 1965, through December, 1968, are presented in a variety of forms.

DATA VALIDATION STATUS:

Not Submitted

USE IN COASTAL ZONE MANAGEMENT:

The air monitoring system and data provide a sound basis for planning involving air quality considerations.

CONSTRAINTS FOR COASTAL ZONE MANAGEMENT:

There are fewer monitoring sites in the coastal area than needed to provide a complete air quality profile.

September, 1975

REFERENCE PROFILE

CITATION:

Suspended Particulate Concentrations from High Volume Air Samplers and Description of the Network: 1973.

N.J. Department of Environmental Protection, Bureau of Air Pollution Control, Trenton, NJ, (1974).

LOCATION:

DEP/CZM; DEP/Bureau of Air Pollution Control

ABSTRACT:

This report presents data obtained for the year 1973 from the High-Volume Air Sampling Network. The data are given in both tables and graphs for each of the 74 samplers in the State operated during the year.

DATA VALIDATION STATUS:

Not Submitted

USE IN COASTAL ZONE MANAGEMENT:

The high volume air samplers yield suspended particulate concentrations which serve to indicate the general quality of the local ambient air. These figures aid in planning analysis where air quality is of concern.

CONSTRAINTS IN COASTAL ZONE MANAGEMENT:

Individual readings reflect suspended particulate concentrations which are local in distribution and dependent on weather factors. Generalizations for planning purposes must be made cautiously.

September, 1975

REFERENCE PROFILE

CITATION:

Air Quality in NJ Compared with Air Quality Standards

NJ DEP, Bureau of Air Pollution Control, Trenton, NJ, (1974)

LOCATION:

DEP/CZM; DEP/Bureau of Air Pollution Control

ABSTRACT:

This report contrasts air quality readings for 1973 and 1974 with primary and secondary EPA air quality standards for the pollutants at each monitoring site.

DATA VALIDATION STATUS:

Not Submitted

USE IN COASTAL ZONE MANAGEMENT:

The readings supplied in this report are indicators of the general air quality in the Coastal Zone.

CONSTRAINTS FOR COASTAL ZONE MANAGEMENT:

There are too few monitoring sites in the coastal zone to provide a complete air quality profile.

September, 1975

REFERENCE PROFILE

CRITERIA:

Nautical Charts, Atlantic and Gulf Coasts

U.S. Department of Commerce, National Oceanic and Atmospheric Administration, Natural Ocean Survey; continually updated

LOCATION:

DEP/CZM; Distribution Division, National Ocean Survey

ABSTRACT:

Nautical charts show water depth in tidal areas (depth of water at mean low water). Also shown are existing channels, anchorage areas, fish trap areas, buoy and light locations. Three scales are represented: 1:80,000, 1:40,000, 1:10,000 with the two smaller scales covering the entire coastal shore and offshore area. Cape May Harbor is mapped at a scale of 1:10,000. The charts are continually updated.

DATA VALIDATION STATUS:

Pending

USE IN COASTAL ZONE MANAGEMENT:

These charts graphically depict the physical characteristics of New Jersey's coastal waters. They are useful in mapping of aquatic resources, determining present uses and hazards, and related planning.

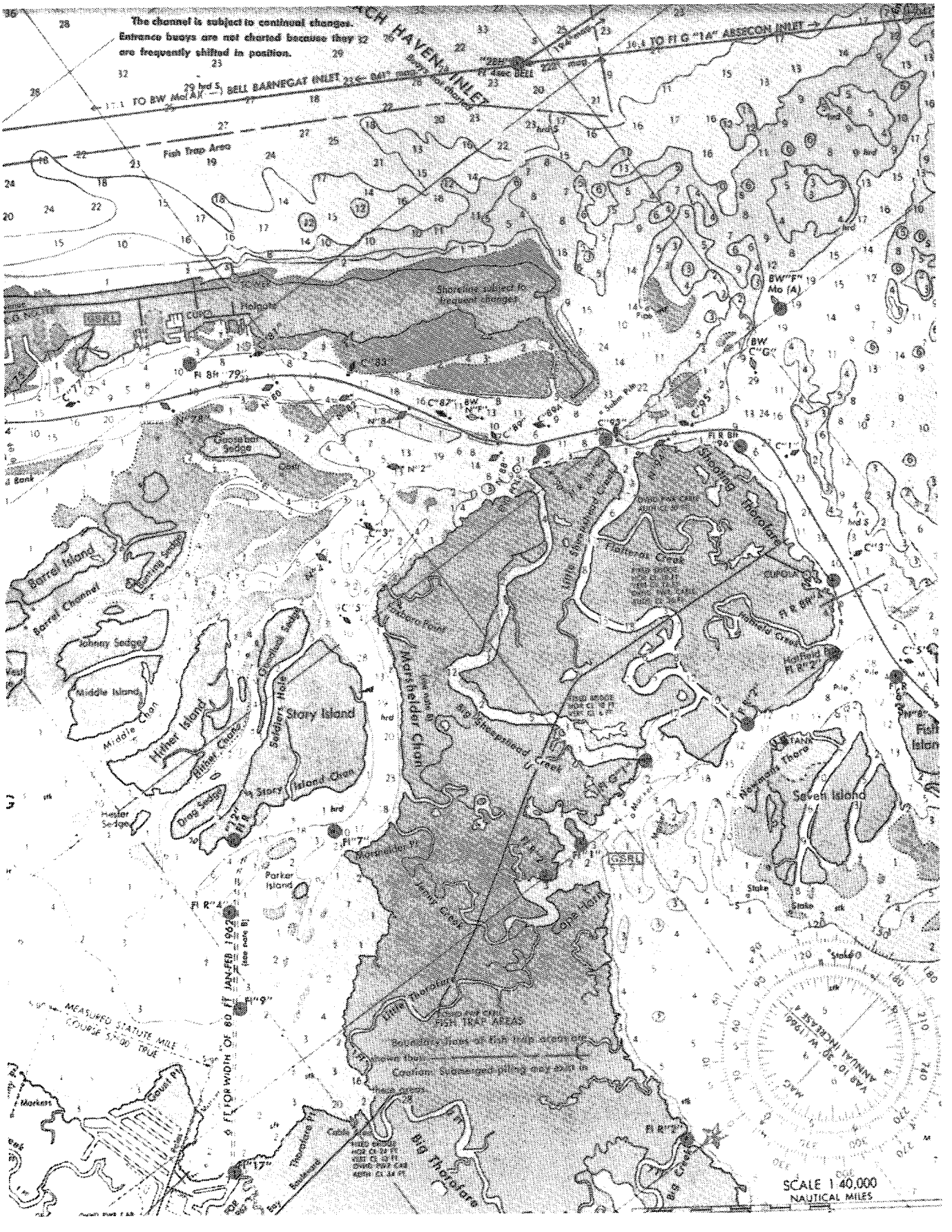
CONSTRAINTS FOR COASTAL ZONE MANAGEMENT:

Constraints lie in the level of detail and the small scale.

SAMPLE:

Excerpt of Chart

September, 1975


The channel is subject to continual changes.
Entrance buoys are not charted because they are frequently shifted in position.
TO BW Mo(A) BELL BARNEGAT INLET
TO Fl G "1A" ABSECON INLET
Fish Trap Area
Shoreline subject to frequent changes
Holgate
Goosebar Sedge
Barrel Island
Barrel Channel
Johnny Sedge
Middle Island
Middle Chan
Hither Island
Hither Chan
Drag Sedge
Hester Sedge
Goodluck Sedge
Soldiers Hole
Story Island
Story Island Chan
Parker Island
Marshelder Chan
Marshelder Pt
Jenny Creek
Little Sheepshead Creek
Big Sheepshead Creek
Flatteras Creek
Shooting Thorofare
Hatfield Creek
Hatfield Pt
Newmans Thoro
Seven Island
Cape Horn
Little Thorofare
Big Thorofare
Big Creek
Gaust Pt
Thorofare Pt
Markers
MEASURED STATUTE MILE COURSE 57°00' TRUE
6 FT FOR WIDTH OF 80 FT JAN-FEB 1962
FISH TRAP AREAS
Boundary lines of fish trap areas are shown thus
Caution: Submerged piling may exist in
SCALE 1:40,000
NAUTICAL MILES

REFERENCE PROFILE

CITATION:

Environmental Map of New Jersey - Bathymetry & Geology Map A

DEP/Bureau of Geology and Topography
Trenton, NJ, DEP (1975) Draft, 1 map

LOCATION:

DEP/CZM; Bureau of Geology and Topography

ABSTRACT:

This map at a scale of 1:250,000 delineates outer continental shelf oil leasing areas, bottom sediments, oyster beds, wildlife and danger areas (fish traps, explosive dump sites, etc.) sewage dump sites, and baseline environmental sampling areas. A geologic transect from Trenton to the continental slope, about 90 miles offshore, shows historical geology. Existing oil refineries are located along with their capacity. Active submarine cables are located. This map is one of a series of three.

DATA VALIDATION STATUS:

Not Submitted

USE IN COASTAL ZONE MANAGEMENT:

Information on this map is useful in planning for onshore impacts of OCS development and oil spill contingency planning.

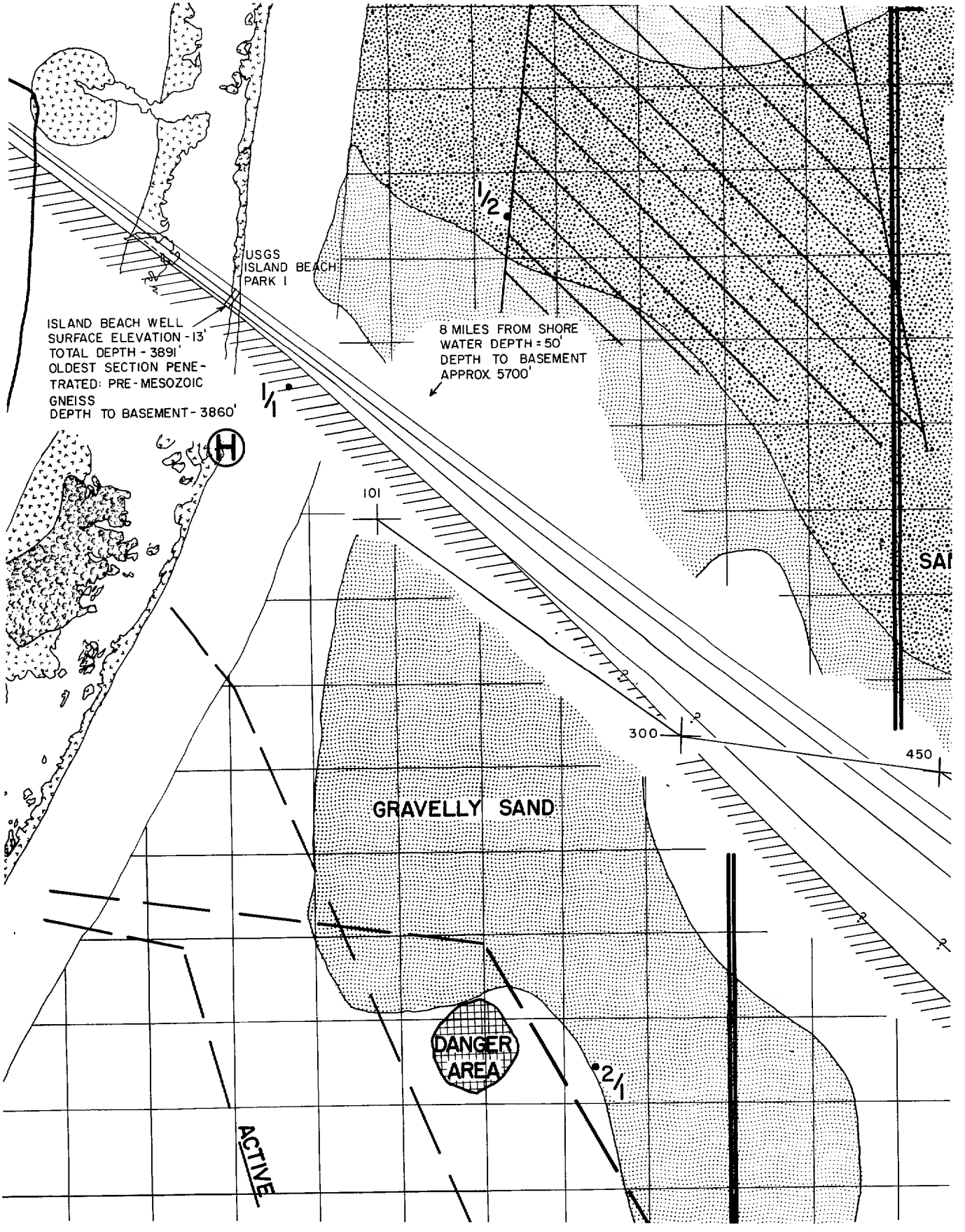
CONSTRAINTS FOR COASTAL ZONE MANAGEMENT:

This map is in draft form. Bathymetric data is limited to contour lines. Geologic transect gives only historic, and not physical data of formations.

SAMPLE:

Portion of map

September, 1975


USGS
ISLAND BEACH
PARK 1
ISLAND BEACH WELL
SURFACE ELEVATION - 13'
TOTAL DEPTH - 3891'
OLDEST SECTION PENE-
TRATED: PRE-MESOZOIC
GNEISS
DEPTH TO BASEMENT - 3860'
1/1
1/2
8 MILES FROM SHORE
WATER DEPTH = 50'
DEPTH TO BASEMENT
APPROX 5700'
H
101
300
450
GRAVELLY SAND
DANGER
AREA
2/1
ACTIVE

REFERENCE PROFILE

CITATION:

Sixth Annual Report, New Jersey Department of the Treasury

New Jersey Department of the Treasury, Economic Policy Council and Office of Economic Policy - Trenton, N.J., Department of Treasury (April, 1973) 120 pp.

LOCATION:

DEP/CZM; Department of Treasury, Office of Economic Policy

ABSTRACT:

The report includes a review of the New Jersey economy in 1972 and economic forecasts for 1973. The bulk of the document covers economic characteristics of New Jersey's population, commutation patterns, an industrial study, public higher education, unemployment and research programs. A statistical appendix is included.

DATA VALIDATION STATUS:

Not Submitted

USE IN COASTAL ZONE MANAGEMENT:

The document outlines some economic trends and projects future land use.

CONSTATINS FOR COASTAL ZONE MANAGEMENT:

The study is two years old; economic conditions have changed.

September, 1975

REFERENCE PROFILE

CITATION:

Trends in New Jersey Land Value

N. J. Department of Community Affairs, Division of State and Regional Planning

Trenton, N.J., Department of Community Affairs (January, 1974), 52 pp.

LOCATION:

DEP/CZM; Department of Community Affairs.

ABSTRACT:

The report illustrates growth rate in terms of density, development, and cost for New Jersey. The charts and maps show how land values in particular municipalities and counties have increased over the past ten years (1962-1972), and how these values rank in relation to those in other parts of the State.

DATA VALIDATION STATUS:

Not Submitted

USE IN COASTAL ZONE MANAGEMENT:

Information concerning the relative value of land throughout the State can be used to review and plan more accurately for development in any area.

CONSTRAINTS FOR COASTAL ZONE MANAGEMENT:

Both the 1962 and the 1972 data were taken from the respective Annual Reports of the Division of Taxation, which did not include tax exempt lands. The land value figures for 1973, however, do include tax exempt lands so that they cannot be strictly compared with the 1962 and 1972 data.

September, 1975

REFERENCE PROFILE

CITATION:

Ecological Studies in the Bays and other Waterways Near Little Egg Inlet and in the Ocean in the Vicinity of Proposed site for the Atlantic Generating Station, New Jersey.

Ichthyological Associates, Inc.

Absecon, N.J., Public Service Electric and Gas Company (1974) Volumes I-III.

LOCATION:

DEP/CZM; Ichthyological Associates, Absecon, N. J.

ABSTRACT:

The report is organized into three volumes. Volume I includes all data pertinent to fin fishes, collected by trawls, seines, and plankton nets. Volume II contains data on epifauna, algae, benthic invertebrates, and a discussion and distribution maps of important species of fish and macroinvertebrates. Volume III presents the results of the study of nutrients and phytoplankton, zooplankton and terrestrial ecology. Maps are at scale of 1:125,000.

DATA VALIDATION STATUS:

Not Submitted

USE IN COASTAL ZONE MANAGEMENT:

The data presented provides a nearly complete ecological inventory of Little Egg Harbor/Great Bay Inlet area. This work could serve as a prime source for information on this estuary and adjacent oceanic waters.

CONSTRAINTS FOR COASTAL ZONE MANAGEMENT:

No Constraints

September, 1975

REFERENCE PROFILE

CITATION:

Environmental Map of New Jersey - Energy Map C.

DEP/Bureau of Geology and Topography, Trenton, NJ (1975), 1 Map

LOCATION:

DEP/CZM; Bureau of Geology and Topography

ABSTRACT:

This map depicts the southern portion of New Jersey at a scale of 1:250,000. Located are oil refineries, electric generating stations, oil terminals, natural gas and oil pipelines. OCS oil exploration lease tracts are shown. Included is a listing of existing power stations in New Jersey with type of fuel used, capacity, cooling and company. This is one of a three map series.

DATA VALIDATION STATUS:

Not Submitted

USE IN COASTAL ZONE MANAGEMENT:

This energy maps is useful for planning of pipeline routes, siting facilities, and other onshore developments from Outer Continental Shelf oil production. Entire CAFRA area is covered.

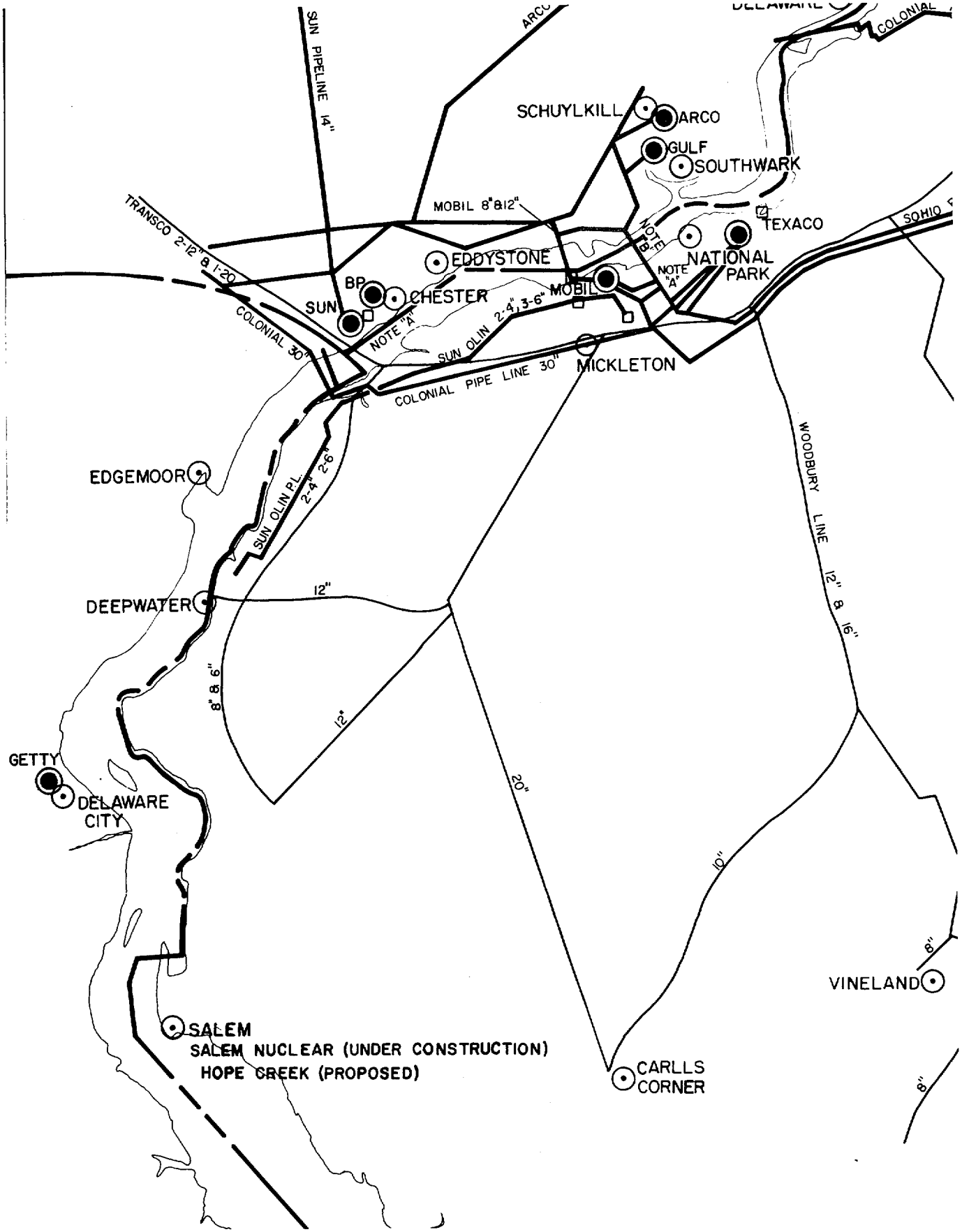
CONSTRAINTS FOR COASTAL ZONE MANAGEMENT:

This map is in draft form. Electric transmission lines are not shown

SAMPLE:

Portion of map

September, 1975


SUN PIPELINE 14"
ARCO
SCHUYLKILL
ARCO
GULF
SOUTHWARK
TRANSCO 2-12" & 1-20
MOBIL 8"&12"
TEXACO
SOHIO
NOTE "B"
EDDYSTONE
NATIONAL PARK
NOTE "A"
BP
CHESTER
SUN
MOBIL
COLONIAL 30"
NOTE "A"
SUN OLIN 2-4", 3-6"
MICKLETON
COLONIAL PIPE LINE 30"
EDGEMOOR
SUN OLIN P.L. 2-4" 2-6"
WOODBURY LINE 12" & 16"
DEEPWATER
12"
8" & 6"
12"
20"
10"
8"
GETTY
DELAWARE CITY
VINELAND
SALEM
SALEM NUCLEAR (UNDER CONSTRUCTION)
HOPE CREEK (PROPOSED)
CARLLS CORNER
8"

REFERENCE PROFILE

CITATION:

ENERGY: A Report to the Governor of New Jersey

The Task Force on Energy, NJ State Energy Office
May (1974) 199 pp.

LOCATION:

DEP/CZM; State Energy Office

ABSTRACT:

This report focuses on present energy policy in the State of New Jersey. It discusses energy supply and demand, environmental constraints on supply, transportation and energy conservation techniques. The study makes policy recommendations for energy planning and coordination in New Jersey.

DATA VALIDATION STATUS:

Not Submitted

USE IN COASTAL ZONE MANAGEMENT:

An input into formulating policies on energy conservation for the coastal zone.

CONSTRAINTS FOR COASTAL ZONE MANAGEMENT:

The report is generalized for the State. Sub-state analyses, and energy siting recommendations are not included.

September, 1975

REFERENCE PROFILE

CITATION:

Distribution of Shellfish Resources in Relation to the New Jersey Intra Coastal Waterway

Hal Haskin with New Jersey Division of Shellfisheries, U.S. Department of the Interior, Boston, Mass. (1963) 5 maps

LOCATION:

DEP/CZM; U.S. Department of the Interior, Fish and Wildlife Service, Boston, Mass.

ABSTRACT:

The distribution of shellfish, hard and soft clams, scallops, and oyster seed production areas are mapped on Coast and Geodetic Survey navigation charts. Scale varies. Shellfish beds are classed according to high and moderate commercial and recreational value. Area surveyed includes Sandy Hook, south to Cape May Point.

Series completed.

DATA VALIDATION STATUS:

Not Submitted

USE IN COASTAL ZONE MANAGEMENT:

Shellfish resources yield an annual harvest in excess of $2 million commercially and many days of recreational activity. These resources are located entirely in New Jersey's Coastal Zone, as shown in these maps. Shellfish beds delineated should be considered as environmentally sensitive areas.

CONSTRAINTS FOR COASTAL ZONE MANAGEMENT:

This work is limited in scope, not covering shellfish beds in Raritan and Delaware Bays. Surf clam areas are not shown.

SAMPLE:

Map of Barnegat Bay Area.

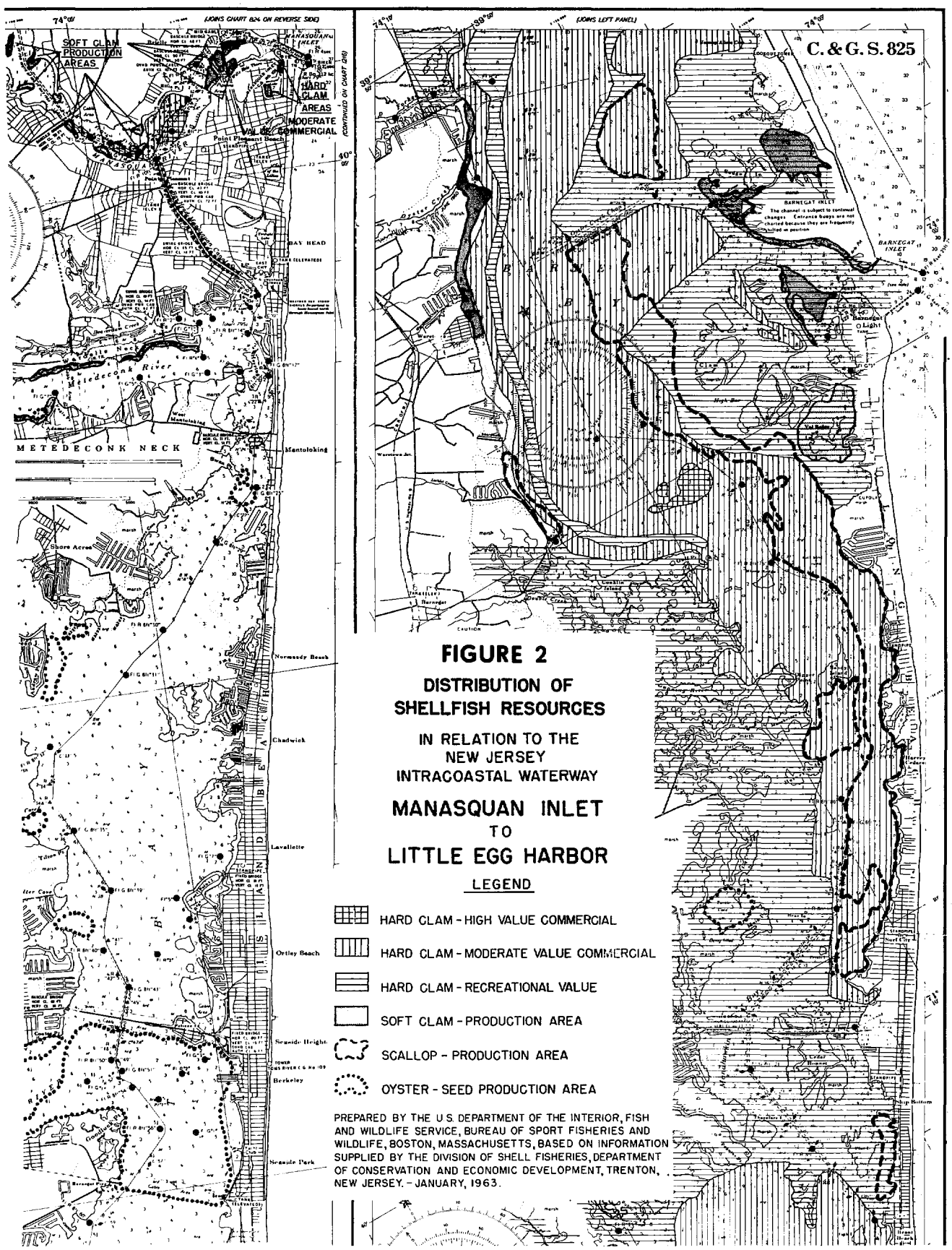


FIGURE 2

DISTRIBUTION OF SHELLFISH RESOURCES

IN RELATION TO THE
NEW JERSEY
INTRACOASTAL WATERWAY

MANASQUAN INLET TO LITTLE EGG HARBOR

LEGEND

- HARD CLAM - HIGH VALUE COMMERCIAL
- HARD CLAM - MODERATE VALUE COMMERCIAL
- HARD CLAM - RECREATIONAL VALUE
- SOFT CLAM - PRODUCTION AREA
- SCALLOP - PRODUCTION AREA
- OYSTER - SEED PRODUCTION AREA

PREPARED BY THE U.S. DEPARTMENT OF THE INTERIOR, FISH AND WILDLIFE SERVICE, BUREAU OF SPORT FISHERIES AND WILDLIFE, BOSTON, MASSACHUSETTS, BASED ON INFORMATION SUPPLIED BY THE DIVISION OF SHELL FISHERIES, DEPARTMENT OF CONSERVATION AND ECONOMIC DEVELOPMENT, TRENTON, NEW JERSEY. - JANUARY, 1963.

REFERENCE PROFILE

CITATION:

Anadromous Fish Spawning Areas of New Jersey,

Richard Kantor, N.J. Department of Environmental Protection Trenton, N.J. DEP (1974), 1 map

LOCATION:

DEP/CZM

ABSTRACT:

This state-wide map and supplementary listing locates anadromous fish spawning areas of New Jersey. Species shown include herring, shad, and striped bass. At least 51 distinct spawning runs have been confirmed by N.J. Bureau of Fisheries. Data is shown at scale of 1:250,000.

DATA VALIDATION STATUS:

Not Submitted

USE IN COASTAL ZONE MANAGEMENT:

The majority of anadromous fishes (clupeids) spawn in freshwater streams within New Jersey's coastal zone. These fish are important as forage fish and are harvested directly by man. Man-made changes in these streams could eliminate entire spawning runs.

CONSTRAINTS FOR COASTAL ZONE MANAGEMENT:

Work is in draft form; 1975 updating necessary.

SAMPLE:

Portion of map showing Maurice River area.

September, 1975

(50)
(44)
(45)
HICKORY SHAD
+
ALEWIFE
(47)
(42)
BLUEBACK
+
ALEWIFE
BLUEBACK
+
ALEWIFE
ALE
(28)
(43)
ALEWIFE
ALEWIFE
(34)
(33)
(40)
(30)
(37)
ALEWIFE
STRIPED
(39)
ALEWIFE

REFERENCE PROFILE

CITATION:

Anglers' Guide to the United States Atlantic Coast,

Bruce L. Freeman and Lionel A. Walford,
NOAA, National Marine Fish Service (1974) Sections I-IV pp 16
Washington, D.C. U.S. Department of Commerce

LOCATION:

DEP/CZM; National Marine Fishery Service, Sandy Hook Laboratory

ABSTRACT:

This report includes a listing and brief description of size, habits, seasonal movements, and fishing methods of major sport and commercial fishes of the Atlantic Coast. Species occurrence along each section is mapped along with major fishing grounds. Also included is a listing of fishing stations and services available at each. Two map scales are used, 1:211,200 and 1:1,140,000.
This work is composed of four sections:

Section I Passamoquoddy Bay, Ma. to Cape Cod
Section II Nantucket Shoals to Long Island Sound
Section III Block Island to Cape May, N.J.
Section IV Delaware Bay to False Cape, Virginia

DATA VALIDATION STATUS:

Not Submitted

USE IN COASTAL ZONE MANAGEMENT:

This work locates and identifies important commercial and sport fin fishing areas in Atlantic Coastal waters. It also provides information on the life histories of each species and the locality in which each is likely to occur. Knowledge of fish distribution will assist in determining and delineating environmentally sensitive areas.

CONSTRAINTS FOR COASTAL ZONE MANAGEMENT:

Only larger species directly harvested by man are shown; important forage fishes and seasonal changes in distribution are not shown.

SAMPLE:

Segment of map of North Jersey shore.

September, 1975

This map not to be used for navigation. See National Ocean Survey Chart Nos. 117-SC, 120-SC, 542-SC, 369-SC, 824-SC, 282, 1213 and 1215.
Wreck
Artificial Fishing Reef
Interstate Highway
State Highway
Striped bass
White perch
Black sea bass
White marlin
Bluefish
Atlantic cod
Pollock
Squirrel hake
Silver hake
Tomcod
Dolphin
Gray sea trout
Newark
Jersey City
Elizabeth
Bayonne
Kill Van Kull
Manhattan
Hellgate
East River
Edgewater
Governors I.
Upper Bay
Brooklyn
Flushing
Great Neck
Staten Island
Great Kills
Arthur Kill
Hoffman Gd
Swinburne Gd
West Bank
Coney Island
Mussel Bank
Rockaway Inlet
Rockaway Beach
East Rockaway Inlet
Far Rockaway
Atlantic Beach
East Rockaway Sea Buoy (Black and white "ER" bell)
Gong Gd.
Red "2" Gong
Tin Can Gd.
Scallop Ridge
Red "4" Whistle Buoy
Great Kills Bug Light
Old Orchard Shoal Gd
Round Shoal
Seguine Bug Light
Romer Shoal
Swash Channel
Lower Bay
Raritan Bay
Flynns Knoll
Northern Shoal
Sandy Hook
False Hook Shoal
The Cedars
Red "2A" Whistle Buoy
Sandy Hook Bay
Sandy Hook Gd
Outer Middle Gd
Scotland Gd.
Scotland Ridge
Lump or Sea Gull Bank
Southwest Gd.
Ambrose Ridge
Ambrose Light Tower
Lightship Ridge
Buffer Buoy
Envelope
Lump Buoy or Fisherman's Buoy (Red and black bell buoy)
Clam Beds
Subway Rocks
New Grounds
17 Fathom Bank
Acid Water or Stain
Keyport
New Jersey
Highlands
Navesink R.
Red Bank
Sea Bright Ground
Shrewsbury Rocks
Black "1" Bell Buoy
Buffer Buoy (Black and white "BA" whistle)
The Flats
Mud Hole
Fishing Pier
Long Branch Ground
West End Ground or Elberon Ground
The Farms
England Bank
Elberon
Shrewsbury R.
Perth Amboy
74°15'
40°30'

REFERENCE PROFILE

CITATION:

Oyster Seed Beds of Delaware Bay, New Jersey

Division of Fish, Game and Shellfisheries
Trenton, N.J., DEP (1975) 1 map

LOCATION:

DEP/Bureau of Shellfisheries, Trenton, NJ

ABSTRACT:

This map locates oyster seed beds of Delaware Bay, N.J. on N.O.S. navigation chart 1218. These beds are found from Artifical Island south to Egg Island Point. Scale is 1:80,000. Shoreline and other land marks are shown.

DATA VALIDATION STATUS:

Not Submitted

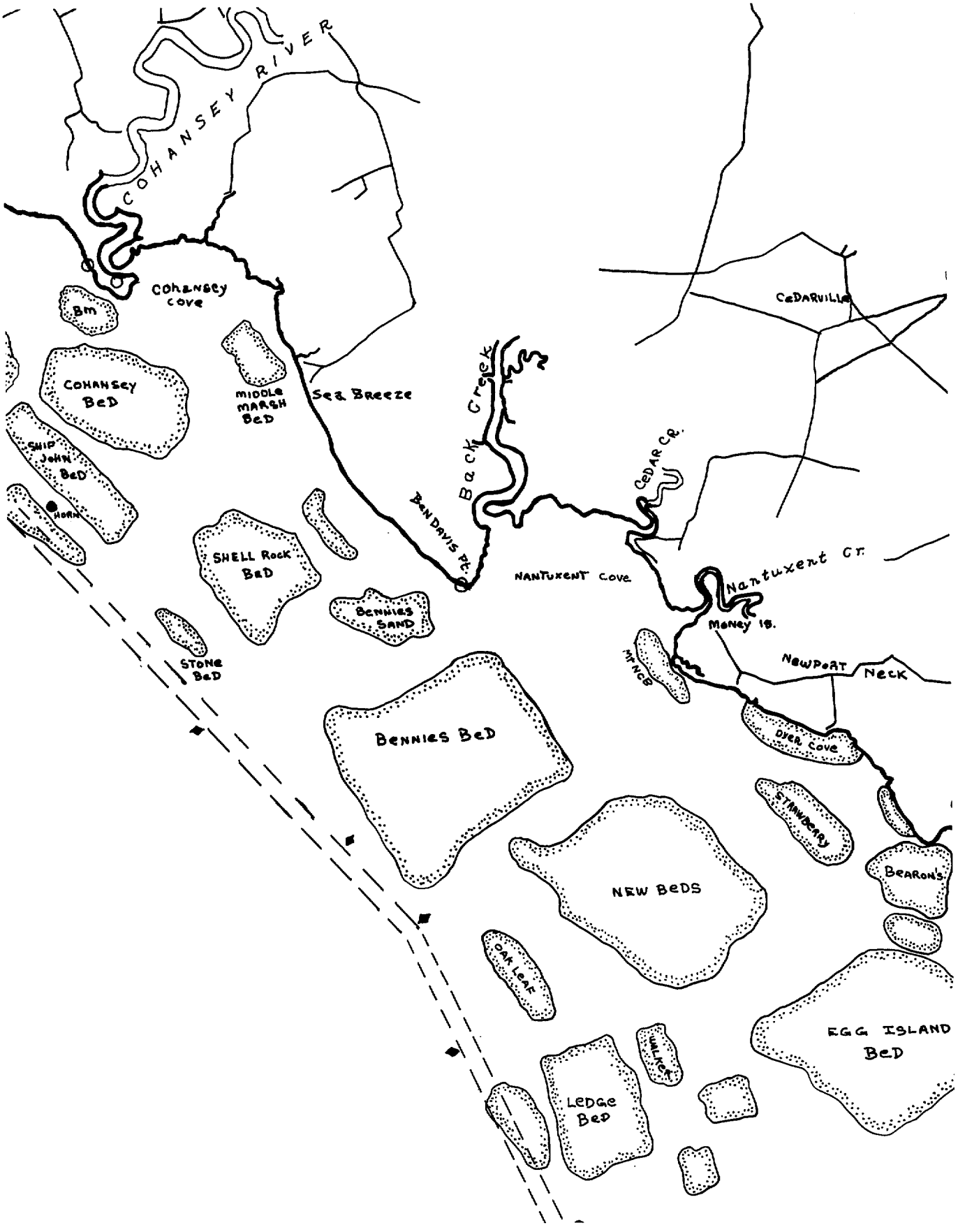
USE IN COASTAL ZONE MANAGEMENT:

The annual New Jersey oyster harvest is valued at $2 million. The seed oyster beds are essential for continuation of this local industry and employment and should be identified in Coastal Zone Management.

SAMPLE:

Portion of Oyster Seed Bed Map

September, 1975


COHANSEY RIVER
Cohansey cove
Bm
COHANSEY BED
MIDDLE MARSH BED
Sea Breeze
SHIP JOHN BED
HORN
SHELL ROCK BED
BENNIES SAND
STONE BED
BENNIES BED
Back Creek
BAN DAVIS Pt.
CEDAR CR.
CEDARVILLE
NANTUXENT COVE
Nantuxent Cr.
Money Is.
MT NOB
NEWPORT NECK
DYER COVE
STRAWBERRY
BEARON'S
NEW BEDS
OAK LEAF
WALKER
LEDGE BED
EGG ISLAND BED

REFERENCE PROFILE

CITATION:

Leased Oyster Grounds of Delaware Bay,

Division of Fish, Game and Shellfisheries,
Trenton, N.J., DEP (1975) 1 map

LOCATION:

DEP/Bureau of Shellfisheries, Trenton, NJ

ABSTRACT:

This map delineates areas leased for oyster cultivation in the Maurice River Cove area of Delaware Bay, N.J. Specific leases and general oyster cultivation areas are shown at a scale of 1:19,200.

DATA VALIDATION STATUS:

Not Submitted

USE IN COASTAL ZONE MANAGEMENT:

The annual oyster harvest in the Delaware Bay is valued at approximately $2 million, most of which is exported. The environmental quality of this area must be maintainted to ensure continuation of this industry and local employment.

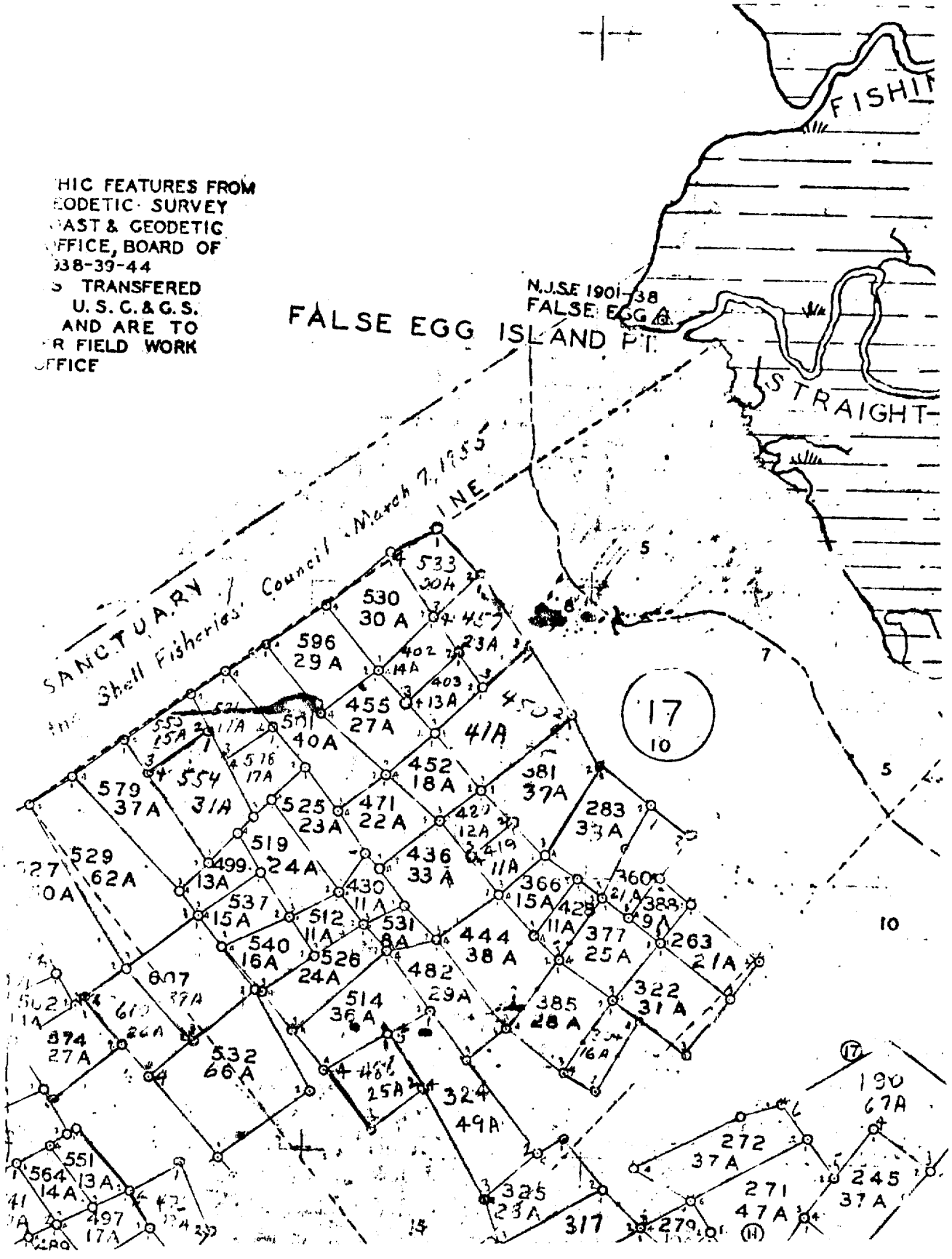
CONSTRAINTS FOR COASTAL ZONE MANAGEMENT:

No other factors besides lease boundaries are shown

SAMPLE:

Portion of map

September, 1975


HIC FEATURES FROM
EODETIC SURVEY
AST & GEODETIC
FFICE, BOARD OF
38-39-44
TRANSFERED
U. S. C. & G. S.
AND ARE TO
R FIELD WORK
FFICE
N.J.S.E 1901-38
FALSE EGG
FALSE EGG ISLAND PT.
FISHI
STRAIGHT
SANCTUARY
Shell Fisheries' Council March 7, 1955
17
10
533
30A
530
30 A
596
29 A
455
27A
501
40A
452
18A
381
37A
283
33A
579
37A
554
31A
525
23A
471
22A
519
24A
436
33 A
529
62A
499
13A
537
15A
430
11A
366
15A
512
11A
531
8A
444
38 A
377
25A
263
21A
540
16A
526
24A
482
29A
385
28 A
322
31 A
607
514
36A
874
27A
532
66A
324
49A
190
67A
272
37A
271
47A
245
37A
551
13A
564
14A
497
17A
325
23A
317
279

REFERENCE PROFILE

CITATION:

Catch of Albatross IV on Groundfish Survey 75-3
(Covering Mid-Atlantic Shelf and Lower Georges Bank)

U.S. Department of Commerce, NOAA Sandy Hook Lab.
(1975) Part I and II 16 pp.

LOCATION:

DEP/CZM; NOAA, Sandy Hook Laboratory

ABSTRACT:

This report depicts concentrations of commercial species of fin fishes and shellfishes over the Mid-Atlantic Shelf and Lower Georges Bank. Fish were taken with #41 trawl nets during March, 1975. Fish concentrations are mapped at a scale of 1:5 million. Species include butterfish, black sea bass, scup, mackerel, red and silver hake, yellowtail and summer flounder, alewife and cod. Shellfish mapped include lobster, sea scallops, and squid.

DATA VALIDATION STATUS:

Not Submitted

USE IN COASTAL ZONE MANAGEMENT:

This survey locates concentration of important commercial species of fish and shellfish found in New Jersey's continental shelf waters. Many of these are harvested by New Jersey fishermen. This work will help in determining environmentally sensitive areas.

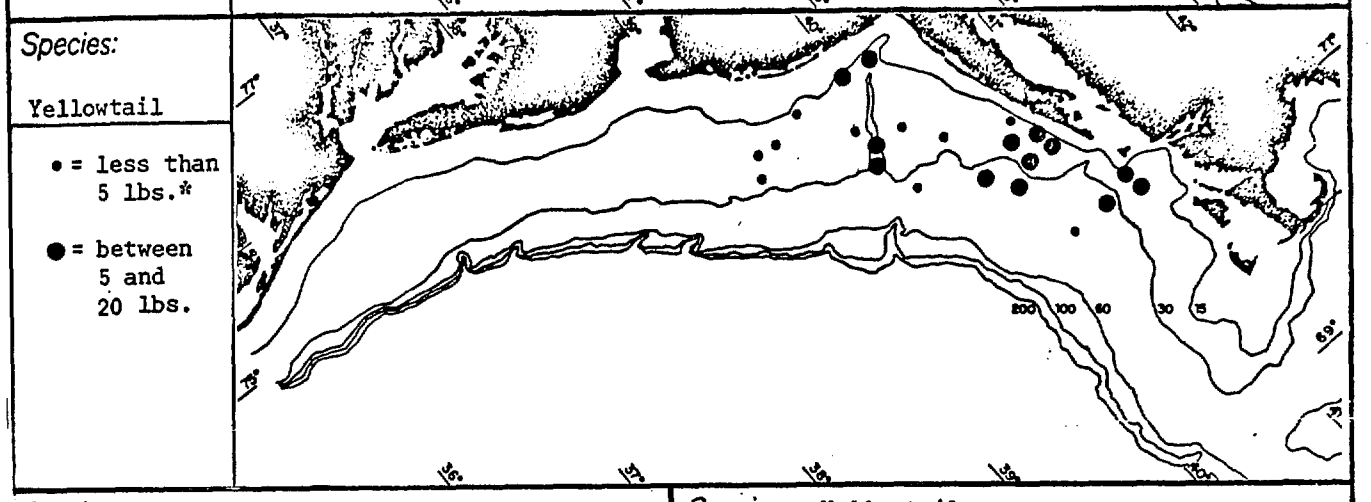
CONSTRAINTS FOR COASTAL ZONE MANAGEMENT:

The scope of this survey lies beyond New Jersey's 3 mile nautical limit.

SAMPLE:

Map showing distribution of red hake and yellowtail flounder.

September, 1975



Species: Red hake

Stn No.	POSITION latitude	POSITION longitude	Tow Direct.	Depth (fms)	Day Nite	Wgt in lbs Total	Wgt in lbs Avg
[illegible]	41°04'	71°18'	290°	130	N	10	0.71
[illegible]	40°13'	71°40'	310°	47	D	24	0.82
[illegible]	39°49'	71°48'	045°	120	D	52	0.38
[illegible]	40°02'	71°53'	240°	47	D	23	0.74
[illegible]	39°59'	72°33'	100°	36	D	61	0.58
[illegible]	39°51'	72°59'	330°	38	D	26	0.81
[illegible]	39°54'	73°06'	150°	37	D	17	0.58
[illegible]	39°47'	73°09'	120°	25	N	18	1.00
35	39°36'	72°54'	135°	35	N	10	1.00
37	39°12'	72°29'	225°	170	N	10	0.29
38	39°05'	72°43'	190°	125	N	22	0.36
46	39°11'	73°45'	205°	23	N	27	0.87
55	37°28'	74°24'	030°	105	N	11	0.52

[illegible]tch less than 10 lbs. plotted above, [illegible]t not listed.

Species: Yellowtail

Stn No.	POSITION latitude	POSITION longitude	Tow Direct.	Depth (fms)	Day Nite	Wgt in lbs Total	Wgt in lbs Avg
2	41°41'	71°18'	310°	23	N	6	0.75
3	40°54'	71°27'	300°	33	N	8	0.66
19	40°30'	72°09'	090°	32	N	6	0.66
20	40°35'	72°08'	270°	31	N	11	0.68
21	40°34'	72°22'	270°	24	N	5	0.62
22	40°16'	72°12'	190°	33	N	5	0.83
31	39°51'	72°59'	330°	38	D	12	1.20
32	39°54'	73°06'	150°	37	D	5	1.00
73	41°10'	71°24'	315°	24	N	12	0.50
75	40°50'	72°13'	225°	18	N	7	0.87
76	40°45'	72°13'	290°	25	D	18	0.66
79	40°12'	73°38'	070°	19	D	9	0.90
80	39°49'	73°43'	090°	15	N	13	13.0

* Catch less than 5 lbs. plotted above, but not listed.

REFERENCE PROFILE

CITATION:

New Jersey Landings, Annual Summary (1973)

U.S. Department of Commerce with N.J. Division of Fish, Game and Shellfisheries, Current Fisheries Statistics No. 6413, 7 pp. Trenton, NJ, N.J. Department of Environmental Protection, Division of Fish, Game and Shellfisheries

LOCATION:

DEP/CZM; Division of Fish, Game and Shellfisheries

ABSTRACT:

This report lists weights and landing dollar values for commerical species of fin fishes and shellfish landed in the State of New Jersey. Data is listed separately for each county and includes monthly and annual totals. All coastal counties of NJ are included.

DATA VALIDATION STATUS:

Not Submitted

USE IN COASTAL ZONE MANAGEMENT:

The harvest of fish and shellfish landed in New Jersey in 1973 totaled 209.7 million pounds, valued at $18.4 million, of which $9.6 million were shellfish. The report gives the value of each species by county and gives the approximate abundance of commercial and sport species. This is useful for population trend analyses.

CONSTRAINTS FOR COASTAL ZONE MANAGEMENT:

Does not estimate the harvest of species from New Jersey's coastal waters landed in other states or foreign ports.

SAMPLE:

Annual total harvest 1972-73.

September, 1975

NEW JERSEY LANDINGS, 1972 AND 1973

SPECIES	TOTAL				
	1972		1973		
FISH	POUNDS	DOLLARS	POUNDS	DOLLARS	
ALEWIVES	14,650	506	7,000	280	
AMBERJACK	90	5	859	47	
ANGELFISH	1,654	64	36	2	
BLUEFISH	811,636	123,795	887,256	132,755	
BONITO	807	188	891	181	
BUTTERFISH, UNCLASSIFIED	492,327	92,735	1,029,938	157,593	
CARP	90,150	6,710	108,682	8,448	
CATFISH	3,770	484	12,714	1,903	
COD	42,611	12,424	85,004	26,501	
CRAKER, UNCLASSIFIED	344	45	37,049	7,401	
CUNNER	-	-	190	7	
DRUM, BLACK	32,740	1,819	24,423	2,033	
EELS, COMMON	262,214	57,763	230,878	54,760	
EELS, CONGER	1,512	92	6,793	1,033	
FLOUNDER, BLACKBACK	94,084	8,978	159,493	15,923	
FLOUNDER, FLUKE	1,851,796	738,312	3,091,541	1,103,242	#2
FLOUNDER, GRAY SOLE, UNCL	19,145	2,783	36,278	6,149	
FLOUNDER, LEMON SOLE	-	-	18	13	
FLOUNDER, SAND	-	-	2,500	234	
FLOUNDER, YELLOWTAIL, UNCL	867,103	89,640	1,052,966	122,512	
GRUNTS	495	72	-	-	
HADDOCK, UNCLASSIFIED	-	-	1,636	567	
HAKE, RED	758,914	43,925	1,116,404	87,900	
HAKE, WHITE, UNCLASSIFIED	37,186	5,233	61,378	10,535	
HALIBUT	-	-	26	13	
HERRING, SEA	202,043	5,345	114,072	2,579	
JEWFISH	30	3	-	-	
KING MACKEREL	27	11	1,054	542	
KING WHITING OR "KINGFISH"	5,571	731	1,606	231	
MACKEREL, ATLANTIC	1,511,659	104,818	1,154,801	93,647	#1
MENHADEN	138,475,910	2,262,142	4,483,250	3,939,309	-1
MULLET	3,735	525	-	-	
OCEAN PERCH, ATLANTIC	320	57	-	-	
POLLOCK	467	64	893	151	
SCUP OR PORGY, UNCLASSIFIED	3,646,889	678,881	2,970,040	772,910	#4
SEA BASS, UNCLASSIFIED	422,977	152,936	693,925	268,863	
SEA ROBIN	1,253	37	7,189	347	
SEA TROUT, GREY	3,178,790	332,842	2,562,545	338,772	
SHAD	263,121	33,833	142,783	27,377	
SHARKS, GRAYFISH	194	9	5,437	255	
SHARKS, UNCLASSIFIED	475	35	3,396	237	
SPANISH MACKEREL	122	32	105	35	
SPOT	1,238	182	9,527	935	
STRIPED BASS	372,131	111,325	766,163	210,877	
STURGEON	11,139	2,125	18,423	2,998	
SUCKERS	13	1	-	-	
SWORDFISH	-	-	4,752	5,096	
TAUTOG	30,252	1,354	22,988	1,058	
TILEFISH	244,034	78,416	711,125	233,960	
TUNA, BLUEFIN	2,151,926	430,394	1,231,757	267,166	
TUNA, LITTLE	456	24	654	48	
TUNA, SKIPJACK	69,394	10,409	-	-	
TUNA, UNCLASSIFIED	-	-	201	13	
WHITE PERCH	106,267	21,742	141,795	31,836	
WHITING	5,439,740	452,744	6,449,617	868,295	#3
YELLOW PERCH	50	8	-	-	
UNCLASSIFIED FOR FOOD	9,872	1,049	6,492	850	
UNCLASSIFIED FOR INDUSTRIAL	7,030	260	-	-	
TOTAL FISH	161,540,358	5,867,985	179,478,063	8,808,419	
SHELLFISH					
CRABS, BLUE, HARD	1,437,028	326,556	2,572,080	663,100	#6
CRABS, BLUE, SOFT AND PEELER	14,950	4,484	22,913	15,528	
CRABS, RED	-	-	26,663	1,564	
CRABS, ROCK	90,793	4,972	192,984	11,113	
LOBSTERS, AMERICAN, UNCL	1,308,247	1,827,944	1,363,146	2,234,391	#2
SHRIMP, SALTWATER (HEADS-ON)	760	382	4,992	2,974	
CLAMS, HARD (MEATS)	2,195,733	1,579,028	1,893,665	1,640,505	#3
CLAMS, SOFT, PUBLIC (MEATS)	62,004	49,965	17,292	18,914	
CLAMS, SURF (MEATS)	21,331,864	2,780,461	21,588,249	2,709,121	#1
CONCHS (MEATS)	113,883	41,739	180,767	38,505	
OYSTERS (MEATS)	1,914,210	1,370,071	1,397,288	1,329,232	#4
SCALLOPS, BAY (MEATS)	-	-	60,641	71,628	
SCALLOPS, SEA (MEATS)	246,612	502,760	415,557	760,263	#5
SQUID	412,091	76,759	584,433	134,914	
TERRAPIN	600	270	500	250	
TURTLES, LOGGERHEAD	160	16	20	2	
TURTLES, [illegible]	-	-	525	53	
TURTLES, [illegible]	47,771	9,554	25,579	5,067	
TURTLES, UNCLASSIFIED	-	-	450	32	
TOTAL SHELLFISH	28,976,468	8,554,956	30,317,744	9,637,156	
GRAND TOTAL	190,516,826	14,422,941	209,795,807	18,445,575	

[illegible] POUND (LIVE) WEIGHT, EXCEPT AS NOTED. WEIGHT OF SCALLOPS IS WEIGHT OF SHELL-CLOSING MUSCLE. THE 1973 DATA MAY INCLUDE [illegible] OF MONTHLY BULLETINS.

REFERENCE PROFILE

CITATION:

Environmental Map of New Jersey Fisheries Resources Map B

DEP/Bureau of Geology and Topography - Trenton, NJ, Bureau of Geology and Topography (1975) 1 map

LOCATION:

DEP/CZM; Bureau of Geology and Topography

ABSTRACT:

This map depicts general distribution of important commercial fin fish and shellfish in New Jersey's estuarine and coastal waters out to the continental slope. State and federal wildlife management areas are shown along with OCS oil exploration lease tract areas. Map is at a scale of 1:250,000. CAFRA, military, wetlands and urban areas are delineated. Distribution of shellfish include: surf, hard and soft clams, scallops and oysters. Fin fish distribtions include white perch, striped bass, butterfish, bluefish and others. A short description of habits of each species is included. This map is one of a series of three.

USE IN COASTAL ZONE MANAGEMENT:

Not Submitted

USE IN COASTAL ZONE MANAGEMENT:

A general inventory of fisheries resources of New Jersey's coastal waters is essential for Coastal Zone management and planning. This map will be very useful in relation to OCS development. Critical areas could be delineated from this information.

CONSTRAINTS FOR COASTAL ZONE MANAGEMENT:

This map is in draft form. Deeper water surf clam beds and lobster areas are not shown. Certain limits of species distribution shown are confusing. Other important species not mapped include blue claw crabs, swordfish, squid, and ocean quahogs.

SAMPLE:

Portion of map

September, 1975

BUTTERFISH (SUMMER GROUNDS, INNER LIMIT)
STRIPED BASS (OUTER LIMIT)
ATLANTIC CROAKER (OUTER LIMIT)
DR

REFERENCE PROFILE

CITATION:

Fishes in the Shore Zone and Other Areas of the Delaware River Estuary

Donald P. deSylva, University of Delaware Information Series, Publication No. 5 (1962) 164 pp.

LOCATION:

DEP/CZM; University of Delaware Marine Laboratories

ABSTRACT:

This report describes abundance and distribution of 66 species of fishes, inhabiting the Delaware River estuary and vicinity, from Penns Grove to Townsend Inlet, N.J. Results were compiled from two years of trawl net sampling. Measurements of physical water conditions, salinity, temperature, dissolved oxygen, and turbidity are included. Observation of tide, plant associations, bottom types were made at collection sites. Small scale maps of occurrence at scale of 1:10 million are included, by month.

DATA VALIDATION STATUS:

Not Submitted

USE IN COASTAL ZONE MANAGEMENT:

Work describes abundance and distribution of sport and commerical species of fin fish in Delaware Bay. This information is useful in determining species which could be effected by changes in the environment.

CONSTRAINTS FOR COASTAL ZONE MANAGEMENT:

No Constraints

September, 1975

REFERENCE PROFILE

CITATION:

Condemned Shellfish Area Charts.

Shellfish Section, New Jersey Department of Environmental Protection - D.E.P. S-D40 (1975) 10pp

LOCATION:

DEP Shellfish Section

ABSTRACT:

Coastal waters of New Jersey from Raritan River south to Cape May and Delaware Bay are classified as approved, condemned, seasonal and special restricted for the harvest of shellfish (oysters, clams and mussels). They also provide an idea of water quality of New Jersey's coastal waters based on fecal coliform counts. The areas are superimposed on N.O.S. navigation charts. The majority of charts are at scale of 1:40,000. Series of charts is complete.

DATA VALIDATION STATUS:

Not Submitted

USE IN COASTAL ZONE MANAGEMENT:

Shellfish industry is a major commerical and recreational industry in New Jersey providing income, employment, food, and recreational activity. Areas condemned are substantial and represent a loss to people of New Jersey. The shellfish harvest in 1973 was worth $9.5 million.

CONSTRAINTS FOR COASTAL ZONE MANAGEMENT:

Actual shellfish beds are not shown. Few constraints, work is up-to-date.

SAMPLE:

Map of condemned waters.

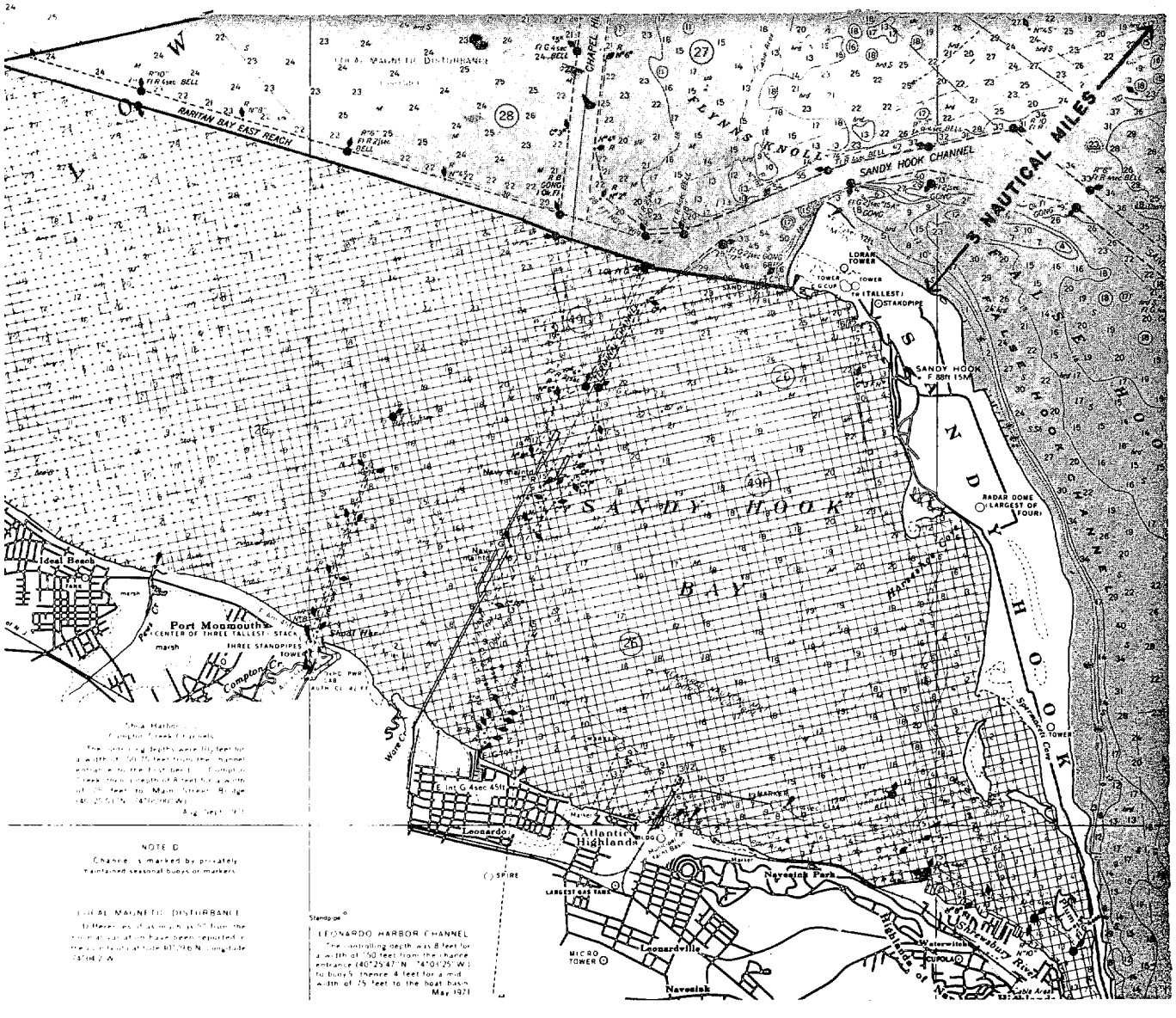
CONDEMNED AREA CHART 1

NEW JERSEY STATE DEPARTMENT OF ENVIRONMENTAL PROTECTION
SHELLFISH CONTROL SECTION • BOX 2809, TRENTON, NEW JERSEY • 08625

SPECIAL RESTRICTED AREA
Waters Condemned for the harvest of Oysters, Clams and Mussels EXCEPT Harvesting for further processing may be done under special permit from the State Department of Environmental Protection

Waters condemned for the harvest of oysters, clams and mussels.

SEASONAL: Waters condemned for the harvest of oysters, clams and mussels from May 1 through December 31 of each year and approved for harvest from January 1 through April 30 of each year.



REFERENCE PROFILE

CITATION:

Flood Hazard Area Maps

Various Authors: U.S. Army Corps of Engineers, USGS Anderson - Nichols & Co., Inc. - Trenton, Department of Environmental Protection (date varies)

LOCATION:

DEP/CZM;- Division of Water Resources

ABSTRACT:

These methods show an engineering delineation of flood hazard areas as defined by New Jersey's Flood Plain Law. This delineation is based on field surveys, hydraulic analysis, floodway analysis, plan and profile drawings, and reports. Some of the major rivers throughout the State, including the CAFRA area, have been delineated. Anderson-Nichols & Co., Inc. presents the flood hazard scale of 1:2,400; USGS at a scale of 1:24,000; U.S. Army Corps of Engineers at 1:24,000, enlarged to 1:9600.

DATA VALIDATION STATUS:

Pending

USE IN COASTAL ZONE MANAGEMENT:

These methods are the most accurate way of presenting the flood hazard areas as required by N.J. Flood Plain Law.

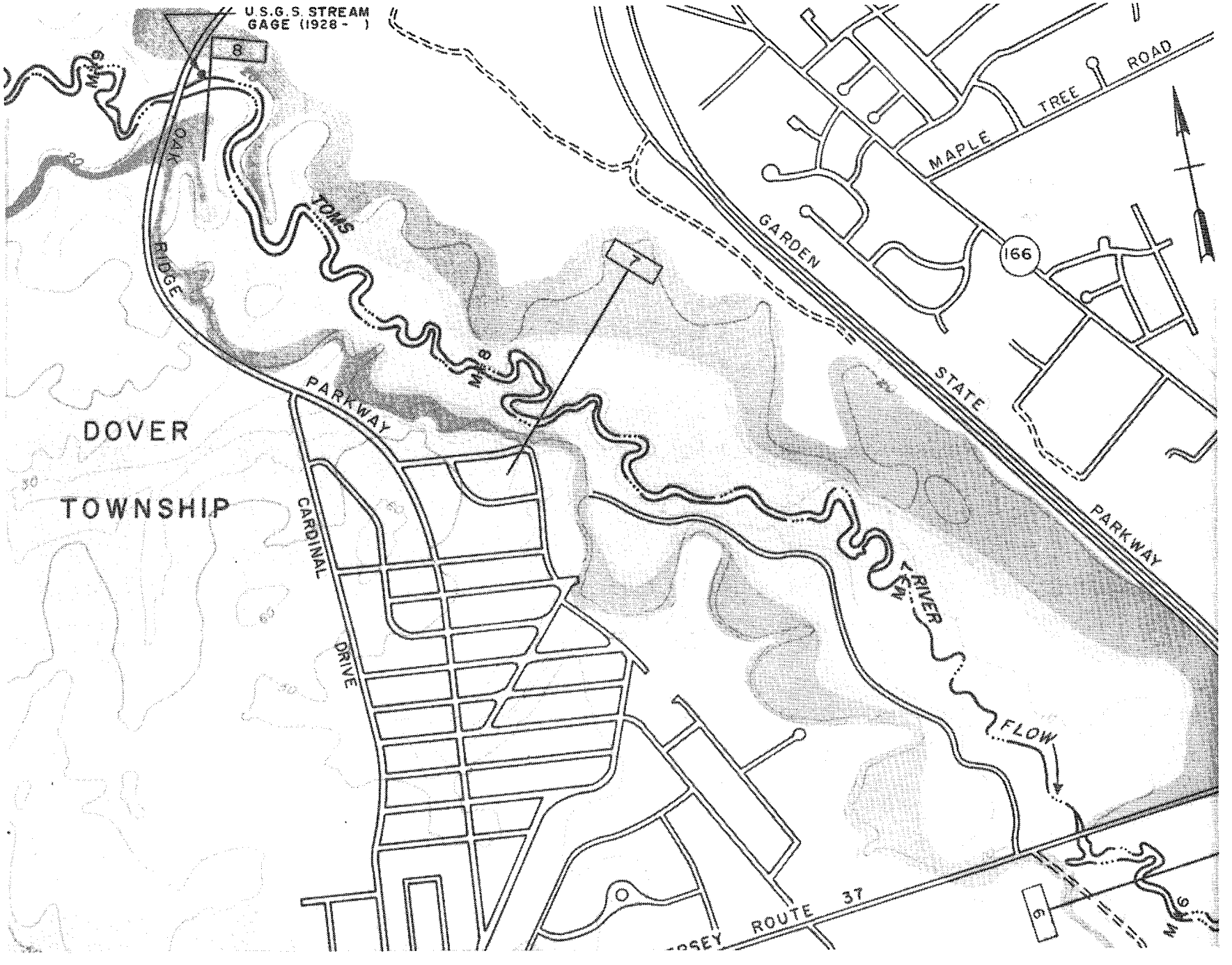
CONSTRAINTS FOR COASTAL ZONE MANAGEMENT:

Detailed topographic information is required. This is a very expensive and time consuming method. A very small percentage of coastal rivers have been delineated.

SAMPLE:

Flood Hazard Area Map

September, 1975


U.S.G.S. STREAM GAGE (1928 -)
8
M-9
OAK RIDGE PARKWAY
TOMS
M-8
7
DOVER TOWNSHIP
CARDINAL DRIVE
GARDEN STATE PARKWAY
MAPLE TREE ROAD
166
M-7
RIVER FLOW
ROUTE 37
9
M-6

REFERENCE PROFILE

CITATION:

Flood Hazard Boundary Maps, United States Geological Survey, Washington, Department of Housing and Urban Development, (1974)

LOCATION:

U.S. Department of Housing and Urban Development; DEP: Bureau of Flood Plain Management

ABSTRACT:

The flood hazard boundary maps have been delineated through the use of readily available information on past floods (gauging stations). The method is based on observations of the flood heights above the channel bed at regional stations. By relating flood heights of different frequencies to parameters such as drainage area and mean annual flood discharge, curves can be drawn that permit flood heights to be determined at ungauged sites within the region. The approximate boundaries of flood hazard areas are shown on road maps in the scale of 1:12,000. A total of 536 municipalities have been mapped.

DATA VALIDATION STATUS:

Pending

USE IN COASTAL ZONE MANAGEMENT:

Flood plains are environmentally critical areas. These maps can serve useful interim planning purposes until more precise flood plain data is available.

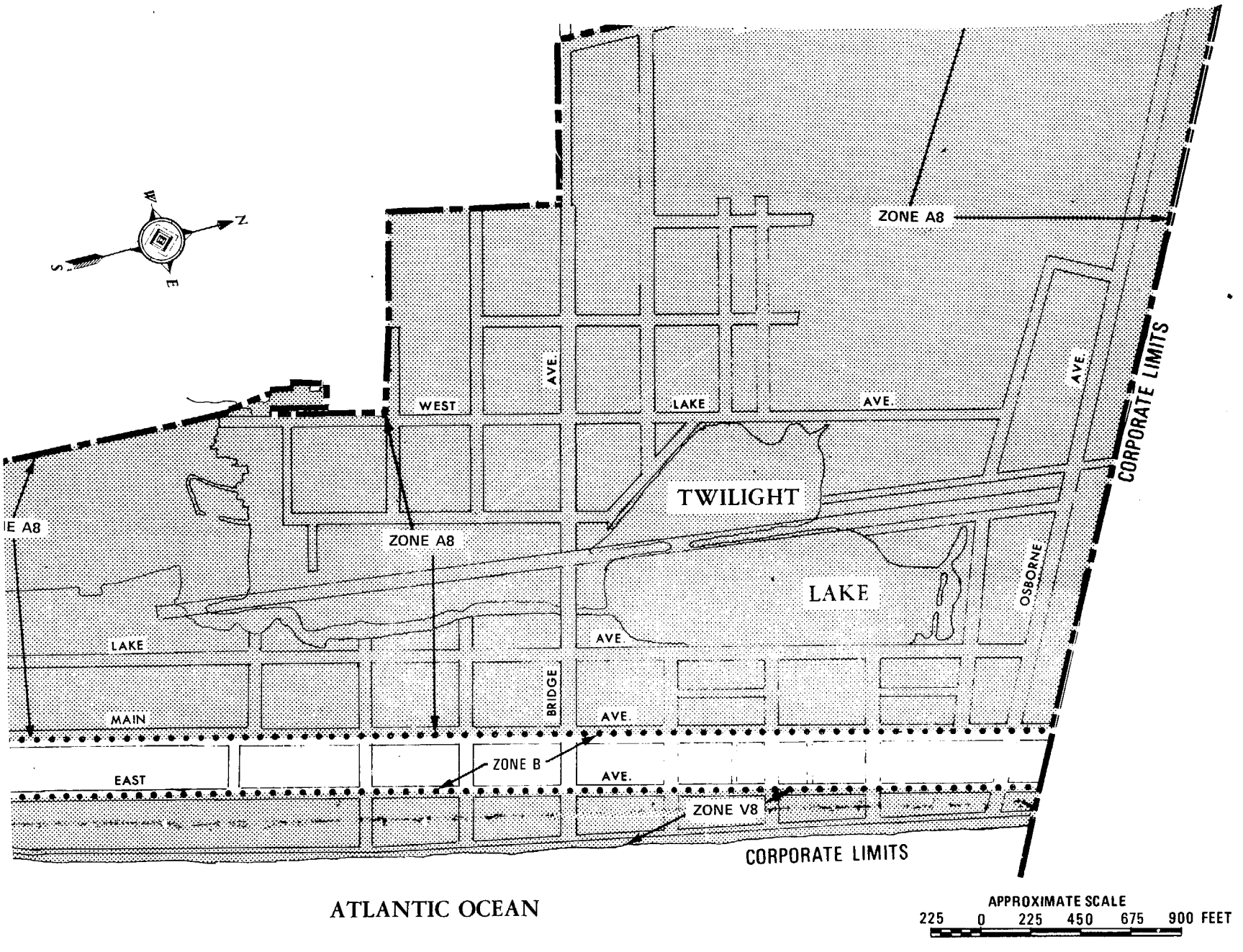
CONSTRAINTS FOR COASTAL ZONE MANAGEMENT:

Errors occur in transcribing from the original source (error is greater than in USGS Flood-Prone Area Maps), inadequate number of gauging stations and omissions of backwater effect considerations make this delineation unsuitable for site analysis.

SAMPLE:

Sample of Flood Hazard Boundary Map

September, 1975


ZONE A8
WEST
AVE.
LAKE
AVE.
AVE.
CORPORATE LIMITS
TWILIGHT
E A8
ZONE A8
LAKE
OSBORNE
LAKE
AVE.
BRIDGE
MAIN
AVE.
ZONE B
EAST
AVE.
ZONE V8
CORPORATE LIMITS
ATLANTIC OCEAN
APPROXIMATE SCALE
225 0 225 450 675 900 FEET

REFERENCE PROFILE

CITATION:

Map of Flood-Prone Areas

United States Geological Survey - Trenton, U.S.G.S. (1973)

LOCATION:

DEP/CZM; U.S.G.S. - Trenton office; DEP/Toms River Office

ABSTRACT:

The flood-prone areas have been delineated through the use of readily available information on past floods (gauging stations). The method is based on observations, at regional stations, of the flood heights above the channel bed. By relating flood heights of different frequencies to parameters such as drainage area and mean annual flood discharge, curves can be drawn that permit flood heights to be determined at ungauged sites within the region. The approximate boundaries of flood-prone areas are shown for the entire state on the U.S.G.S. maps at the scale of 1:24,000.

DATA VALIDATION STATUS:

Pending

USE IN COASTAL ZONE MANAGEMENT:

Flood plains are environmentally critical areas. These maps can serve useful interim planning purposes in generally depicting these areas until more precise flood plain data is available.

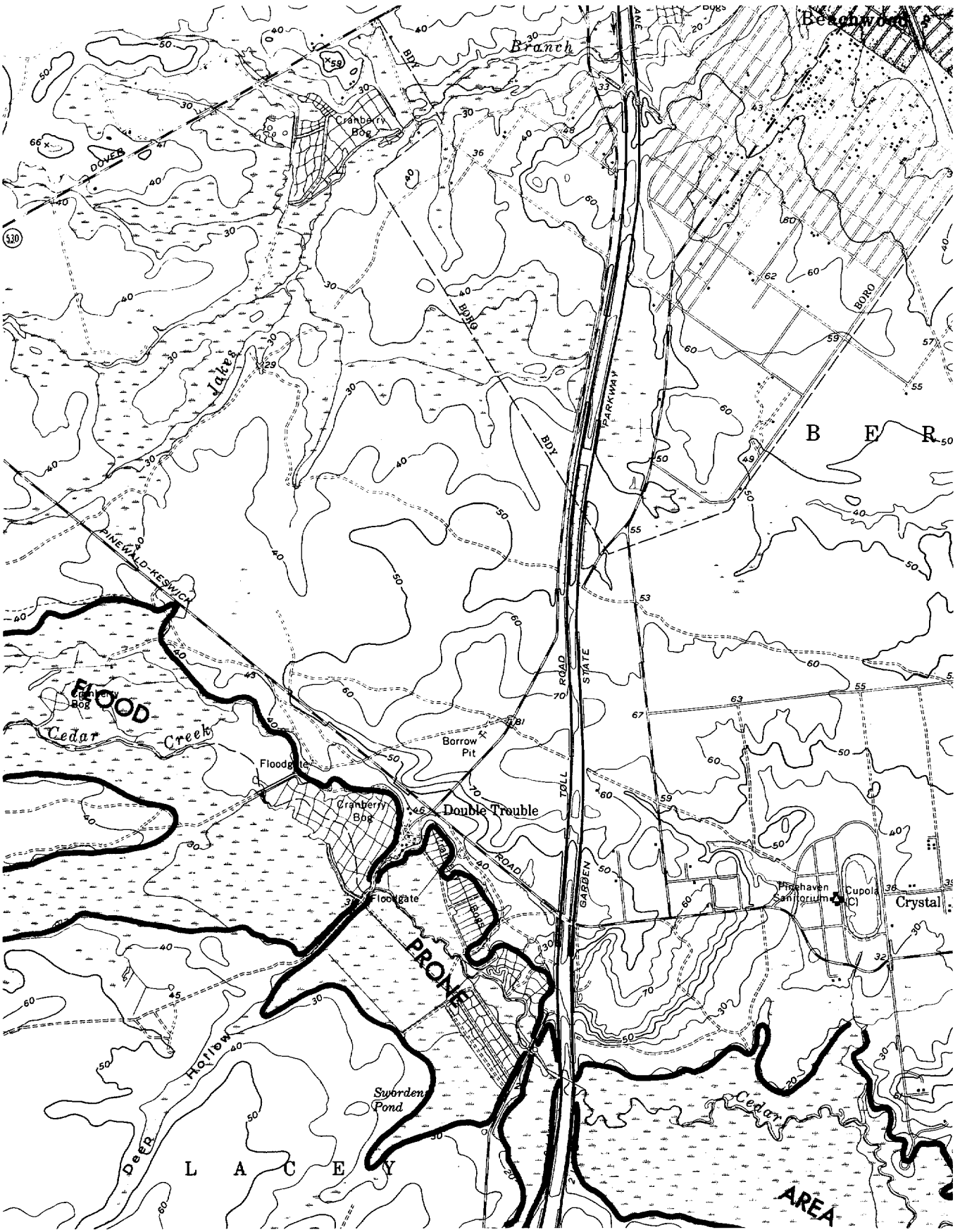
CONSTRAINTS FOR COASTAL ZONE MANAGEMENT:

Inadequate number of gauging stations and omission of backwater effects considerations make this delineation unsuitable for site analysis.

SAMPLE:

Segment of flood-prone area map

September, 1975



Beachwood
Branch
Cranberry Bog
DOVER
Jakes
BORO
BDY
PARKWAY
B E R
PINEWALD-KESWICK
FLOOD
Cedar Creek
Cranberry Bog
Floodgate
Borrow Pit
Double Trouble
TOLL ROAD
STATE
GARDEN
ROAD
Floodgate
PRONE
Pinehaven Sanitorium
Cupola (C)
Crystal
Deer Hollow
Sworden Pond
Cedar
L A C E Y
AREA

REFERENCE PROFILE

CITATION:

State Atlas Sheet Overlays

New Jersey Department of Environmental Protection - Trenton, N.J. (date varies)

LOCATION:

DEP/CZM; DEP/Bureau of Geology; DEP/Toms River Office

ABSTRACT:

The overlays consist of spatial delineation of bedrock formations. There are 14 atlas sheet overlays available covering almost the entire State. The coastal zone has been mapped completely. The overlays were produced to the scale of 1:63,360.

DATA VALIDATION STATUS:

Validated

USE IN COASTAL ZONE MANAGEMENT:

Geological data is necessary to determine the suitability for various development types, ground water supply planning and management.

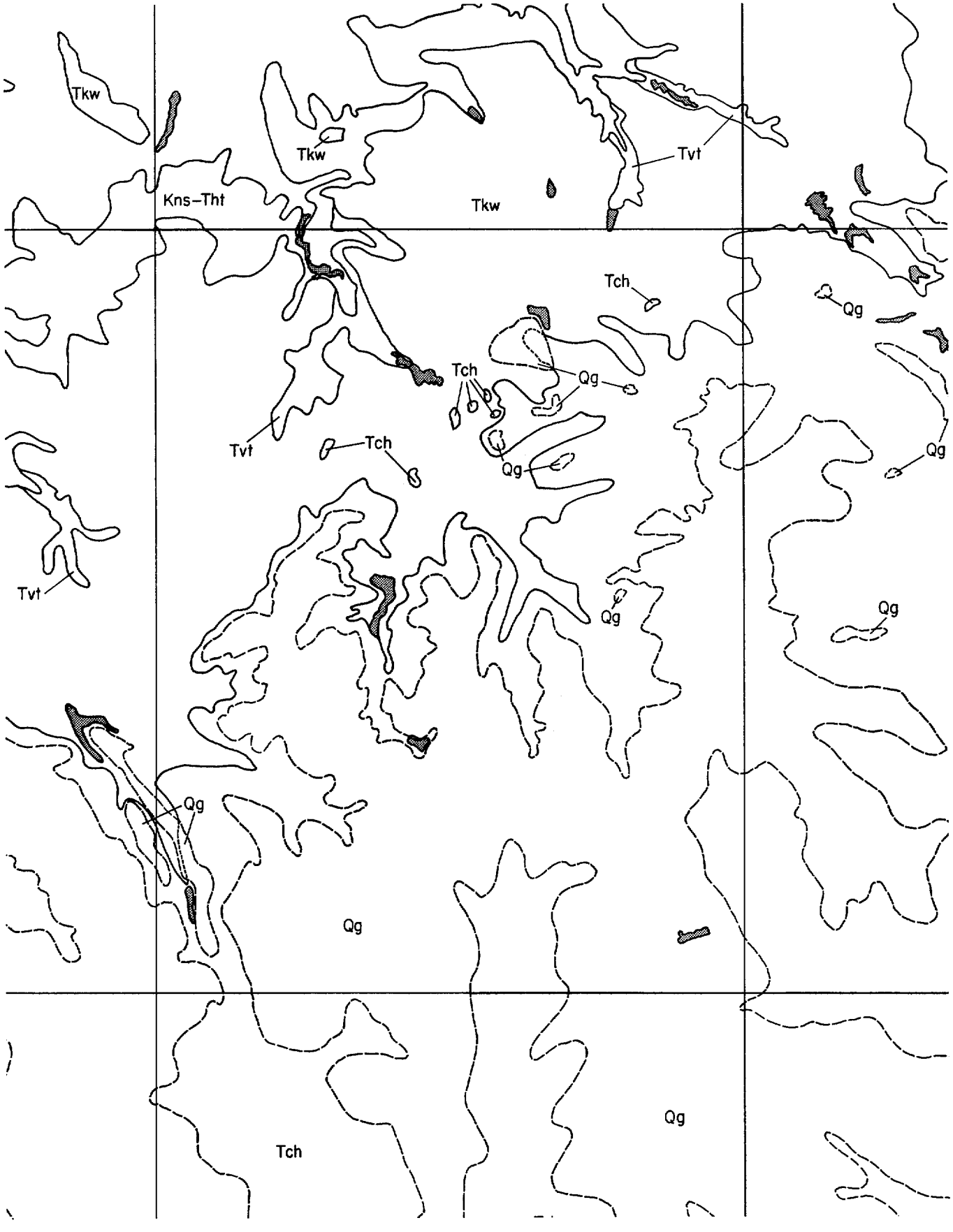
CONSTRAINTS FOR COASTAL ZONE MANAGEMENT:

The scale and detail of geologic data is unsuitable for site analysis. No information is provided on depth and thickness of formations. No data is provided on surface geology.

SAMPLE:

Segment of State Atlas Sheet Overlay

September, 1975


Tkw
Tkw
Tvt
Kns–Tht
Tkw
Tch
Qg
Tch
Qg
Tvt
Tch
Qg
Qg
Tvt
Qg
Qg
Qg
Qg
Tch
Qg

REFERENCE PROFILE

CITATION:

State Atlas Sheet #40

New Jersey Department of Environmental Protection, Trenton, DEP 1912 (revised 1950)

LOCATION:

DEP/CZM; Bureau of Geology and Topography

ABSTRACT:

This color map shows the outcrop of geologic formations for the entire state. It also contains 5 geologic cross-sections. The map is produced at the scale of 1:250,000. This map has tick marks at appropriate locations around its border so that it can be correlated with the State Atlas Sheets.

DATA VALIDATION STATUS:

Validated

USE IN COASTAL ZONE MANAGEMENT:

The State Atlas Sheet #40 can be used in sketch planning for coastal zone management in determining suitability for various kinds of development, and for ground water supply planning and management.

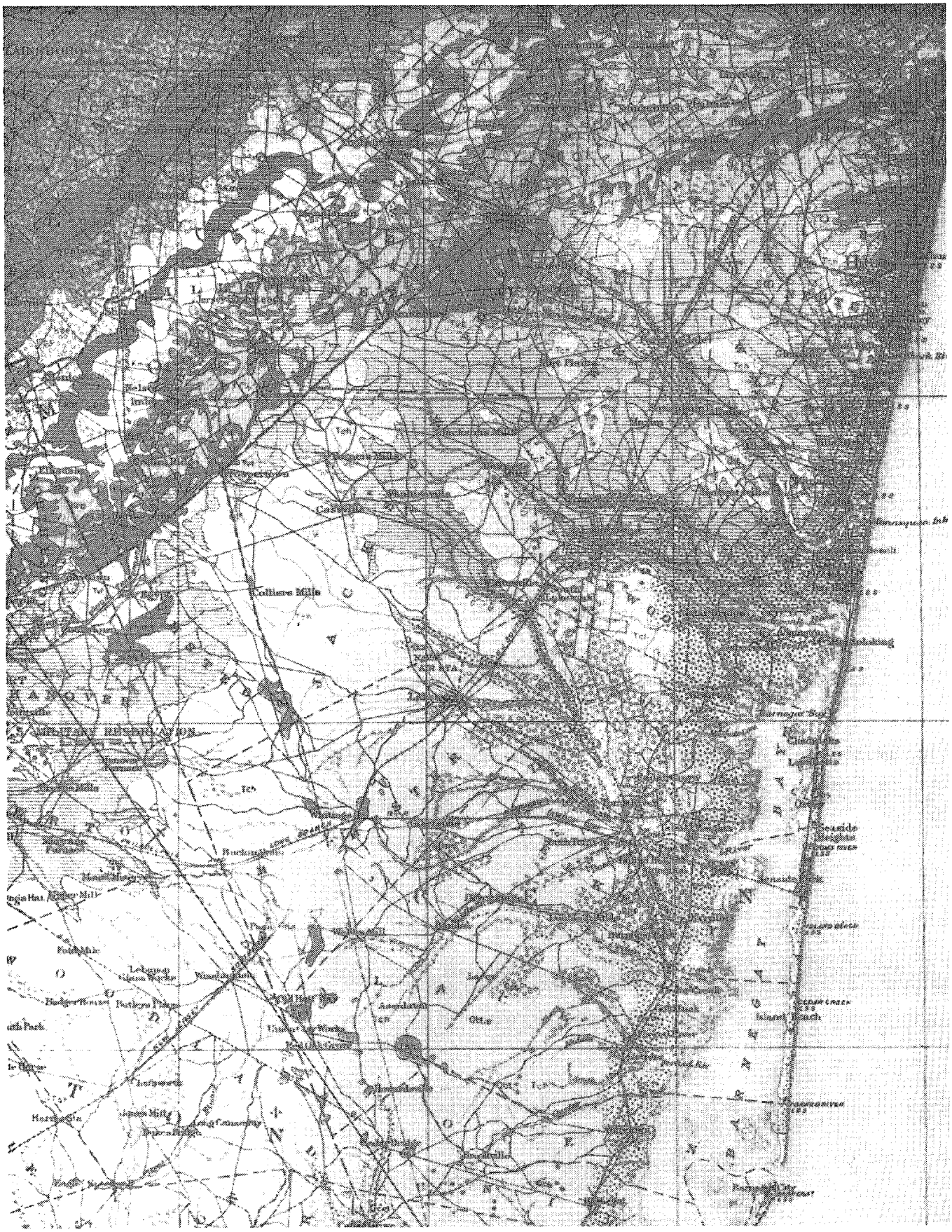
CONSTRAINTS FOR COASTAL ZONE MANGEMENT:

The geological information that is shown at the very small scale of 1:250,000 makes it unusable in a large scale planning.

SAMPLE:

Portion of State Atlas Sheet #40

September, 1975


Collieries Mills
MILITARY RESERVATION

REFERENCE PROFILE

CITATION:

Geologic Atlas of New Jersey

New Jersey Department of Environmental Protection
Trenton, NJ, DEP (date varies)

LOCATION:

DEP/Bureau of Geology

ABSTRACT:

The geology is depicted on the topographic base map as a distribution of rock masses on the surface of the land. The map also includes structure sections showing underground geologic relations. The following folios at the scale of 1:125,000 are within the coastal zone: Elkton, Dover and Philadelphia. These folios cover only a minimal area of the coastal zone.

DATA VALIDATION STATUS:

Not Submitted

USE IN COASTAL ZONE MANAGEMENT:

The Geological Atlas of New Jersey can be used in sketch planning in determining suitability for various kinds of development and for ground water supply planning and management.

CONSTRAINTS FOR COASTAL ZONE MANAGEMENT:

The geological information covers only minimal portions of the coastal zone, and it is not suitable for large scale planning.

September, 1975

REFERENCE PROFILE

CITATION:

Geologic Quadrangle Maps

United States Geologic Survey, Trenton, U.S.G.S.

LOCATION:

DEP/Bureau of Geology

ABSTRACT:

These are a series of 19 U.S.G.S. maps, covering selected portions of New Jersey at the scale of 1:24,000. Only one quadrangle, Sandy Hook, is within the CAFRA area. These maps depict the outcrop of geologic formations and geologic structures.

DATA VALIDATION STATUS:

Not Submitted

USE IN COASTAL ZONE MANAGEMENT:

The Geologic Quadrangle map gives detailed information needed to study land suitability for various kinds of development and perform ground water planning and management at a large scale.

CONSTRAINTS FOR COASTAL ZONE MANAGEMENT:

There is only one Geologic Quadrangle map within the coastal area.

SAMPLE:

Segment of Geologic Quadrangle map

September, 1975

Browns Mills
Junction
Tch
Branch
P E M B E R T O N
Tch
Spring
Tch
Tch
Presidential
Lake Estates
Creek
Lookout
Tower
Tch
Tch
Tch
Mile Circle

REFERENCE PROFILE

CITATION:

The Red Book

Laboratory for Computer Graphics and Spatial Analysis, Harvard University.

Cambridge, Mass., Harvard University (1972)

LOCATION:

DEP/CZM; Harvard University

ABSTRACT:

The Red Book is a summary description of the Laboratory's projects since its inception in 1965, describing in text and graphics the projects and programs of the Laboratory and illustrating applications and of computer graphics and spatial analysis to many fields. The book is bound in loose-leaf.

DATA VALIDATION STATUS:

Not Submitted

USE IN COASTAL ZONE MANAGEMENT:

The information contained in the Red Book is useful for information system planning, providing a timely description of the state of the art/industry application of computer graphics and spatial analysis for such fields as Architecture, Planning, and Geography.

CONSTRAINTS FOR COASTAL ZONE MANAGEMENT:

No Constraints

September, 1975

REFERENCE PROFILE

CITATION:

Photo Quadrangle Sheet

Mark Hurd Aerial Surveys, Inc., NJDEP - Series of Maps
Trenton, NJDEP (1973)

LOCATION:

DEP/CZM; Bureau of Geology and Topography

ABSTRACT:

The photoquads were produced from the high altitude (1:80,000) photography, and cover the entire state. They are the same scale as and correspond with the 7.5 minute U.S.G.S. Topopgraphic Quadrangle sheets (1:24000)

This series is complete.

DATA VALIDATION STATUS:

Not Submitted.

USE IN COASTAL ZONE MANAGEMENT:

Photomaps serve as an update of the U.S.G.S. topographic sheets, documenting land cover in early 1972. Comparison with other records reveals land use trends.

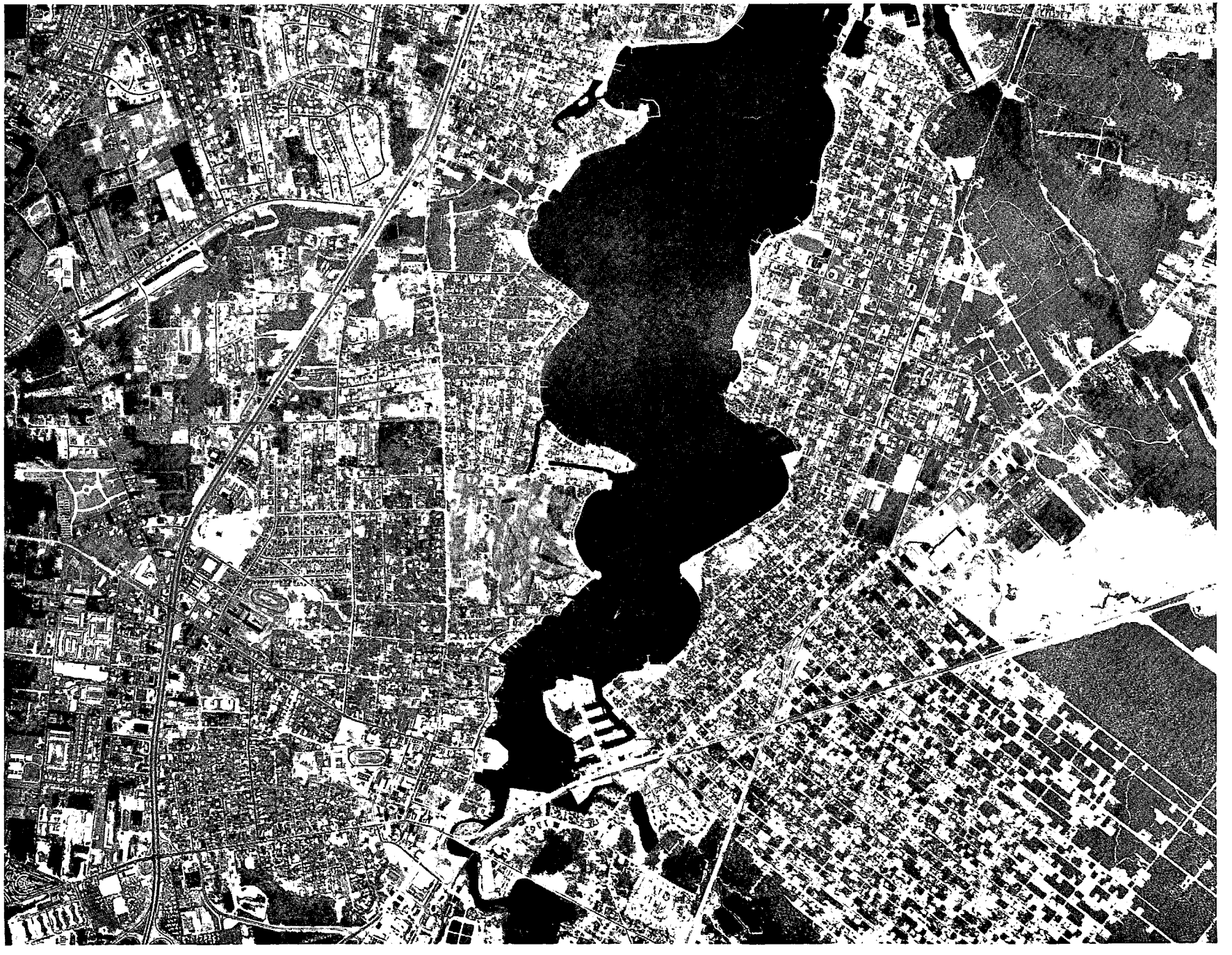
CONSTRAINTS FOR COASTAL ZONE MANAGEMENT:

No constraints

SAMPLE:

Segment of photo quadrangle sheet

September, 1975



REFERENCE PROFILE

CITATION:

Central Atlantic Regional Ecological Test Site (CARETS) Program

U.S.G.S. - Series of Maps, Washington, D.C.
U.S.G.S., (1970-1972)

LOCATION:

DEP/CZM; U.S.G.S., Washington, D.C.

ABSTRACT:

Land use and vegetation maps have been produced for much of southern New Jersey under this program.

A set of 1970 land use and vegetation maps has been prepared at a scale of 1:250,000 from ERTS-1 data. A second set of 1970 land use and vegetation maps has been prepared at a scale of 1:100,000 from 1:120,000 scale aerial photography.

In addition, 1972 land use change maps have been prepared both from the 1970 maps and aerial photographs acquired in 1972. These are at a scale of 1:100,000. The series is complete.

DATA VALIDATION STATUS:

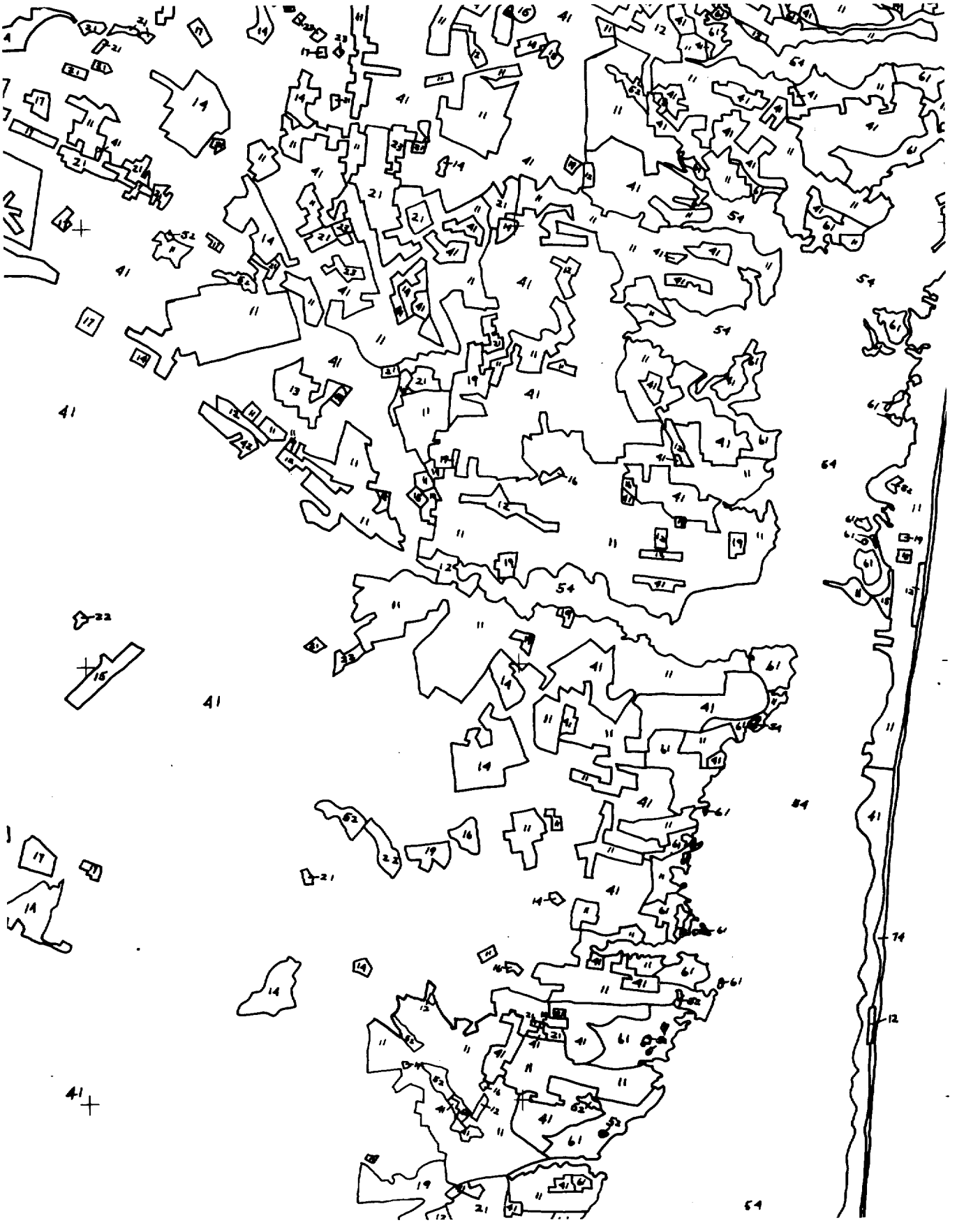
Not Submitted

USE IN COASTAL ZONE MANAGEMENT:

Land use change detection is necessary for the planning process.

SAMPLE:

Portion of map



REFERENCE PROFILE

CITATION:

Atlas of Coastal Area Land Development,

N.J. Department of Environmental Protection
Trenton DEP 1975

LOCATION:

DEP/CZM

ABSTRACT:

The Atlas of Coastal Area Land Development consist of spatial delineations of all CAFRA permit applications including residential, industrial, commercial and public utilities. Green Acres acquisition and development projects are also included. All are depicted on photoquads at the scale of 1:24,000.

DATA VALIDATION STATUS:

Not Submitted

USE IN COASTAL ZONE MANAGEMENT:

Useful information for planning in determining the permissible land uses within CAFRA.

CONSTRAINTS FOR COASTAL ZONE MANAGEMENT:

Not reproduceable through the diazo process.

September, 1975

REFERENCE PROFILE

CITATION:

Monmouth County General Development Plan (1969-1985)

Monmouth County Planning Board, Freehold, N.J.,
County Planning Board; HUD Regional Office Library Region II

LOCATION:

DEP/CZM; Monmouth County Planning Board; HUD Regional Office Library, Region II

ABSTRACT:

The report contains a number of conclusions, recommendations and proposals in the form of maps, charts, and written text which present the desirable pattern for guiding the future growth of Monmouth County. It summarizes the basic studies on physical characterics, land use, population, housing, economic base and circulation, and transportation.

It contains an anylsis of future development potential and proposals for land use, circulation and public facilities.

DATA VALIDATION STATUS:

Not Submitted

USE IN COASTAL ZONE MANAGEMENT:

The report contains baseline county information which is essential for CAFRA planning.

CONSTRAINTS FOR COASTAL ZONE MANAGEMENT:

Projections and conclusions must be re-evaluated in terms of current conditions.

September, 1975

REFERENCE PROFILE

CITATION:

Earth Resources Technology Satellite (ERTS) Imagery

N.A.S.A. - Series of Image Mosaics, Trenton, N.J. DEP, Office of Environmental Analysis (1972-1974)

LOCATION:

DEP/CZM

ABSTRACT:

ERTS imagery exists for the entire state, documenting land use. The imagery is also useful for identifying ocean dumping activity.

Data consists of multi-spectral scanning imagery on 4 bands presented in 3 formats: 70 mm positives at a scale of 1:3,369,000 and 9.5 x 9.5 positives at a scale of 1:1,000,000. Imagery was collected every 18 days for 2 years.

The series is complete.

DATA VALIDATION STATUS:

Not Submitted

USE IN COASTAL ZONE MANAGEMENT:

This data is valuable for land use change detection, waterfowl game management, off shore waste disposal and flood plain mapping.

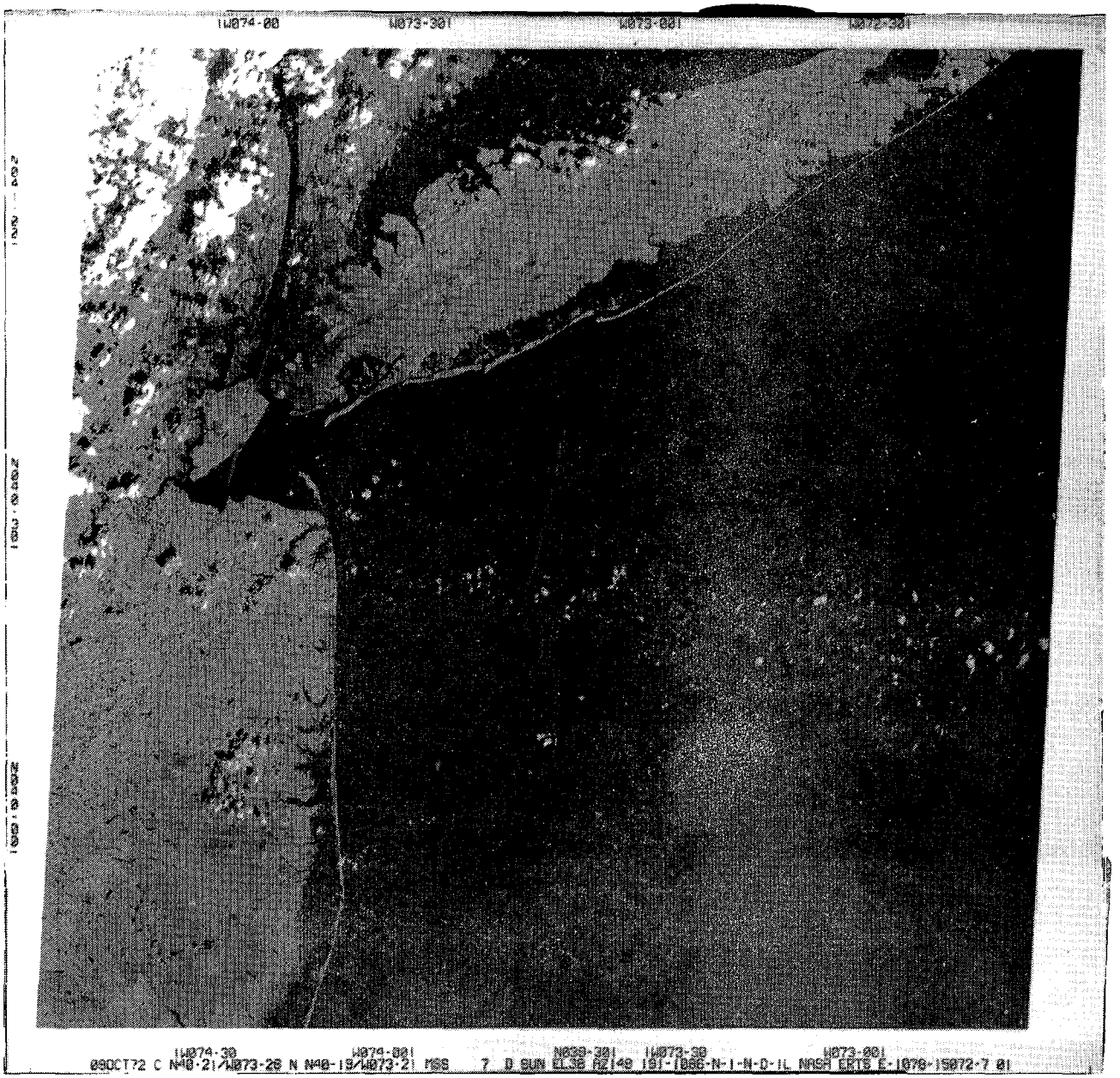
CONSTRAINTS FOR COASTAL ZONE MANAGEMENT:

Scale is very small

SAMPLE:

ERTS Imagery

September, 1975


1W074-00
W073-301
W073-001
W072-301
1W074-30
W074-001
N033-301
1W073-30
W073-001
080CT72 C N40-21/W073-28 N N40-19/W073-21 MSS 7 B SUN EL38 AZ149 191-[866-N-1-N-0-1L NASA ERTS E-1078-15072-7 01

REFERENCE PROFILE

CITATION:

Map of Political Subdivisions of New Jersey, Counties and Municipalities N.J. - D.C.A. (1968)

LOCATION:

DEP/CZM

ABSTRACT:

Map in scale of 1:250,000 is statewide. Delineates and identifies cities, boroughs, towns, villages, townships and counties. Map is dated July 1968.

DATA VALIDATION STATUS:

Not Submitted

USE IN COASTAL ZONE MANAGEMENT:

Identifies boundaries of political subdivisions within the CAFRA area.

CONSTRAINTS FOR COASTAL ZONE MANAGEMENT:

No constraints.

September, 1975

REFERENCE PROFILE

CITATION:

ERTS Related Products

Earth Satellite Corporation, Series and Overlays, Trenton, N.J., DEP/OEA (1973-74)

LOCATION:

DEP/CZM

ABSTRACT:

All products depict the entire State of New Jersey. Subjects covered include tidal and wind driven currents, residual bottom currents, ecological zones, off-shore and acid dumping sites, dredge spoil sites, land development changes, ocean outfalls and shoreline erosion.

Format consists primarily of maps, overlays, graphs and charts. Scales vary. The series is complete.

DATA VALIDATION STATUS:

Not Submitted

USE IN COASTAL ZONE MANAGEMENT:

The products are very useful for land use change detection and for monitoring pollution (offshore waste disposal).

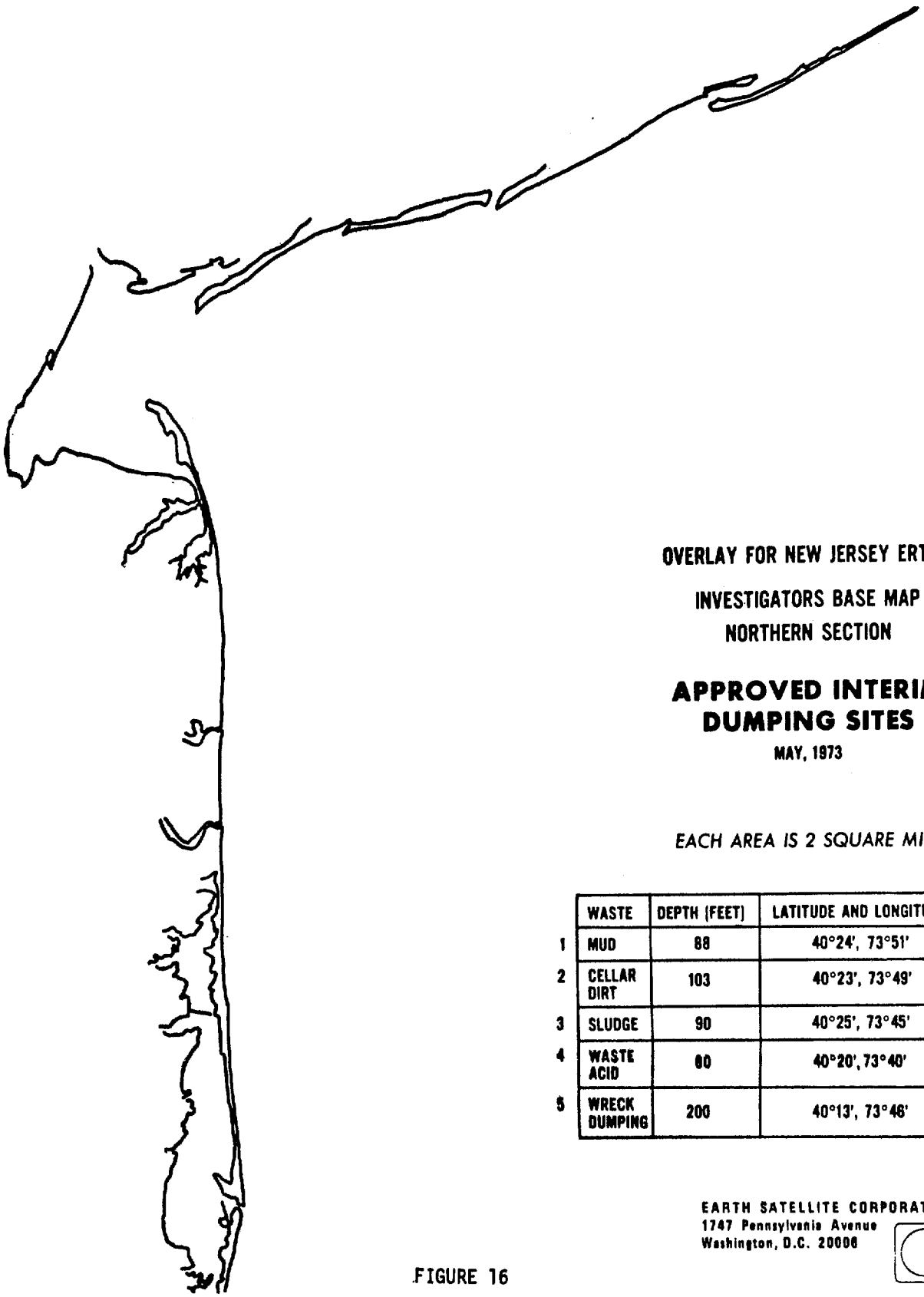
CONSTRAINTS FOR COASTAL ZONE MANAGEMENT:

Data is not current.

SAMPLE:

Overlay - Approved Interim Dumping Sites

September, 1975



OVERLAY FOR NEW JERSEY ERTS-1

INVESTIGATORS BASE MAP
NORTHERN SECTION

APPROVED INTERIM DUMPING SITES

MAY, 1973

EACH AREA IS 2 SQUARE MILES

	WASTE	DEPTH (FEET)	LATITUDE AND LONGITUDE
1	MUD	88	40°24', 73°51'
2	CELLAR DIRT	103	40°23', 73°49'
3	SLUDGE	90	40°25', 73°45'
4	WASTE ACID	80	40°20', 73°40'
5	WRECK DUMPING	200	40°13', 73°46'

EARTH SATELLITE CORPORATION
1747 Pennsylvania Avenue
Washington, D.C. 20006

FIGURE 16

REFERENCE PROFILE

CITATION:

A Legal Inventory: State and Local Laws Affecting the New Jersey Coastal Area

Edward J. Linky, Trenton, N.J., DEP, New Jersey Coastal Zone Management Program (1975) 40 pp.

LOCATION:

DEP/CZM

ABSTRACT:

This inventory has compiled the more significant statutes and case law which relates to control of land and water uses in the coastal zone. This document will be constantly expanded and updated.

USE IN COASTAL ZONE MANAGEMENT:

This inventory will provide the user with a comprehensive survey of both case and statutory laws which control land and water uses in the coastal area. It is the first segment in an expanded work to also include federal laws that affect the coastal zone.

CONSTRAINTS FOR COASTAL ZONE MANAGEMENT:

This document should not be relied upon in legal actions except upon advice of competent counsel.

September, 1975

REFERENCE PROFILE

CITATION:

The Pine Barrens: A Preliminary Ecological Inventory

Jack McCormick, N.J. State Museum, Trenton, N.J.
Research Report No. 2 (1970) 103 pp.

LOCATION:

DEP/CZM; N.J. State Museum

ABSTRACT:

This booklet summarizes many of the unique characteristics of the New Jersey Pine Barrens.

Cedar water, pigmy forests adapted to fire and rare plants and animals can be found in this region. Species of vegetation and wildlife are listed, and the distribution of selected species are mapped. The general distribution of this ecosystem is mapped at a scale of 1:1,140,000.

Many plants found in this region are very rare elsewhere. Unique biota includes the curly grass fern, broom crowberry, pine barrens tree frog, carpenter frog, and northern pine snake.

DATA VALIDATION STATUS:

Not Submitted

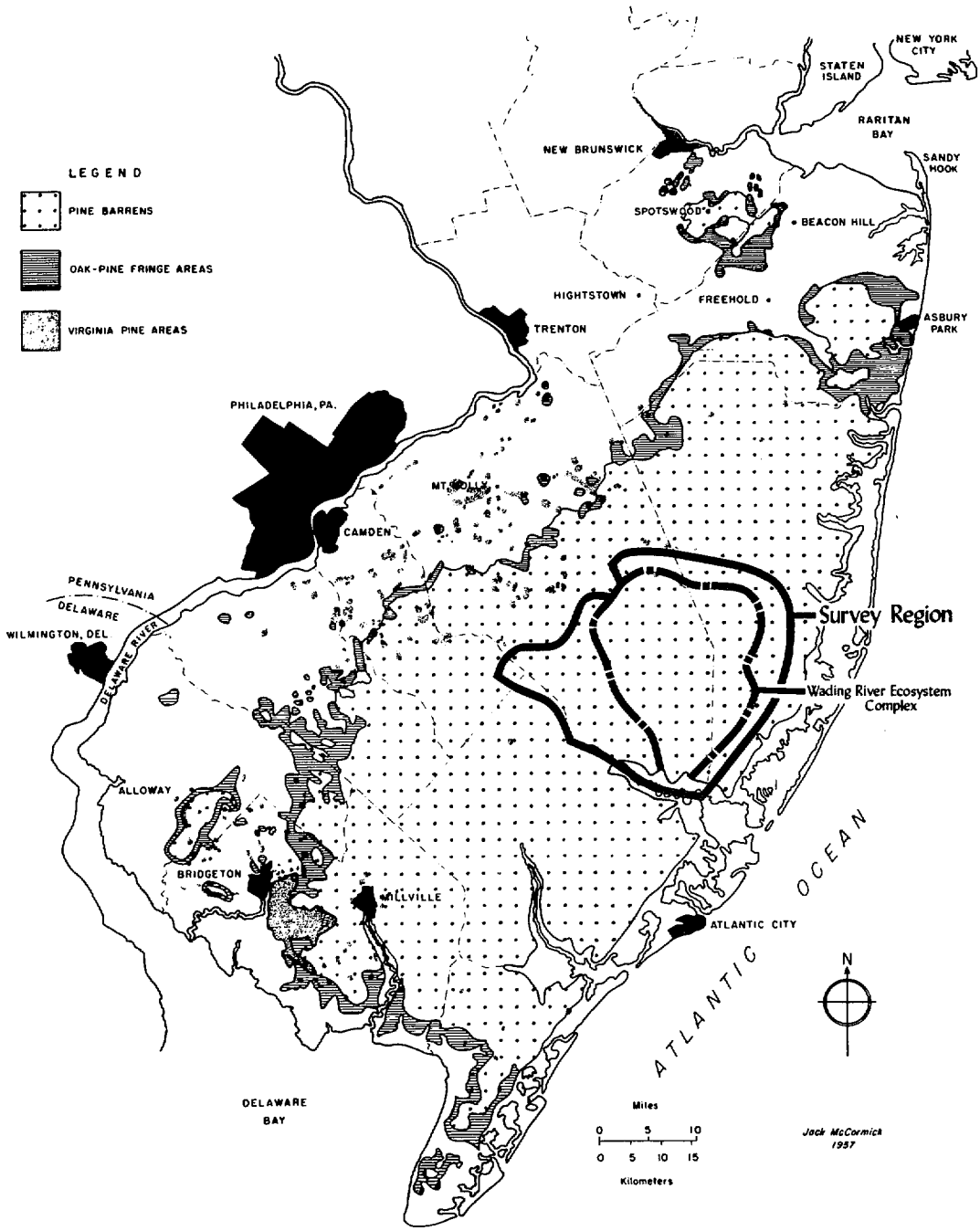
USE FOR COASTAL ZONE MANAGEMENT:

This work provides a complete listing of the species of flora and fauna found in the Pine Barrens, some of which are very rare. Areas supporting endangered biota should be fully protected.

SAMPLE:

Segment of map of New Jersey Pine Barrens

September, 1975


LEGEND
PINE BARRENS
OAK-PINE FRINGE AREAS
VIRGINIA PINE AREAS
NEW YORK CITY
STATEN ISLAND
RARITAN BAY
NEW BRUNSWICK
SANDY HOOK
SPOTSWOOD
BEACON HILL
HIGHTSTOWN
FREEHOLD
ASBURY PARK
TRENTON
PHILADELPHIA, PA.
MT. HOLLY
CAMDEN
PENNSYLVANIA
DELAWARE
WILMINGTON, DEL
DELAWARE RIVER
Survey Region
Wading River Ecosystem Complex
ALLOWAY
BRIDGETON
MILLVILLE
ATLANTIC CITY
ATLANTIC OCEAN
N
DELAWARE BAY
Miles
0 5 10
0 5 10 15
Kilometers
Jack McCormick 1957

REFERENCE PROFILE

CITATION:

Review of Aquatic Resources and Hydrographic Characteristics of Raritan, Lower New York and Sandy Hook Bays

Sandy Hook Marine Laboratory - Report Prepared for the Battelle Institute (1971) 88 pp.

LOCATION:

DEP/CZM; Sandy Hook Laboratory, NOAA

ABSTRACT:

This report describes the fish resources, plankton, waterfowl, and hydrography of the Raritan Bay area. Tables give commercial fish landings for Monmouth County 1967-70, 1897-1901, and migrant and winter bird counts for 1970. Tidal current charts, temperature, oxygen, salinity, turbidity, and organic carbon annual values are shown.

118 species of fish are known to occur in Sandy Hook Bay, 19 of which presently support commercial and sport fishing. This bay complex hosts tens of thousands of diving ducks, gulls, terns and shore birds of many species.

DATA VALIDATION STATUS:

Not Submitted

USE IN COASTAL ZONE MANAGEMENT:

This work provides a good picture of the biological and physical characteristics of the Raritan Bay complex. This area was formally much richer in aquatic resources. The report serves as a source of species listing and abundance of fish and wildlife.

CONSTRAINTS FOR COASTAL ZONE MANAGEMEMT:

No constraints.

SAMPLE:

Table on migrant bird counts

September, 1975

Appendix Table IV

Fall, 1970 Migrating and Wintering Bird Count*

	Raritan Bay	Sandy Hook Bay	No. Shrewsbury	So. Shrewsbury
		(#'s per day)		
Greater and lesser scanp.	40,000 to 60,000	10,000 to 20,000	1,000 to 5,000	2,000 to 6,000
Canvasback*	500	200	50-500	50-1,000
Bufflehead	100-1,000	100-1,000	20-600	20-400
Black duck	100-500	100-1,000	100-2,000	100-1,000
Mallards	50-100	50-100	50-100	50-100
Goldeneye	no counts but average 6,000-7,000 daily			
Old squaw	no counts but average 6,000-7,000 daily			
Red-breasted merganser	no counts but average 6,000-7,000 daily			
Scoter.	no counts but average 6,000-7,000 daily			
White-throated loons	no counts but very abundant			
Brant	no counts - some winter in these areas but 100,000's winter further south			

* count fluctuates with temperature changes

These figures were given by Fred ~~Ferino~~ Ferrigno, Sr. Wildlife Manager, Bur. Wildlife Management, Division Fish and Game, Trenton, N. J. 12/9/70.

REFERENCE PROFILE

CITATION:

Studies of the Mullica River - Great Bay Estuary

John F. McClain, John F. Makai, and Paul R. Hamer
Trenton, NJ, DEP/Division of Fish, Game and Shellfisheries,
Miscellaneous Report 6M-1 (1971), 144 pp.

LOCATION:

DEP/CZM; Division of Fish, Game and Shellfisheries

ABSTRACT:

This report, first in the series, contains three parts: Fish Study, Chemical and Physical Study, and Use Study. Sixty species of finfish have been documented for the Great Bay estuary. A listing with scientific names is given. Changes in abundance for sampling station, month, and temperature are given in tables. Dissolved oxygen, salinity, turbidity, carbon dioxide, and PH were sampled. Results are presented in tables and mapped at 1:72,000. Use studies were done through aerial surveys. This estuary provides 130,000 man-days of activity, primarily fishing and boating. This report is first of complete series of five.

DATA VALIDATION STATUS:

Not Submitted

USE IN COASTAL ZONE MANAGEMENT:

This report provides quantitive data on abundance of fin fishes, water quality, and use of the Mullica River estuary. This is a vital area, supporting a rich diversity of species. The data presented here may serve as a baseline to determine various impacts.

CONSTRAINTS FOR COASTAL ZONE MANAGEMENT:

No constraints

September, 1975

REFERENCE PROFILE

CITATION:

Coastal Ecosystems: Ecological Consideration of Management of the Coastal Zone

John Clark, Washington, D.C., The Conservation Foundation (1974) 178 pp

LOCATION:

DEP/CZM; The Conservation Foundation, Washington, D.C.

ABSTRACT:

The book describes basic principles of estuarine and marine ecology as well as coastal areas management practices which could be used to ensure ecosystem functioning. Various types of human disturbances and their effects on the biota are described. Many examples of coastal ecosystem are presented.

DATA VALIDATION STATUS:

Not Submitted

USE IN COASTAL ZONE MANAGEMENT:

This book describes coastal zone management practices relevant to ecosystem functioning. High environmental quality is essential for the tourist industry. Ecological relationship between living communities and man's activities are discussed.

CONSTRAINTS FOR COASTAL ZONE MANAGEMENT:

This book is idealistic and does not make allowance for economic development. It advocates minimal alteration of the natural environment.

September, 1975

REFERENCE PROFILE

CITATION:

Aircraft Noise Impact: Planning Guidelines for Local Agencies.

U. S. Dept. of Housing and Urban Development. Washington D.C., U. S. Government Printing Office (1972) pp. 274.

LOCATION:

DEP/CZM; U. S. Government Printing Office

ABSTRACT:

This manual interprets the information developed in the Metropolitan Aircraft Noise Abatement Policy Studies (MANAPS) reports and other case studies of aircraft noise abatement. The interpretations are presented in a form that provides a practical tool for the local planner, local government and others in developing a comprehensive aircraft noise abatement policy and program.

DATA VALIDATION STATUS:

Not submitted

USE IN COASTAL ZONE MANAGEMENT:

The report is useful in the process of developing a noise abatement program including a definition of the existing noise situation, development of a program for reducing conflicts, evaluation of the impact of the program on the community, and implementation of the program through legislation and action programs.

CONSTRAINTS FOR COASTAL ZONE MANAGEMENT:

The noise abatement strategies and the tables are not specifications but guidelines for organizing and developing a noise abatement program.

September, 1975

REFERENCE PROFILE

CITATION:

Coastal and Offshore Environmental Inventory - Cape Hatteras to Nantucket Shoals

Graduate School of Oceanography, University of Rhode Island, Kingston, R.I., University of Rhode Island (1973) Marine Publication Series No. 2 & 3.

LOCATION:

DEP/CZM; Marine Experimental Station, University of Rhode Island.

ABSTRACT:

This two volume report describes the physical and biological environment of coastal and offshore waters from Cape Hatteras, N.C. north to Nantucket Shoals, Mass. Chapters include: physical and chemical oceanography, marine geology, climate, coastal vegetation and utilization, plankton, benthic fauna, marine birds, mammals and fish. Scales of maps vary.

DATA VALIDATION STATUS:

Not submitted

USE IN COASTAL ZONE MANAGEMENT:

This work is useful in providing general information on the offshore environments and therefore is useful for planning for offshore OCS development impacts.

CONSTRAINTS FOR COASTAL ZONE MANAGEMENT:

This work was sponsored by the American Petroleum Institute. Each chapter should be evaluated carefully as some contain omissions. Distribution maps of most species are limited.

September, 1975

REFERENCE PROFILE

CITATION:

A Study of the Socio-Economic Factors Relating to the OCS of the Mid-Atlantic Coast

College of Marine Studies, University of Delaware
Newark, Delaware, Books 1-3, Volumes I-IX (1975)

LOCATION:

DEP/CZM; University of Delaware

ABSTRACT:

The objective of this study is to provide the U.S. Department of the Interior, Bureau of Land Management with the necessary data to describe the socio-economic impact of OCS operations on the Middle Atlantic region of the U.S.. The report provides data files abstracted from numerous state and federal documents. It also provides a description of the rationale behind their selection and suggests methods for employing these data in the assessment of socio-economic impact.

DATA VALIDATION:

Not submitted

USE IN COASTAL ZONE MANAGEMENT:

Useful for state and local governments to assess and plan for onshore impact of OCS-Atlantic development.

September, 1975

REFERENCE PROFILE

CITATION:

Coastal Zone Management

John Armstrong et. al. Sandwich, Maine, Coastal Zone Management Institute (1974), 176 pp.

LOCATION:

DEP/CZM; Coastal Zone Management Institute

ABSTRACT:

This document is intended to serve as a technical guide to state and local officials involved in the development and implementation of coastal zone management programs. Topics discussed include boundary determination, permissible uses, areas of particular concern, information organization, and public participation. The federal Coastal Zone Management Acts and regulations are reprinted in appendices.

DATA VALIDATION STATUS:

Not submitted

USE IN COASTAL ZONE MANAGEMENT:

This work is very useful in developing procedures and organization of the Coastal Zone Management Program at the State level.

CONSTRAINTS FOR COASTAL ZONE MANAGEMENT:

No constraints.

September, 1975

REFERENCE PROFILE

CITATION:

Environmental Design: For the Boonton Quadrangle, New Jersey

Roland Yunghans, Rocco Guerrieri, et. al. - Trenton, N.J., DEP, Office of Environmental Analysis, unpublished (1974)

LOCATION:

DEP/CZM; Office of Environmental Analysis

ABSTRACT:

This is an environmental planning study that centers on an identification and analysis of land based environmental impacts caused by development. Conservation techniques and implementation procedures are recommended, and environmental zones are identified, combined and related to the planning methodology. Biological and physical inventory, problem analysis, ecological zones, and synthesis maps were produced in this prototypical study. The base map used is the U.S.G.S. 7.5 Minute Topographic Map, Boonton Quadrangle, 1:24,000 scale.

DATA VALIDATION STATUS:

Not Submitted

USE IN COASTAL ZONE MANAGEMENT:

Much of the problem identification, mapping procedures, and analysis techniques are applicable to coastal zone planning. Research has been conducted by personnel associated with the N.J. Coastal Zone Management program.

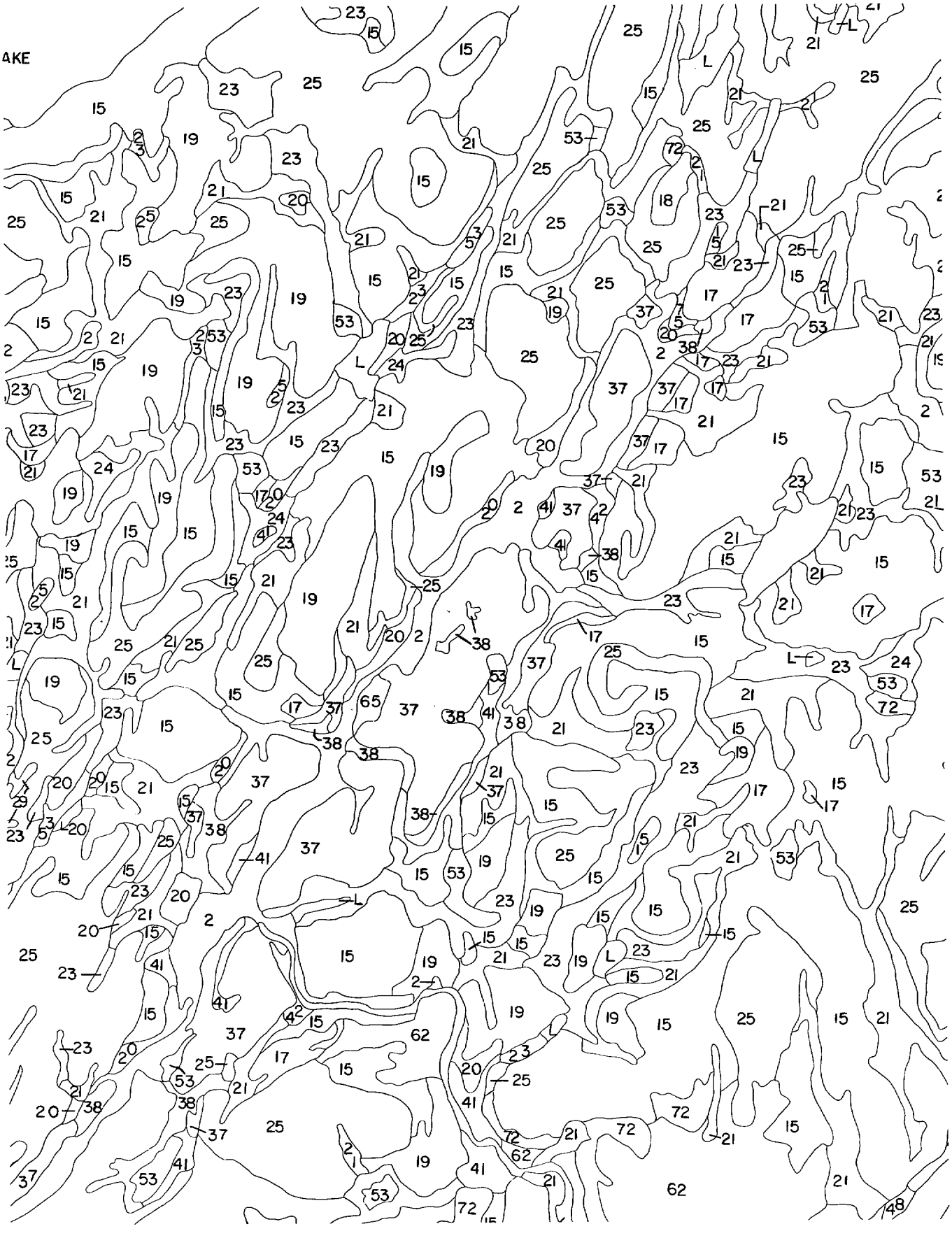
CONSTRAINTS FOR COASTAL ZONE MANAGEMENT:

The study was limited to land-based environmental problems, focused on the Piedmont physiographic region of the State, and is only available in draft form.

SAMPLE:

Segment of Inventory Map

September, 1975


AKE

REFERENCE PROFILE

CITATION:

Medford - Performance Requirements for the Maintenance of Social Values Represented by the Natural Environment of Medford Township, N.J.

Center for Ecological Research in Planning and Design, Department of Landscape Architecture and Regional Planning, University of Pennsylvania, Philadelphia, Pennsylvania

Bethlehem, Pa., U. of Pennsylvania, (1974), 63 pp.

LOCATION:

DEP/CZM; U. of Pennsylvania, Department of Landscape Architecture and Regional Planning.

ABSTRACT:

This study is an analysis of conditions in Medford Township as of 1973. Environmental elements such as geology, hydrology, soils, and vegetation are discussed. In addition, environmental hazards and benefits with regard to Medford's human population are addressed. These include areas of pollution hazard due to nutrient absorption, fire and flood hazard, and habitats of rare and beneficial wildlife species among others. Lastly, suitability criteria for various future activities for the Township are presented.

DATA VALIDATION STATUS:

Not submitted

USE IN COASTAL ZONE MANAGEMENT:

The report serves as a model for planning. It outlines natural processes and equips the user to predict consequences of planning decisions.

CONSTRAINTS FOR COASTAL ZONE MANAGEMENT:

The actual area described is not within the coastal area. The data that is handled in this report may not be applicable for the coastal area.

September, 1975

REFERENCE PROFILE

CITATION:

New Jersey: Spotlight on Government

League of Women Voters of New Jersey
New Brunswick, N.J., Rutgers University (1972) 425pp.

LOCATION:

DEP/CZM; Office of League of Women Voters

ABSTRACT:

This book describes functions of the government of the State of New Jersey, as well as local government. Also included is the role of the federal government where it significantly influences the activities performed by State government.

DATA VALIDATION STATUS:

Not Submitted

USE IN COASTAL ZONE MANAGEMENT:

The book presents good basic information about the responsibilities of the various branches of state government in New Jersey. Summaries of laws are also presented. This basic information is a useful foundation for understanding state and local governments in New Jersey and making planning decisions.

CONSTRAINTS FOR COASTAL ZONE MANAGEMENT:

The contents have been simplified and many details must be checked. Laws and government functions are always changing, therefore, the information in this book must be constantly updated.

September, 1975

REFERENCE PROFILE

CITATION:

Outdoor Recreation in New Jersey: New Jersey Statewide Comprehensive Outdoor Recreation Plan

State of New Jersey - Department of Environmental Protection, Office of Environmental Review; (1973), 224 pp.

LOCATION:

DEP/CZM; Office of Environmental Review

ABSTRACT:

This report discusses important aspects of recreation within New Jersey, including recreation demand, supply, and needs. Also mentioned are related legislation, urban needs, and planning.

DATA VALIDATION STATUS:

Not Submitted

USE IN COASTAL ZONE MANAGEMENT:

Recreation is the major industry within the Coastal Zone. This report is an important source of recreation information to be used in coastal area planning.

CONSTRAINTS FOR COASTAL ZONE MANAGEMENT:

A deeper level of analysis of demand and supply would be useful.

SAMPLE:

Attached is a table on facility needs.

NEEDS

The deficit or surplus of facilities was determined by subtracting the 1971 supply from the 1970 demand. (See Table 8.) Six of the eight regions were deficient in all activities, while the North Shore and South Shore had small surpluses in three activities — football/soccer, bocce/horseshoe/shuffleboard courts, and passive sitting areas. In spite of these surpluses it is clear that most of the demand for urban recreation is not being met by the municipalities.

The greatest deficit in the urban areas is in basketball facilities. An additional 3,588 courts were needed in 1970 to meet current demand for this activity. This is followed by playlots (1,975), tennis courts (1,525), passive sitting areas (1,245) and youth baseball (1,166).

The degree to which the existing supply meets the 1970 demand varies with activity. (See Table 8.) Statewide, 78% of the urban football/soccer demand is now being met by municipal facilities but only 2% of the bicycling demand is being met. For all 13 facilities, only 32% of the 1970 demand is being met by municipal governments. The percent of the demand met by existing municipal facilities varies from region to region. The Northeast Region, for example, is satisfying 64% of its football/soccer demand while the North Central Region is meeting only 44% of its football/soccer demand. The Central Corridor Region, on the other hand, is meeting all of its football/soccer demand and the North Shore has a surplus of these facilities. Similar variations are found in all facility comparisons and the percent demand met ranges from 18% in the North Central Region to 67% in the South Shore Region.

Although 30% of its demand is now being met, the Northeast Region has the greatest need for facilities of all the regions. This is not unexpected since the Northeast contains 83% of the urban population. The rank order of the seven regions having urban areas is approximately the same in facility needs as in percent urbanized population. The only exception is the North Central Region which ranks last in percent urbanized population and fifth in number of facilities needed.

TABLE 8: FACILITY NEEDS AND PERCENT DEMAND BEING MET BY EXISTING SUPPLY, STATEWIDE AND BY REGION, 153 URBAN MUNICIPALITIES, 1971

Facility	Statewide		North Central		Northeast		Central Corridor		North Shore		Southwest		South Shore		Delaware Bay	
	Facility Need	Percent Demand Met	Facility Need	Percent Demand Met	Facility Need	Percent Demand Met	Facility Need	Percent Demand Met	Facility Need*	Percent Demand Met	Facility Need	Percent Demand Met	Facility Need*	Percent Demand Met	Facility Need	Percent Demand Met
Baseball (Reg.)	432	44%	9	36%	326	31%	44	69%	3	93%	43	43%	4	64%	3	66%
Baseball (Youth)	1,166	24%	30	0	764	19%	200	29%	61	32%	83	44%	15	34%	13	28%
Football/Soccer	104	78%	5	44%	101	64%	0	100%	(16)	159%	15	67%	(1)	114%	0	100%
Basketball	3,588	22%	51	26%	2,224	21%	714	16%	199	26%	314	30%	37	42%	49	8%
Bocce, etc.	395	56%	15	6%	305	48%	31	76%	(1)	102%	36	50%	(2)	111%	11	0
Handball Courts	363	22%	7	22%	204	28%	80	10%	26	4%	35	22%	6	14%	5	0
Tennis Courts	1,525	34%	31	30%	964	32%	283	33%	85	37%	143	36%	7	80%	12	56%
Swimming Pools	151	37%	3	25%	87	38%	30	29%	4	69%	11	50%	3	0	3	0
Spray/Wading Pools	339	35%	18	0	189	39%	79	24%	27	16%	21	61%	8	0	7	0
Bicycle Trails (Miles)	902.2	2%	17.8	0	560.8	1%	161.6	4%	51.9	3%	87.5	2%	12.0	12%	10.6	0
Outdoor Stage	209	12%	4	0	130	8%	37	12%	5	62%	19	14%	1	67%	3	0
Passive Sitting Areas	1,245	46%	41	7%	896	37%	143	66%	(33)	125%	190	15%	(16)	147%	24	11%
Playlots	1,975	36%	44	25%	1,193	37%	401	32%	106	41%	196	34%	17	63%	18	49%
TOTALS	12,394.2	32%	275.8	18%	7,943.8	30%	2,203.6	35%	517.9	52%	1,193.5	32%	91	67%	158.6	26%

*Numbers in parenthesis indicate a surplus of facilities.

REFERENCE PROFILE

CITATION:

Major Public Open Space and Recreation Areas in New Jersey;

State of New Jersey, Department of Environmental Protection; State of New Jersey; (1973)

LOCATION:

DEP/Office of Environmental Review

ABSTRACT:

This map delineates open space and recreation areas for the entire state on 1:250,000 scale planimetric map. There are five major categories: federal, interstate, state, major county open space and recreation areas and public and private watershed areas.

DATA VALIDATION STATUS:

Not Submitted

USE IN COASTAL ZONE MANAGEMENT:

This map provides a generalized indication of the size and location of major open space and recreation areas. This information is useful in broad level planning.

CONSTRAINTS FOR COASTAL ZONE MANAGEMENT:

The main constraint lies in the small scale of this map.

SAMPLE:

Section of map

195
524
Allentown
526
P-26.2
539
FG-28.3
Upper Freehold
FG-28.5
571
527
526
195
9
MN-28
P-29.2
OC-42
Jackson
Chesterfield
FG-29.3
Lakewood
88
Brick
70
Point
Pleasant
13
38
Spring Lake Heights
35
71
FG-29.1
528
547
527
539
FG-28.2
North Hanover
68
Plumsted
N-28.1
H-29.2
9
528
NA-29.1
35
AF-28.1
A-28.1
Lakehurst
FG-32.5
571
O C E A N
Dover
166
70
FG-32.3
37
Lavallette
Island Heights
Seaside
TOMS RIVER
South Toms River
Pine Beach
Beachwood
Ocean Gate
Pemberton
530
530
70
P-33.3
Berkeley
FG-32.4
F-32.2
Lacey
FG-32.2
FG-33.1
P-33.2
N-33.1
PARKWAY
Woodland
532
532
563
I N G T O N
532
Ocean
Union
554
P-33.1
Barnegat Light
F-32.3
R-32.1
72
FAA-32.1
INT-33.1
STATE
Stafford
FG-33.2
539
FG-33.3
GARDEN
Harvey Cedars
F-31
72
72
Surf City
9
Ship Bottom
Eagleswood
F-32.1
Egg Harbor
Long Beach
(five places)
Tuckerton
NA-33.1

REFERENCE PROFILE

CITATION:

Catalogue of Rutgers' Marine Research

Dan K. Richardson and Norbert P. Psuty
New Brunswick, N.J. Rutgers University (1975)
Technical Report No. 75-1 prepared for New Jersey
DEP Coastal Zone Management Program 100 pp.

LOCATION:

DEP/CZM; Marine Science Center, Rutgers University

ABSTRACT:

This annotated bibliography catalogues marine-related research projects conducted at Rutgers University. Each entry is abstracted and may be accessed either through geographic or subject index. The papers in the report are not generally available in professional literature. Included are studies on biology, botany entomology, geology, zoology, etc.

DATA VALIDATION STATUS:

Not Submitted

USE IN COASTAL ZONE MANAGEMENT:

This report provides information on marine related research not generally available. Most papers abstracted are recent.

CONSTRAINTS FOR COASTAL ZONE MANAGEMENT:

The reports abstracted are generally available only at Rutgers.

September, 1975

REFERENCE PROFILE

CITATION:

A Keywood - Indexed Bibliography of the Marine Environment in the New York Bight and Adjacent Estuaries

Syed A. Ali et. al Stony Brook, N.Y., Marine Science Research Center, State University of New York (1973) 720 pp.

LOCATION:

DEP/CZM; SUNY at Stony Brook, NY

ABSTRACT:

The bibliography consists of three sections: a keyword index, an author index and complete citations. This collection consists of more than 2500 references on physical and chemical oceanography, biology, geology, meteorology, coastal zone management, sanitary engineering, etc. Reference were screened for their specific application to the New York Bight. This area is defined as that part of the continental shelf and shores lying between Block Island, Rhode Island and Cape May, New Jersey.

DATA VALIDATION STATUS:

Not Submitted

USE IN COASTAL ZONE MANAGEMENT:

This bibliography is designed for use by investigators, resource managers and others to provide information about the marine environment of the New York Bight.

CONSTRAINTS FOR COASTAL ZONE MANAGEMENT:

Scope of work does not cover Delaware Bay. References are not annotated.

September, 1975

REFERENCE PROFILE

CITATION:

Soil Survey of (each county), New Jersey

U.S. Deparment of Agriculture, Soil Conservation Serivce in Cooperation with the N.J. Agricultural Experiment Station. Superintendent of Documents, U.S. Government Printing Office; (1965 to present)

LOCATION:

DEP/CZM; County Soil Conservation Distrit

ABSTRACT:

"Cooperative Soil Surveys" are the most comprehensive and recent delineations, by county, of soils upon aerial photography. These reports contain soils information including: permeability, erodability, depth to bedrock, depth to seasonal high water table, hydrologic soils groups. The surveys vary in scale for each county. The scales are 1:15,840, 1:20,000 and 1:21,000. The "surveys" are available for the following counties: Salem, Cumberland, Cape May, Atlantic, Middlesex, Burlington and portions of Ocean.

DATA VALIDATION STATUS:

Pending

USE IN COASTAL ZONE MANAGEMENT:

The soil surveys contain information that can be applied to quantifying natural processes such as erosion, runoff, and infiltration. They can be used in determining the suitability of the lands for agriculture and man-made structures.

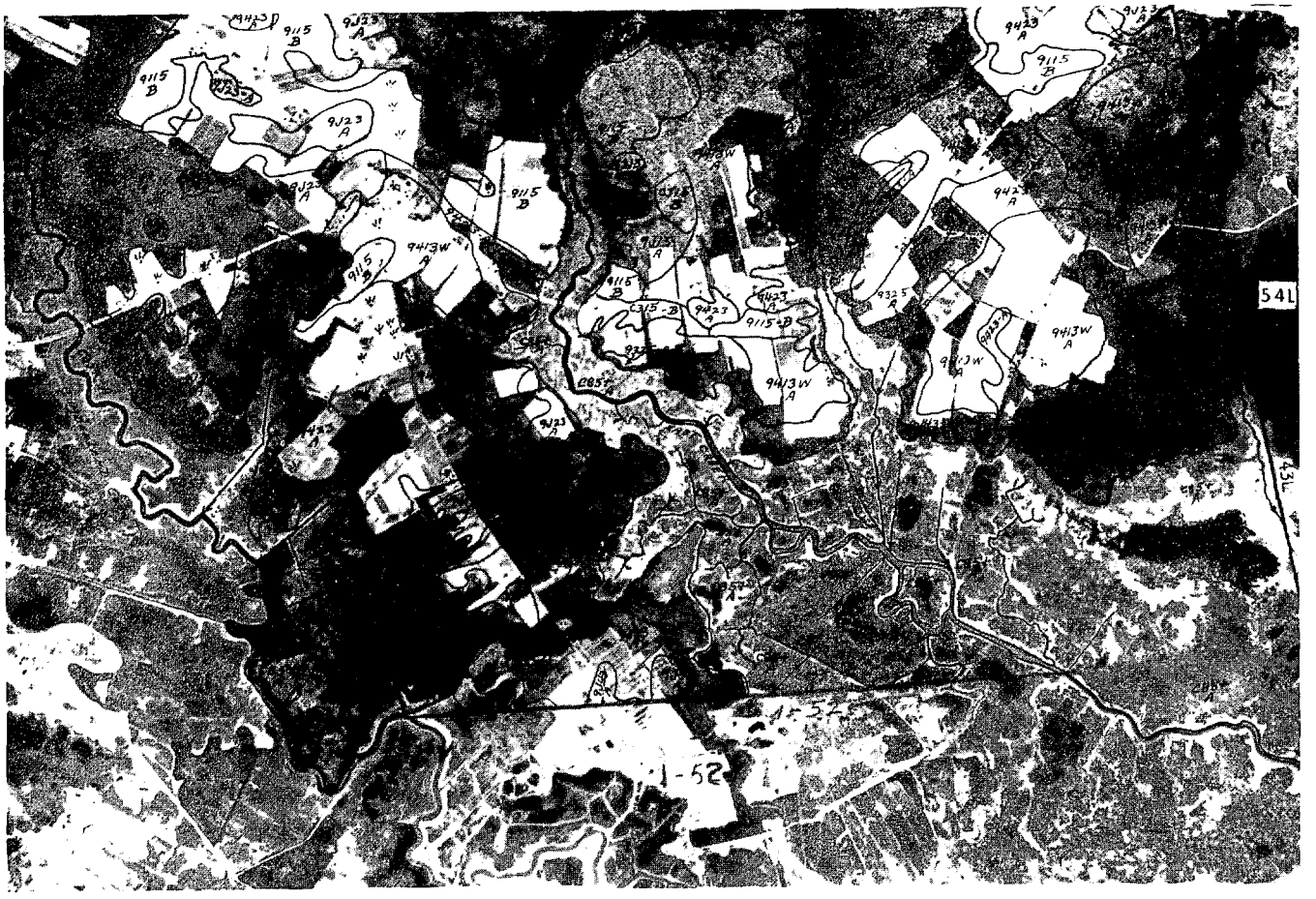
CONSTRAINTS FOR COASTAL ZONE MANAGEMENT:

The basic unit of mapping is the soil type. Soil types grade into one another and, therefore, delineation between types is not intended to be precise. The map scales do not facilitate site level analysis, the information is best used for regional planning.

SAMPLE:

Excerpt of map and interpretations from the Soil Survey of Atlantic County, New Jersey.

September, 1975



New Jersey
Date: 9/1/73
MLRA: 149

SOIL PROPERTIES AND SOIL SURVEY INTERPRETATIONS
Advance Copy - Subject to change

Prepared by Soil Conservation Service, USDA in Cooperation with Rutgers University

SERIES: FORT MOTT

MAP SYMBOLS:	Field sheet	Publication
sand	9115 B	FrB

CAPE MAY COUNTY

Classification: Arenic Hapludults, loamy, siliceous, mesic

Fort Mott soils are well drained with a very sandy surface soil exceeding 20 inches in depth. The subsoil is sandy loam and the substratum is stratified sand and loamy sand in places containing small amounts of rounded quartzose fine gravel. Extensive exposed areas are subject to wind erosion.

Natural fertility and available water capacity are low; permeability is moderate in the subsoil.

STREAM OVERFLOW HAZARD: None DEPTH TO BEDROCK: 10 feet + DEPTH TO SEASONALLY HIGH WATER: 5 feet +

ESTIMATED PHYSICAL AND CHEMICAL PROPERTIES (*based on test data)

Horizons	Typical depth from surface	Classification: USDA Texture Class 1/	Classification: Unified 2/	Classification: AASHO 3/	Coarse fragments >3 in.	Fractions passing sieve numbers: No. 4 4.7 mm	No. 10 2.0 mm.	No. 40 0.42 mm	No. 200 0.07 mm	Liquid limit 4/	Plastic index 4/	Fraction smaller than 2mm: Silt 0.05-0.002mm	Clay <0.002mm
	inches				%	%	%	%	%	%	%	%	%
A	0-24	Sand	SP-SM, SM	A-2	0	100	100	90-100	10-20	NL	NP	0-8	0-8
B	24-40	Sandy loam	SM	A-2	0	100	100	90-100	25-35	NL-30	NP-10	0-15	10-20
C	40-60	Sand	SP-SM, SM	A-2	0	100	100	90-100	5-25	NL	NP	0-10	0-10

Depth from surface	Permeability	Available water 5/	Soil reaction, natural	Cation exchange capacity	Resistivity	Organic matter	Bulk density, in place	Maximum compacted density	Optimum moisture content	Shrink-swell potential	Consistence, in place
	Inches per hr	Inches/in of soil	pH	meq/100gm	1000 Ohms/cm	%	gm/cc	lbs/cu ft	%		
								**	**		
0-24	>6.0	.05-.10	<4.5-5.0	4-6	-	0-1	1.3-1.5	-	-	Low	Loose
24-40	0.6-2.0	.12-.16	4.5-5.0	4-6	5+	-	1.4-1.5	110-120	12-16	Low	Friable
40-60	>6.0	.05-.10	4.5-5.0	2-3	-	-	1.5-1.6	105-115	10-14	Low	Loose

REFERENCE PROFILE

CITATION:

Physical Land Conditions of Monmouth County.

U.S. Department of Agriculture, Soil Conservation Service, in cooperation with the New Jersey Agricultural Experiment Station - U.S.D.A., SCS; (1948)

LOCATION:

Monmouth County Soil Conservation District

ABSTRACT:

This report provides a county-wide delineation of soils upon aerial photographs at a scale of 1:31,680. Interpretive information is limited to soil description, natural drainage, soil depth, erosion characteristics, and capability units. The Unified Soil Classification system allows correlation with soils mapped in adjacent counties through the Cooperative Soil Survey, thus providing additional interpretive information. Where "Soil Survey of (county) New Jersey" exist they supersede this series.

DATA VALIDATION STATUS:

Not Submitted

USE IN COASTAL ZONE MANAGEMENT:

The Physical Land Surveys contain or have the capacity to generate information that can be applied to quantifying natural processes such as erosion, runoff, and infiltration. The surveys can be used in determining the suitability of the land for agriculture and man-made structures.

CONSTRAINTS FOR COASTAL ZONE MANAGEMENT:

The basic unit of mapping is the soil type. Soil types blend into one another, delineation between types is not precise. The map scales do not facilitate site level analysis. The information is most useful for regional planning.

SAMPLE:

Excerpt of map and interpretations from the Monmouth County, New Jersey Physical Land Survey.

September, 1975

Symbol	Series Name	Types Mapped	Parent Material	Profile Development	Natural Drainage	Reaction	Depth	Surface Soil
801	Marlton	0, 1, 3, 5, J	Sands, much glauconite	Fair	Good	Acid	Deep	Brown
802	Aura	0, C	"	"	Imperfect	"	"	Gray brown
811	Monmouth	1, 3, 5	Sands, med. glauconite	Good	Good	"	"	Yellow brown
812	Donlonton	1, 2, 3, 5	"	"	Imperfect	"	"	Gray brown
813	Chesmantown	0, 3	Sands, much glauconite	Fair	Poor	"	"	Gray
814	Matlock	0, 3	"	"	Very poor	"	"	Black
821	Collington	1, 2, 3, 5	Sands, med. glauconite	Good	Good	"	"	Brown
822	Adelphia	1, 3	"	"	Imperfect	"	"	Gray brown
823	Shrewsbury	0, 3, 5	"	"	Poor	"	"	Gray
824	Keansburg	0, 3	"	"	Very poor	"	"	Black
841	Lincroft	3, 5	Sands, low glauconite	"	Excessive	"	"	Brown
861	Freehold	1, 2, 3, 5	Sands, little glauconite	"	Good	"	"	Yellow brown
862	Holmdel	1, 2, 3, 5	"	"	Imperfect	"	"	Gray brown
871	Freehold (thick surface soil phase)	3, 5	"	"	Good	"	"	Yellow brown
890	Colts Neck	1, 3	Sands, med. glauconite	"	"	"	"	Red brown
8C1	Freehold (light textured subsoil phase)	5	Sands, little glauconite	"	"	"	"	Yellow brown
8C2	Holmdel (light textured subsoil phase)	3, 5	"	"	Imperfect	"	"	Gray brown
8J1	Howell	1, 3, 5	Silt on sand	Fair	"	Very acid	Shallow	"
930	Evesboro	5	Brown sand	"	Excessive	"	Deep	Brown
931	Evesboro	3, 5, E	"	"	"	"	"	"
932	Klej	3, 5, 6	"	"	Imperfect	"	"	Gray brown
933	Plummer	3, 5	"	"	Poor	"	"	Gray
934	Rutledge	1, 3, 5	"	"	Very poor	"	"	Black
941	Sassafras	1, 2, 3, 4, 5, W	Sand gravel	Good	Good	"	"	Yellow brown
942	Woodstown	0, 2, 3, 5	"	"	Imperfect	"	"	"
943	Fallsington	0, 3, 5	"	"	Poor	"	"	Gray
944	Pocomoke	0, 3	"	"	Very poor	"	"	Black
970	Lakewood	5, F	Gray sand	"	Excessive	"	"	Light gray
972	Lakehurst	5, F	"	"	Imperfect	"	"	"
973	Leon	5, E	"	"	Poor	"	"	"
974	St. Johns	0, 5	"	"	Very poor	"	"	Black
982	Keyport	0, 2, 3, 5	Sand on clay	"	Imperfect	"	"	Gray brown
983	Elkton	0, 3, 5, C	"	"	Poor	"	"	Gray
984	Alloway	0	"	"	Very poor	"	"	Black
9B1	Matawan	2, E, F	"	"	Good	"	"	Light gray
9K0	Extonton	5, 6	Gray sand over green sand	"	Excessive	"	"	"
9N1	Navesink	3, 5, W	Sand gravel	Fair	Good	"	Shallow	Yellow brown
9T1	Tuxedo	5	Sands, containing glauconite (Stream terrace)	Poor	Excessive	"	"	"

REFERENCE PROFILE

CITATION:

Engineering Soil Survey of New Jersey (for each county)

Rutgers University, College of Engineering - Ann Arbor, Michigan; Cushins - Malloy, Inc. (1950-1955)

LOCATION:

DEP/CZM; Rutgers University, College of Engineering

ABSTRACT:

Engineering Soil Surveys are a delineation of soils on planimetric maps at a scale of 1:63,360. Interpretive reports exist for each county survey. These reports contain the following soil information: parent formation, land form, soil description, depth to bedrock, drainage conditions, and engineering aspects. Each coastal county has a completed survey.

DATA VALIDATION STATUS:

Not Submitted

USE IN COASTAL ZONE MANAGEMENT:

Engineering Soil Surveys can be used in determining the suitability of a region for man-made structures. Engineering and limited natural constraints can be identified.

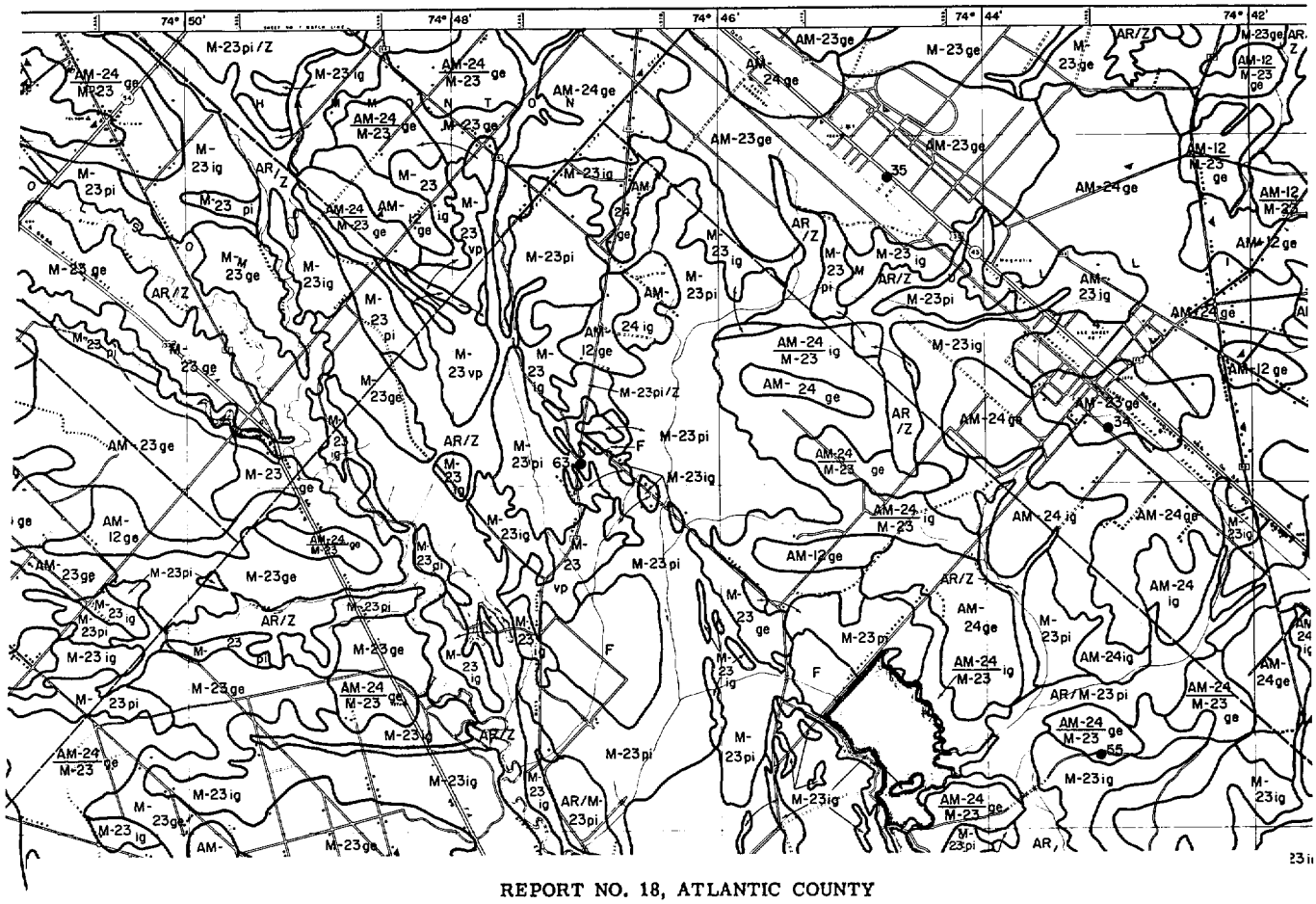
CONSTRAINTS FOR COASTAL ZONE MANAGEMENT:

Soil interpretations are limited in comparison to the Soil Survey of New Jersey (by county). Since the map scale is smaller, the information is best suited for broad level planning.

SAMPLE:

Excerpt of map and interpretations from the Engineering Soil Survey of New Jersey, Atlantic County.

September, 1975



C. Underlying Formations – The unconsolidated Cohansey Sand formation underlies the AM-23 material in all of Atlantic County. An exception to this might be in the area west of Hammonton. The wind-deposited AM-23 material in this area may be underlaid, in part, by typical Bridgeton material, upon which the sand had been drifted. In the areas mapped as AM-23, the depth to the underlying formation is usually greater than 10 feet.

5-2 LAND FORM – Undulating to rolling, with considerable rounded, hilly topography. Also present are low, curved or winding ridges rising quite conspicuously from the fairly flat, surrounding ground surface.

5-3 SOILS

A. Type - Uniform sand and silty sand with some gravel scattered throughout the profile. The sand varies from fine to coarse. In some areas, greater amounts of gravel are present with depth.

B. Depth to Bedrock - Greater than 100 feet throughout the county.

C. Correlated Agronomic Series - Predominantly sandy types of the Sassafras series with considerable Lakewood. Poorly drained areas include Norfolk, Portsmouth, Scranton and St. Johns.

D. Profile Contrast - Not significant as related to highway construction. Stratification is more evident than profile development, and the amount of coarser material usually increases with depth. Hardpan development is present in some poorly drained areas.

E. Engineering Classification - The HRB soil classification groups vary from A-2-4 to A-3. Some A-1-b is usually present in the deeper horizons. Engineering test values are listed in Table 5-1.

REFERENCE PROFILE

CITATION:

Solid Waste Facility Sites,

DEP, Division of Water Resources (continually updated)

LOCATION:

DEP/Division of Water Resources

ABSTRACT:

All solid waste disposal facilities are plotted on New Jersey State Atlas Sheets (Scale 1:63,360) on file at the Division of Water Resources, DEP.

DATA VALIDATION STATUS:

Not Submitted

USE IN COASTAL ZONE MANAGEMENT:

The facility sites maps pinpoint the location of each solid waste facility at a regional planning scale.

CONSTRAINTS FOR COASTAL ZONE MANAGEMENT:

Only solid waste facilities are located. Supplementary information about each site must be secured from other sources.

September, 1975

REFERENCE PROFILE

CITATION:

7.5 Minute Topographic Quadrangle Map Series

United States Geological Survey,
Reston, VA. U.S.G.S. (date varies)

LOCATION:

DEP/CZM; DEP/Bureau of Geology; DEP/Toms River Office

ABSTRACT:

The 7.5 minute topography quadrangle maps depict county and municipal boundaries, roads, railroads, streams, lakes, transmission lines, elevation, vegetation, urban areas, geodetic control stations, etc. There are 172 topo quads covering the entire state at the scale of 1:24,000. These maps conform to National Map Accuracy Standards.

DATA VALIDATION STATUS:

Not Submitted

USE IN COASTAL ZONE MANAGEMENT:

Useful information and scale for site selection in coastal planning.

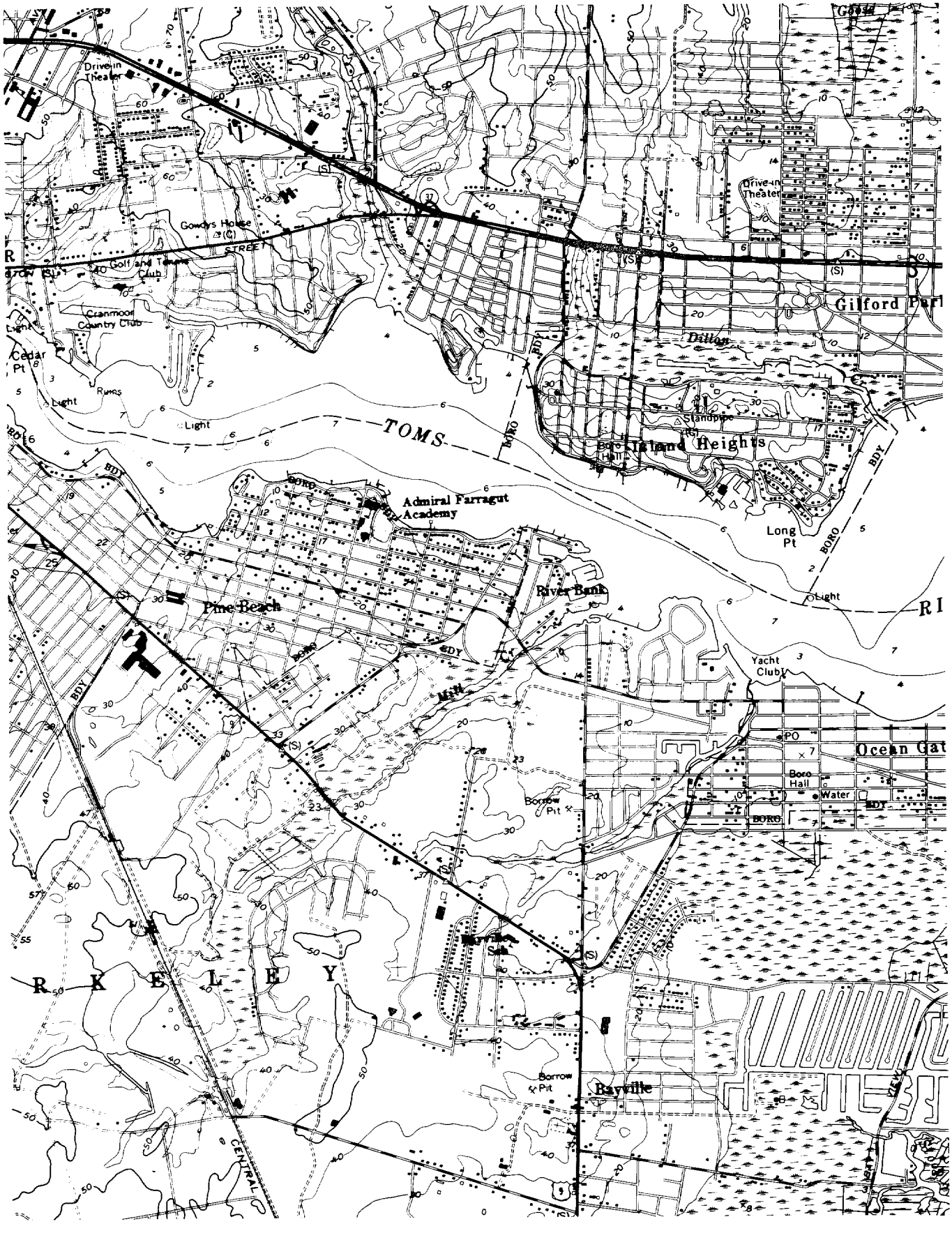
CONSTRAINTS FOR COASTAL ZONE MANAGEMENT:

There are 88 maps that have been updated since 1970; the remaining maps were produced from 1945 to 1966.

SAMPLE:

Segment of 7.5 Minute Topographic Quadrangle Map.

September, 1975



Drive-in Theater
Gowdys House
STREET
Golf and Tennis Club
Cranmoor Country Club
Cedar Pt
Ruins
Light
TOMS
Drive-in Theater
Gilford Park
Dillon
Standpipe
Island Heights
Boro Hall
Long Pt
Admiral Farragut Academy
Pine Beach
River Bank
Mill
Yacht Club
PO
Ocean Gat
Boro Hall
Water
Borrow Pit
Bayville
Borrow Pit
R K E L E Y
CENTRAL

REFERENCE PROFILE

CITATION:

State Atlas Sheets,

N.J. Department of Environmental Protection
Trenton, DEP (date varies)

LOCATION:

DEP/CZM; Bureau of Geology; DEP/Toms River Office

ABSTRACT:

The State Atlas Sheets cover the entire State on seventeen overlapping maps at a scale of (1:63,360). The maps depict county and municipal boundaries, principal roads, railroads, state-owned land, lake elevation and vegetation. The maps were originally surveyed in the years 1877-1887. They have been periodically revised.

DATA VALIDATION STATUS:

Not Submitted

USE IN COASTAL ZONE MANAGEMENT:

Useful map for sketch planning, coarse watershed measurement, and topographic analysis.

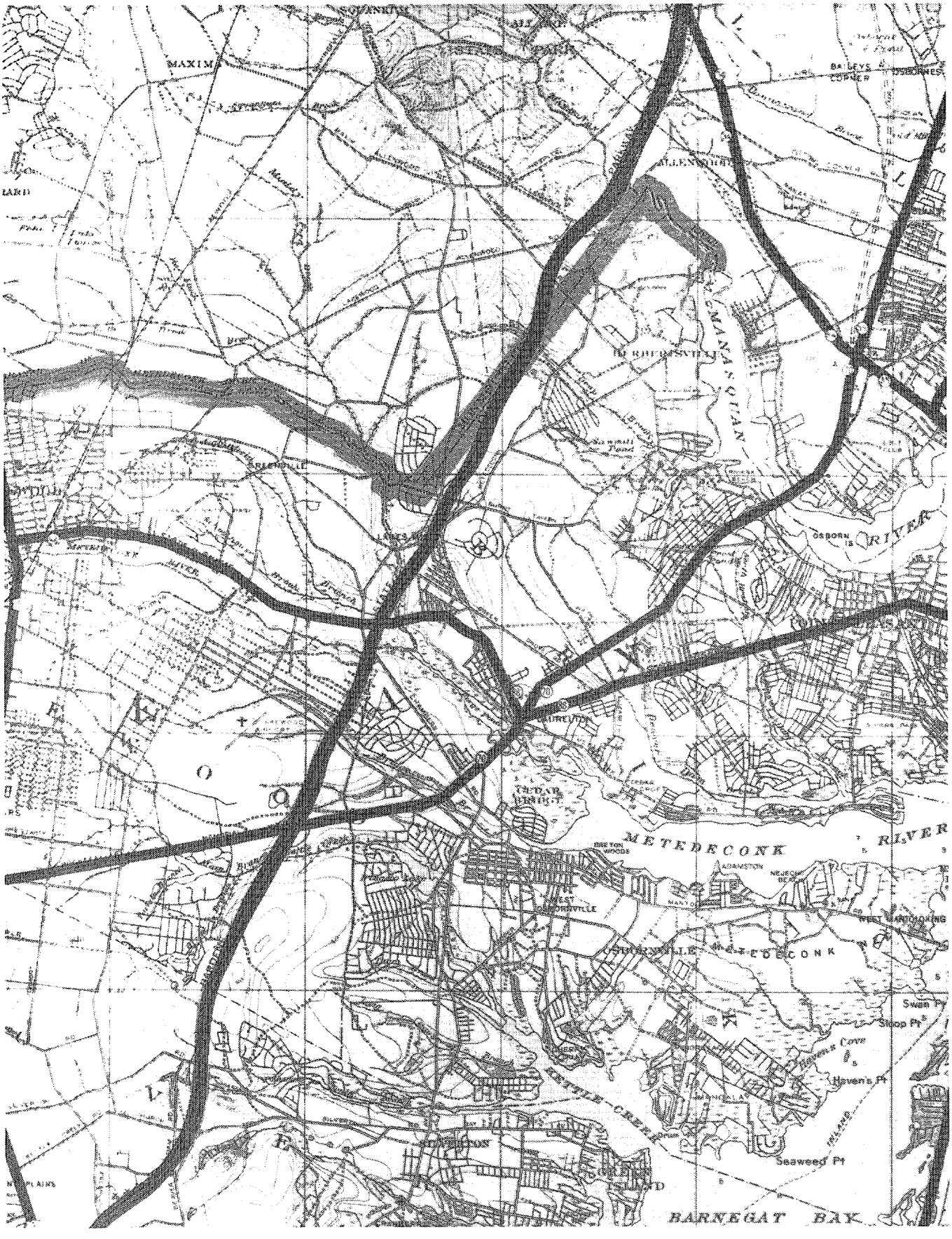
CONSTRAINTS FOR COASTAL ZONE MANAGEMENT:

Mislocations of planimetric and topographic features. Cultural features are not updated. Scale is not suitable for site analysis.

SAMPLE:

Segment of State Atlas Sheet

September, 1975


MAXIM
BAILEYS CORNER
OSBORNES
ALLENWOOD
MANASQUAN
RIVER
OSBORN IS
METEDECONK
RIVER
BRETON WOODS
ADAMSTON
WEST MANTOLOKING
OSBORNVILLE
METEDECONK
Swan Pt
Sloop Pt
Haven's Cove
Haven's Pt
KETTLE CREEK
Seaweed Pt
BARNEGAT BAY

REFERENCE PROFILE

CITATION:

Slope Maps,

United States Geological Survey, - Trenton, New Jersey
Department of Environmental Protection (1975)

LOCATION:

DEP/CZM; DEP/Toms River Office

ABSTRACT:

The slope maps consist of a spatial delineation of land gradient measured as precentages. The maps are at a scale of 1:24,000, using the U.S.G.S. 7 1/2' Topographic Quadrangles as a base. They were produced by a photomechanical process. The coastal area is covered by 60 maps which have the following slope categories: 0-2%, 2-5%, 5-10%, 10-15%, greater than 15%; or 0-3%, 3-8%, 8-15%, 15-25%, greater than 25%.

DATA VALIDATION STATUS:

Validated

USE IN COASTAL ZONE MANAGEMENT:

The slope maps portray critical ranges of slope which can be applied to quantifying natural processes such as erosion, runoff, and infiltration. They also are used in determining the suitability of the land for various development types.

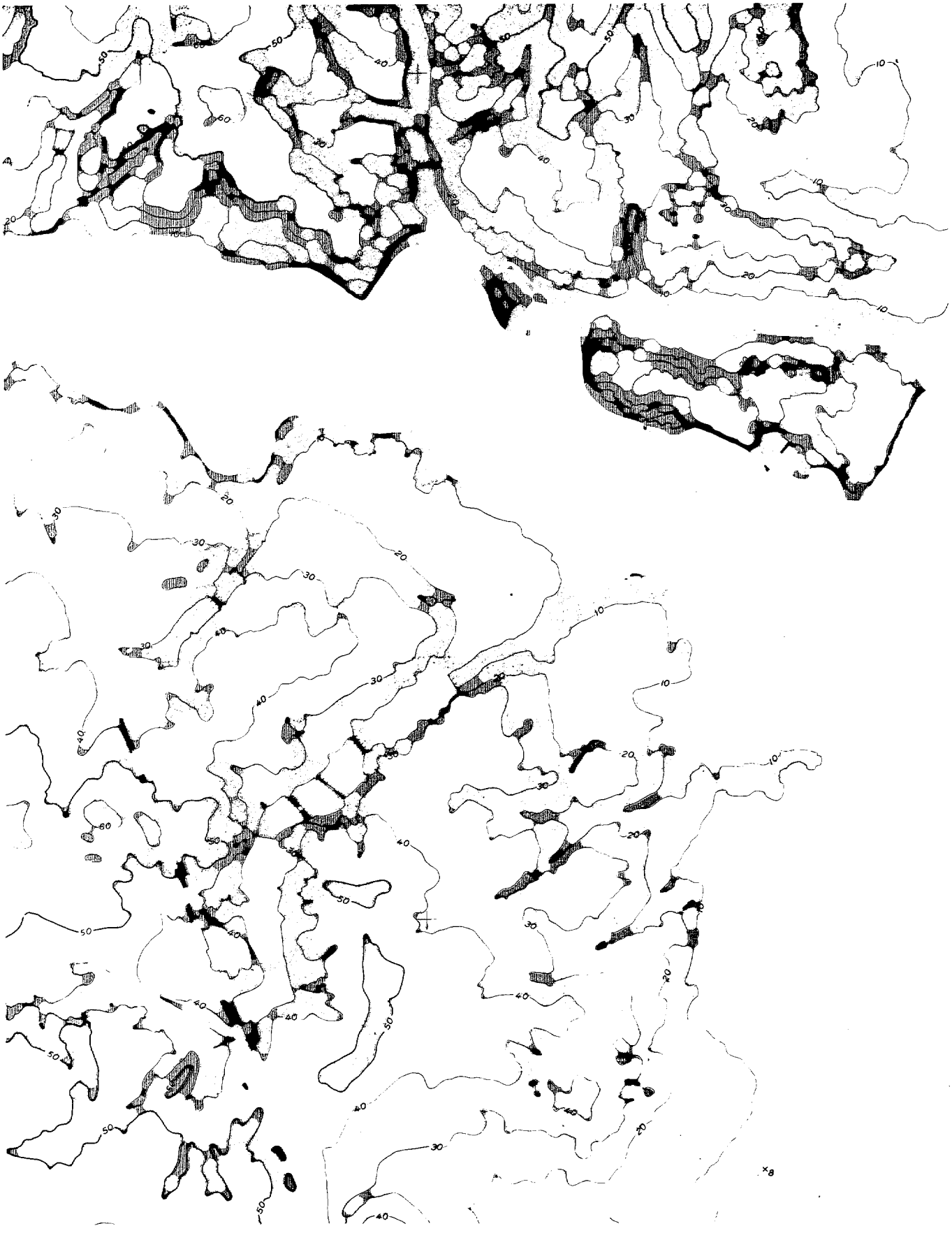
CONSTRAINTS FOR COASTAL ZONE MANAGEMENT:

The photo-mechanical process produces anomalies that require minor adjustments. Also, slope delineation is based on the average slope gradient and, therefore, is not suitable for site analysis.

SAMPLE:

Section of Slope Map

September, 1975



REFERENCE PROFILE

CITATION:

General Highway Series Map

New Jersey Department of Transportation, Trenton, DOT
(date varies)

LOCATION:

Department of Transportation/Division of Comprehensive Planning

ABSTRACT:

The General Highway Series Map show the cultural features, such as roads, towns, etc. They are divided into county and state maps. The county maps are available in the Atlas form consisting of 101 sheets at the scale of 1:31,680 covering the entire state, and 73 sheets at the scale of 1:15,840 covering most of the state except for Ocean and Burlington Counties. The state maps consist of 64 sheets at the scale of 1:63,360 covering the entire state.

DATA VALIDATION STATUS:

Not Submitted

USE IN COASTAL ZONE MANAGEMENT:

Useful information for transportation planning, and as a source of base maps for planning analysis.

CONSTRAINTS FOR COASTAL ZONE MANAGEMENT:

The non-standard scale of these maps make them difficult to use unless they are photographically readjusted to a standard scale.

September, 1975

REFERENCE PROFILE

CITATION:

Cultural Features Map

United States Geological Survey,
Washington, D.C. U.S.G.S., 1973

LOCATION:

DEP/CZM

ABSTRACT:

The Cultural Features Map depicts roads, county boundaries, railroads, names of municipalities, major streams and rivers, and highway designations. The maps were produced at the scale of 1:100.000. They were derived from the 1:24,000 U.S.G.S. scale topographic map series, and U.S.G.S. 1:250,000 maps.

These maps cover most of southern New Jersey keyed to the "Central Atlantic Regional Ecological Test Site: Cape May, Atlantic City, Burlington, Bridgetown, Dover, Little Egg Harbor and Toms River sheets

DATA VALIDATION STATUS:

Not Submitted

USE IN COASTAL ZONE MANAGEMENT:

Useful information as a base map for sketch planning.

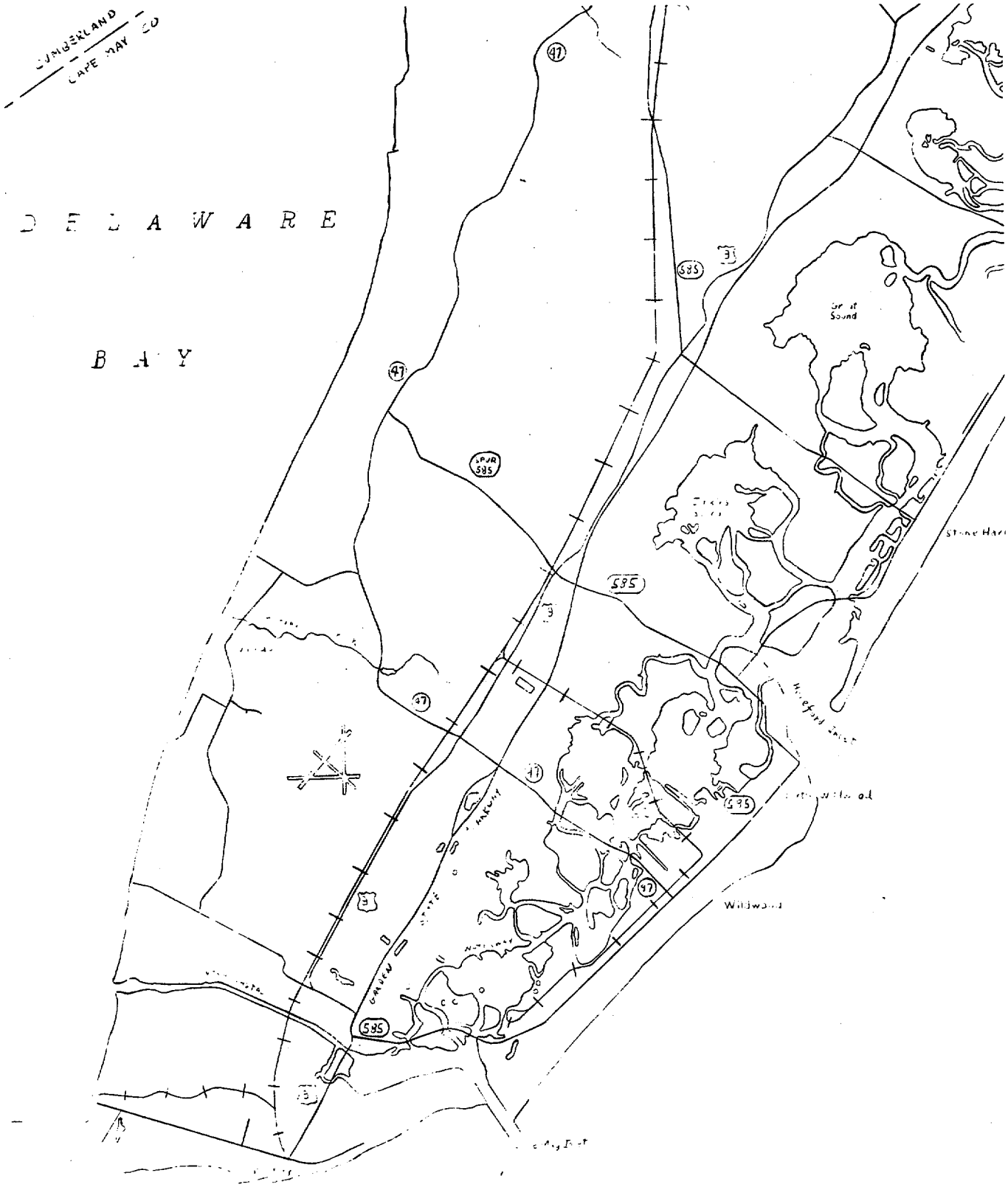
CONSTRAINTS FOR COASTAL ZONE MANAGEMENT:

The northern part of the coastal zone is outside the "Central Atlantic Regional Ecological Test Site", therefore, no information has been compiled.

SAMPLE:

Section of Cultural Features Map

September, 1975


CUMBERLAND
CAPE MAY CO
D E L A W A R E
B A Y
47
585
SPUR 585
Great Sound
Stone Harb
Wildwood
GARDEN
STATE
PARKWAY

REFERENCE PROFILE

CITATION:

Miscellaneous State Maps

New Jersey Department of Transportation, Trenton, DOT
(date varies)

LOCATION:

Department of Transportation/Division of Comprehensive Planning

ABSTRACT:

A number of miscellaneous State transportation maps are available at various scales.

1. General Highway - 1"=4 miles;
2. Operating State Highway - 1"=4 miles;
3. Mileage Chart - 1"=10 miles;
4. Average Annual Daily Traffic - 1"=2 miles and 1"=5 miles;
5. Traffic Volume Atlas - 2"=1 mile;
6. Political Sub-Divisions -
   (with or without roads) 1"=4 miles;
7. Political Sub-Divisions
   (with or without roads) 1"-2 1/2 miles

DATA VALIDATION STATUS:

not submitted

USE IN COASTAL ZONE MANAGEMENT:

Useful information for transportation planning, and as a source for base maps for planning analysis.

CONSTRAINTS FOR COASTAL ZONE MANAGEMENT:

The nonstandard scale of some of these maps make them difficult to use unless they are photographically readjusted to a standard scale.

September, 1975

REFERENCE PROFILE

CITATION:

Cultural Features Maps

United States Geological Survey, Reston, U.S.G.S.
(date varies)

LOCATION:

DEP/CZM; U.S.G.S.

ABSTRACT:

Cultural Features maps consist of a spatial delineation of man-made features: boundary lines, transportation lines development, utilities and other so-called cultural features. The maps are the black line separation of the U.S.G.S. 7!' Topographic Quadrangles at the scale of 1:24,000. There are 172 maps covering the entire state.

DATA VALIDATION STATUS:

Not Submitted

USE IN COASTAL ZONE MANAGEMENT:

The Cultural Features Map can be utilized in identifying specific features such as transportation lines, municipal boundaries and utility lines.

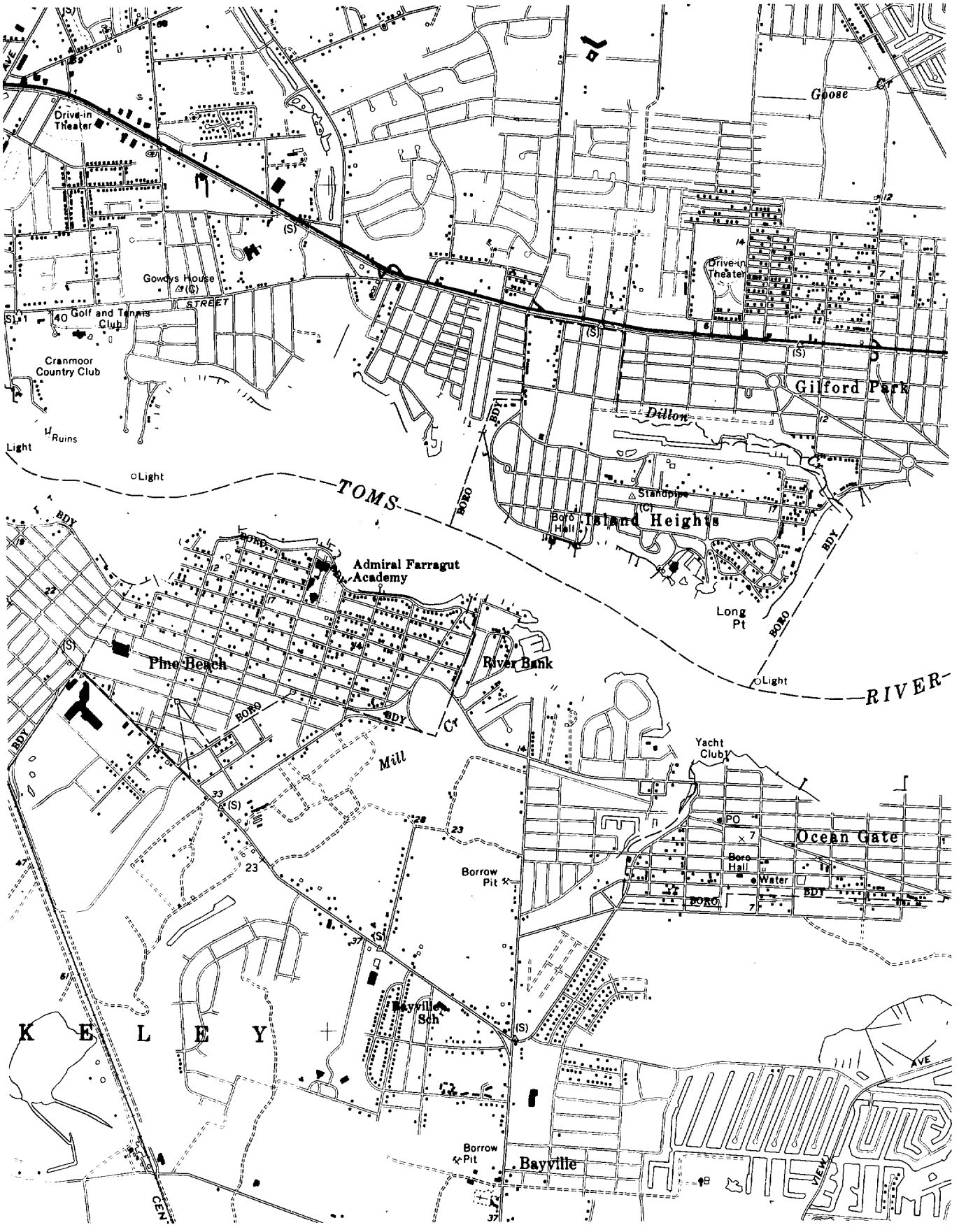
CONSTRAINTS FOR COASTAL ZONE MANAGEMENT:

There are 88 maps that have been updated since 1970; the remaining maps were produced between 1945 and 1966.

SAMPLE:

Section of Cultural Features Map

September, 1975


Drive-in Theater
Goose
Gowdys House
STREET
Golf and Tennis Club
Cranmoor Country Club
Ruins
Light
Drive-in Theater
Gilford Park
Dillon
TOMS
Standpipe
Boro Hall
Island Heights
Admiral Farragut Academy
Long Pt
RIVER
Pine Beach
River Bank
Mill
Yacht Club
PO
Ocean Gate
Boro Hall
Water
Borrow Pit
Bayville Sch
K E L E Y
Borrow Pit
Bayville
BDY
BORO
AVE
VIEW
CEN

REFERENCE PROFILE

CITATION:

Vegetation of New Jersey

Beryl Robichaud and Murray F. Buell
New Brunswick, N.J., Rutgers University Press
(1973) 340 pp

LOCATION:

DEP/CZM; Rutgers University

ABSTRACT:

This book describes and pictures each type of vegetation association found in New Jersey. Types are located in general geophysical areas, including the inner and outer coastal plan, piedmont, highways, and ridge-valley. Climate, soil, man's impact, plant-plant, plant-animal relationships are discussed. Vegetative successions processes are described. Scientific and common names of plant species are listed.

USE IN COASTAL ZONE MANAGEMENT:

This book comprehensively describes each vegetative association found in New Jersey along with natural and artificial processes likely to cause change. This work is a prime source of information on specific vegetation types, species, ecology, distribution, values, etc.

CONSTRAINTS FOR COASTAL ZONE MANAGEMENT:

No constraints

September, 1975

REFERENCE PROFILE

CITATION:

Forest Types Maps

United States Forest Service, North Eastern Forest Experiment Station, Upper Darby, Pa. - United States Forest Service (1955)

LOCATION:

DEP/CZM; - Bureau of Forestry

ABSTRACT:

This study delineates 30 forest types, 20 of which exist in the coastal zone. All parts of the state where commercial forests exist are mapped including the entire Coastal Zone. U.S.G.S. topographic maps have been used as a base, mostly at the scale of 1:24,000. Data was obtained through aerial photographs, topographic maps, collation of previous mapping, and limited ground check.

DATA VALIDATION STATUS:

Pending

USE IN COASTAL ZONE MANAGEMENT:

This series provides useful information on forest types for most of the State and the entire coastal zone. All areas with commercial forests are mapped.

CONSTRAINTS FOR COASTAL ZONE MANAGEMENT:

The study was done 20 years ago. Aerial coverage and forest types have changed. Limited updating is presently underway. Only one copy exists.

September, 1975

REFERENCE PROFILE

CITATION:

The Pine Barrens: Vegetation Geography

Jack McCormick and Leslie Jones - Research Report No. 3 (1973) 73 pp - New Jersey State Museum, Trenton

LOCATION:

DEP/CZM; New Jersey State Museum; DEP/Toms River Office

ABSTRACT:

This study delineates six forest types, three land-use classes and five marsh or water types. Its scope is from New Brunswick to Cape May, covering the New Jersey Pine Barrens. Northern forests are not typed. Delineations are made on reduced U.S.G.S. 7.5' topoquads at a scale of 1:48,000. These appear in the report. Type maps are available at scale of 1:24,000. The report includes a short description of the methods used and is composed of 71 maps. Data source was 1956 and 1963 aerial photography.

DATA VALIDATION STATUS:

Pending

USE IN COASTAL ZONE MANAGEMENT:

This series provides useful information on forest vegetation types and land use for southern New Jersey. Valuable stands of cedar and hardwoods are generally located.

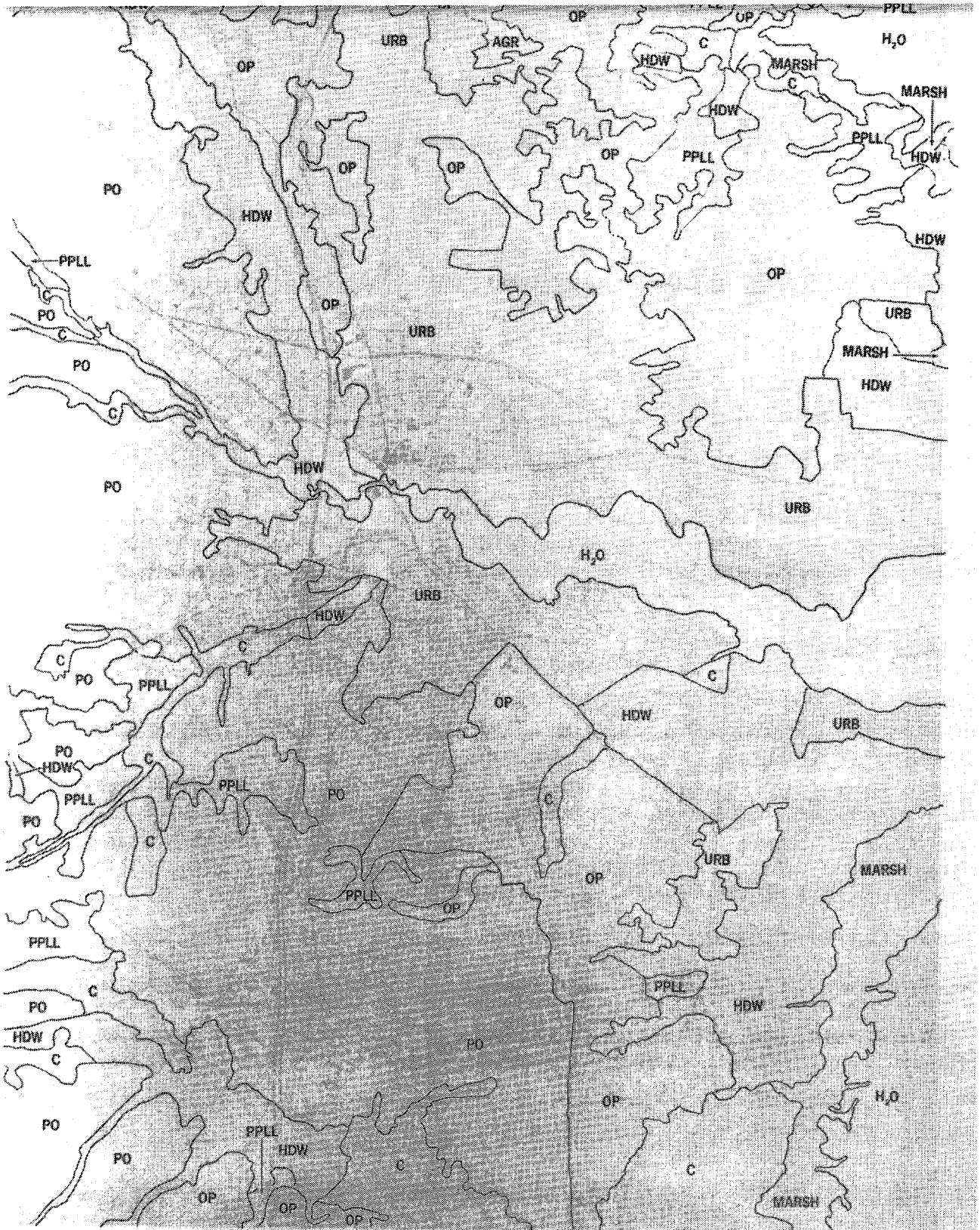
CONSTRAINTS FOR COASTAL ZONE MANAGEMENT:

Work is limited to southern portion of the State. Limited classification system is used. Under-story vegetation and value to wildlife is not noted. Sixteen of the sixty CAFRA quads have not been delineated.

SAMPLE:

Segment of vegetation map

September, 1975



21. Toms River

REFERENCE PROFILE

CITATION:

Water Bodies Maps

United States Geological Survey,
Reston, Va., U.S.G.S. (date varies)

LOCATION:

DEP/CZM; U.S.G.S.

ABSTRACT:

Water Bodies maps consist of a spatial delineation of lakes, streams, marshes and man-made reservoirs. The maps are the blue line separation of the U.S.G.S. 7½ Topographic Quadrangles at the scale of 1:24.000. There are 172 maps covering the entire state.

DATA VALIDATION STATUS:

Not Submitted

USE IN COASTAL ZONE MANAGEMENT:

The Water Bodies Map can be utilized in delineating flood prone areas, potential water supply areas, storm drainage, water quality, and recreation.

CONSTRAINTS FOR COASTAL ZONE MANAGEMENT:

There are 88 maps that have been updated since 1970. The remaining maps were produced from 1945 to 1966, and therefore, may be outdated.

SAMPLE:

Segment of Water Bodies Map

September, 1975

REFERENCE PROFILE

CITATION:

Drainage Basin Maps

United States Geological Survey, Trenton, U.S.G.S. (open file, date varies)

LOCATION:

U.S.G.S., Trenton office

ABSTRACT:

Maps delineating drainage basins were produced for the coastal zone and partially for other areas. These maps correspond to the U.S.G.S. 7.5' quadrangles, at the scale of 1:24000. The drainage basins of 1 square mile in area are shown for named streams, and 5 square miles in area for unnamed streams. These maps also show stream gauging stations.

DATA VALIDATION STATUS:

Not Submitted.

USE IN COASTAL ZONE MANAGEMENT:

The Drainage Basin Maps are useful for detailed hydrologic analysis, such as estimating peak stages and discharges in nontidal areas. This provides data for planning of water supply, ground water recharge, flood control, runoff and sediment load.

CONSTRAINTS FOR COASTAL ZONE MANAGEMENT:

The Drainage Basin Maps are hand-drawn on the U.S.G.S. topo print and are not reproducible.

September, 1975

REFERENCE PROFILE

CITATION:

Drainage Basins Map,

N.J. Department of Environmental Protection,
Trenton, DEP 1972

LOCATION:

DEP/CZM; DEP/Bureau of Geology

ABSTRACT:

A transparent overlay has been produced which delineates drainage basins for the entire State of New Jersey. Gauging stations and water quality sampling points are also depicted. This map was produced at the scale of 1:250,000.

Isohyetal maps are shown at the scale of 1:1,126,400 for wet, average and dry years.

DATA VALIDATION STATUS:

Not Submitted

USE IN COASTAL ZONE MANAGEMENT:

These maps contain useful information for sketch analysis in estimation of peak stages and discharges in nontidal areas. This information is necessary for water supply planning, ground water recharge, flood control, etc. Also, they determine areas with insufficient hydrologic and water quality data.

CONSTRAINTS FOR COASTAL ZONE MANAGEMENT:

A lack of information on secondary drainage basins reduces the utility of this map for large scale planning.

SAMPLE:

Segment of drainage basin map

September, 1975

RICE RIVER
MANANTICO CREEK
MANUMUSKIN CREEK
TUCKAHOE
HARBOR RIVER
ABS
CR
PA
CR
DENNIS CREEK +
(WEST CR., GOSHEN CR., FISHING CR., ETC.)
JONES CREEK +
(MILL CREEK)
CREEK +
CR., ETC.)
126Δ
360
361
362
127
125
223
218
217
220
219

REFERNECE PROFILE

CITATION:

Wetlands Ecology Marsh Destruction,

Fred Ferrigno, L. Widjeskog, and S. Toth, Trenton, N.J. W-53-R-1 (1973) 20 pp. N.J. DEP, Division of Fish, Game and Shellfisheries

LOCATION:

DEP/Division of Fish, Game and Shellfisheries

ABSTRACT:

Coastal surveys were completed for all the tidal marshes of New Jersey to determine the effects of filling and diking on this valuable resource. From a total of 263,051 acres of tidal marshes, 61,678 acres (23.5%) has been lost to filling and diking in the past twenty years (1953 to 1973). The study defined the forces at work destroying these marshes, the extent of damage by county, and recommended ways to reduce future losses.

DATA VALIDATION STATUS:

Not Submitted

USE IN COASTAL ZONE MANAGEMENT:

This report described the amount and causes of destruction of wetlands. Almost one quarter of the state's tidal wetlands have been lost. These are extremely valuable areas which must be protected to insure continuation of recreation, commercial, ecological activities upon which much of the coastal zone depends.

SAMPLE:

Portion of table I

September, 1975

Table 1. Tidal marsh values lost to filling or diking from 1953 to 1973 on all the tidal marshes of New Jersey.

County	Acres of Coastal Wetlands	Acres of Remaining Natural Marsh Amount	Acres of Remaining Natural Marsh % of Total	(A) Filling Losses: (A-1) Channel dredging Total Acreage	(A-1) Channel dredging % Loss of County Acreage	(A-2) Housing, Road, Marinas Total Acreage	(A-2) Housing, Road, Marinas % Loss of County Acreage	(B) Impou: (B-1) Salt Hay Impoundmen Total Acreage	(B-1) Salt Hay Impoundmen % Loss of County Acrea
A. Atlantic Coast									
1. Bergen	4,986	2,438	1.2	121	2.4	1,392	27.9	0	0
2. Hudson	4,171	1,623	.8	0	0	1,170	28.1	0	0
3. Union	2,420	0	0	0	0	2,280	94.2	0	0
4. Essex	613	0	0	0	0	613	100.0	0	0
5. Middlesex	5,355	3,374	1.7	0	0	1,543	28.8	0	0
6. Monmouth	3,811	2,021	.9	74	1.9	1,716	45.0	0	0
7. Ocean	37,007	26,078	13.0	308	.8	10,521	28.4	0	0
8. Burlington*	7,360	7,218	3.6	34	.5	108	1.5	0	0
9. Atlantic	48,141	43,157	21.4	520	1.1	2,398	5.0	0	0
10. Cape May*	37,324	32,816	16.3	312	.6	3,823	10.2	0	0
B. Delaware Bay-River									
1. Cape May*	12,880	9,105	4.5	0	0	251	1.9	1,043	8.1
2. Cumberland	54,018	43,018	21.4	0	0	621	1.1	9,636	17.8
3. Salem	34,877	24,549	12.2	1,815	5.2	954	2.7	0	0
4. Gloucester	7,118	3,674	1.8	1,304	18.3	340	4.8	0	0
5. Camden	553	296	.2	0	0	257	46.5	0	0
6. Burlington*	1,620	1,210	.6	0	0	399	24.6	0	0
7. Mercer	796	796	.4	0	0	0	0	0	0
TOTAL (NEW JERSEY)	263,051	201,373	100.0	4,488	1.7	28,336	10.8	10,679	

* [illegible] pertain to entire [illegible] only the Atlantic or Delaware Bay-River side.

REFERENCE PROFILE

CITATION:

State of New Jersey, Department of Environmental Protection, Wetlands Maps

Earth Satellite Corp for DEP - Series of Maps; Trenton, New Jersey, DEP (1972-1975)

LOCATION:

DEP/CZM;DEP/Division of Marine Services

ABSTRACT:

Approximately 900 maps were produced to identify and inventory the State's wetlands as directed by the Act of 1970. The maps cover the wetlands of the following counties: Middlesex, Monmouth, Ocean, Atlantic, Burlington, Cape May, Salem, Cumberland, Gloucester, Camden and Mercer.

Each map indicates the landward limit of the wetlands plus delineation of separate species and species associations, following the vegetation and elevation criteria outlines in the law.

The maps are black and white enlargements of 9"x9" frames of infra-red photography which meet national map accuracy standards. The finished photomap is at a scale of 1:2400. The series is complete.

DATA VALIDATION STATUS:

Validated

USE IN COASTAL ZONE MANAGEMENT:

Maps delineate coastal wetlands, an important natural resource in the coastal area. Maps also show detailed land use for located area (approximately 1 square mile of map). Good for site analysis.

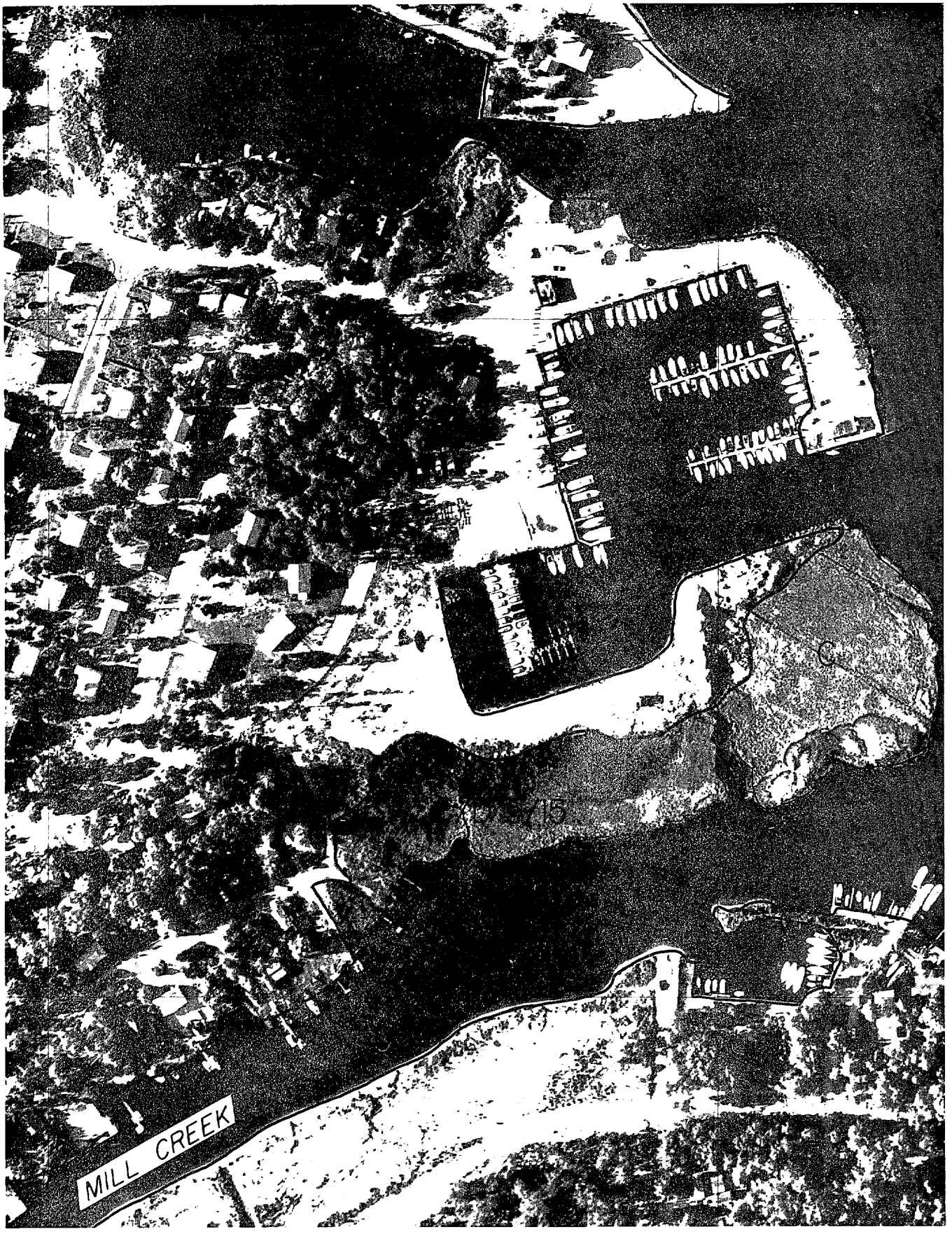
CONSTRAINTS FOR COASTAL ZONE MANAGEMENT:

Scale too large for regional planning.

SAMPLE:

Section of Wetlands Map.

September, 1975


MILL CREEK

REFERENCE PROFILE

CITATION:

State of New Jersey, Department of Environmental Protection Riparian Maps

Office of Environmental Analysis, DEP - Series of Maps; Trenton, N.J. DEP, (1973 and continuing)

LOCATION:

DEP/CZM

ABSTRACT:

The bulk of the riparian mapping will involve annotations to the existing wetlands base maps. These photomaps cover tidal marshes throughout the CAFRA area.

A series of overlays will be prepared to show lands now or formerly below the mean high water line as well as certain biological, engineerng, cartographic, and historical data.

Photomaps are 1:2400. With the exception of the photo maps in the Hackensack marshes, and the Newark-Elizabeth map, no riparian mapping has been done. This work is expected to be completed by 1980.

DATA VALIDATION STATUS:

Not Submitted

USE IN COASTAL ZONE MANAGEMENT:

Determination of ownership patterns is important to coastal zone management. Often private owners of adjacent lands need permits or grants to gain clear passage to waterways through these state-owned lands. Riparian lands often support valuable marsh grasses. Thus they should be viewed as a natural resource and a political instrument. The series of overlays and the photomaps will show land use changes locally.

CONSTRAINTS FOR COASTAL ZONE MANAGEMENT:

The scale is to large for a regional view. The work will not be completed in time for total incorporation of data into the planning process.

September, 1975

REFERENCE PROFILE

CITATION:

Waterfowl Population and Distribution Survey

Bureau of Wildlife Management, N.J.D.E.P. Division of Fish, Game and Shellfisheries (1974) 5pp

LOCATION:

DEP/Division of Fish, Game and Shellfisheries

ABSTRACT:

Five maps have been produced that locate wintering waterfowl population and distribution for the entire State of New Jersey. This information was obtained through aerial surveys and discriminates between puddle and diving ducks, geese, and brant. Concentration levels are shown along with movement and changes in location. The maps are at a scale of 1:316,000. Series of charts are complete for September through January 1974.

DATA VALIDATION STATUS:

Not Submitted

USE IN COASTAL ZONE MANAGEMENT:

Approximately three million waterfowl migrate into New Jersey's coastal area each year. For some species such as brant, New Jersey represents the prime wintering area for the eastern population. These charts locate major waterfowl use areas. Waterfowl are important to the ecology, and for recreational activities such as hunting and bird watching. There are approximately 40,000 waterfowl hunters in New Jersey.

CONSTRAINTS FOR COASTAL ZONE MANAGEMENT:

Aerial surveys were not made of smaller inland areas, some species, such as wood ducks and mallards, would therefore be underestimated. Localized concentrations should not be construed as the only areas utilized by waterfowl; flocks will move depending on conditions.

REFERENCE PROFILE

CITATION:

Rare and Endangered Fish and Wildlife of New Jersey

Donald S. Heintzelman, New Jersey State Museum
Trenton, N.J. Science Notes No. 4 (1971) 25 pp.

LOCATION:

DEP/CZM; New Jersey State Museum

ABSTRACT:

This state-wide listing includes rare and endangered fish, amphibians, reptiles, birds, and mammals of N.J. A description of habits, range, and status are included. Definitions of rare, endangered, and undetermined species are provided with possible causes of distress.

DATA VALIDATION STATUS:

Not Submitted

USE IN COASTAL ZONE MANAGEMENT:

This report lists rare and endangered fish and wildlife which must be protected for future generations.

CONSTRAINTS FOR COASTAL ZONE MANAGEMENT:

No constraints

September, 1975

6.0 CONCLUSION: TOWARDS A PLAN FOR THE COASTAL AREA

This report indicates the range of issues and the mosaic of information that must be considered in managing New Jersey's coastal resources. While it represents completion of one statutory requirement, this report does not signal the end of the process of issue definition and information identification. Rather, these essential tasks will continue as the elements of a plan for the coastal area take shape over the next two years.

The CAFRA statute mandated a four-year planning process and did not impose an interim moratorium on land development. Instead, it authorized a system of land use regulation by permit for this special part of the state. As a result of experience with the CAFRA permit program, DEP is preparing an interim plan, in the form of land use and density guidelines, to be released well ahead of the September 1977 date for selection of a final plan for the coastal area.

Elements of the interim plan should be available in early 1976 and will be applied through the permit program. The interim plan will then be evaluated and revised as DEP devises the alternative management strategies scheduled to be presented to the Governor and Legislature in September 1976. Finally, by September 1977, the Commissioner of Environmental Protection will, as required by law, select a management strategy for the coastal area. This will culminate a four-year planning effort that should help insure that the natural and built environment of the New Jersey coast will serve the diverse needs of today's citizens as well as those of future generations.

APPENDIX I - CAFRA Permit Decisions 1973 - 1975

(September 20, 1973 - September 4, 1975)

	Middlesex	Monmouth	Ocean	Burlington	Atlantic	Cape May	Cumberland	Salem	Total
Permit Application Decisions									
Approved	0	8	33	0	8	8	1	1	59
Denied	0	0	1	0	0	0	0	0	1
Pending	0	7	26	0	5	13	0	0	51
Cancelled	1	1	4	0	4	4	2	0	16
Total	1	16	64	0	17	25	3	1	127
Facility Type of Applications									
Residential	1	9	43	0	10	19	0	0	82
Utility	0	7	20	0	4	3	1	0	35
Industrial	0	0	1	0	2	0	1	1	5
Other	0	1	0	0	1	2	1	0	5
Total	1	17	64	0	17	24	3	1	127
Approved Residential Units									
Single Family	0	64	1931	0	0	342	0	0	2337
Townhouses	0	0	732	0	0	36	0	0	768
Apartments	0	0	153	0	300	168	0	0	621
Hotels, Motel, and Other	0	0	805	0	732	0	0	0	1537
Total	0	64	3621	0	1032	546	0	0	5263

APPENDIX II - CAFRA Exemption Decisions, 1973 - 1975

(September 20, 1973 - August 15, 1975)

Action on Exemption Requests

	Middlesex	Monmouth	Ocean	Burlington	Atlantic	Cape May	Cumberland	Salem	Total
Approved	2	11	40	1	10	12	0	0	76
Denied	0	3	17	0	8	6	0	0	34
Pending	1	1	2	0	1	1	0	1	7
Cancelled	0	1	2	0	0	2	0	0	5
Total	3	16	61	1	19	21	0	1	122

Facility Type of Exemption Requests

Residential	1	12	37	1	15	15	0	0	81
Utility	1	3	16	0	2	3	0	0	25
Industrial	1	1	8	0	0	0	0	1	11
Other	0	0	0	0	2	3	0	0	5
Total	3	16	61	1	19	21	0	1	122

ACKNOWLEDGEMENTS

The coastal planning staff in the Office of the Commissioner, Department of Environmental Protection, prepared this report, under the direction of David N. Kinsey, Coastal Area Planning Coordinator. This staff includes:

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The following individuals also worked on the CAFRA Inventory project in the Department of Environmental Protection, prior to June 1975: Edward B. Feinberg, now Supervising Environmental Specialist in the Office of the Commissioner, Department of Environmental Protection, and Darryl Caputo, now Principal Environmental Engineer in the New Jersey Department of Labor and Industry.

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