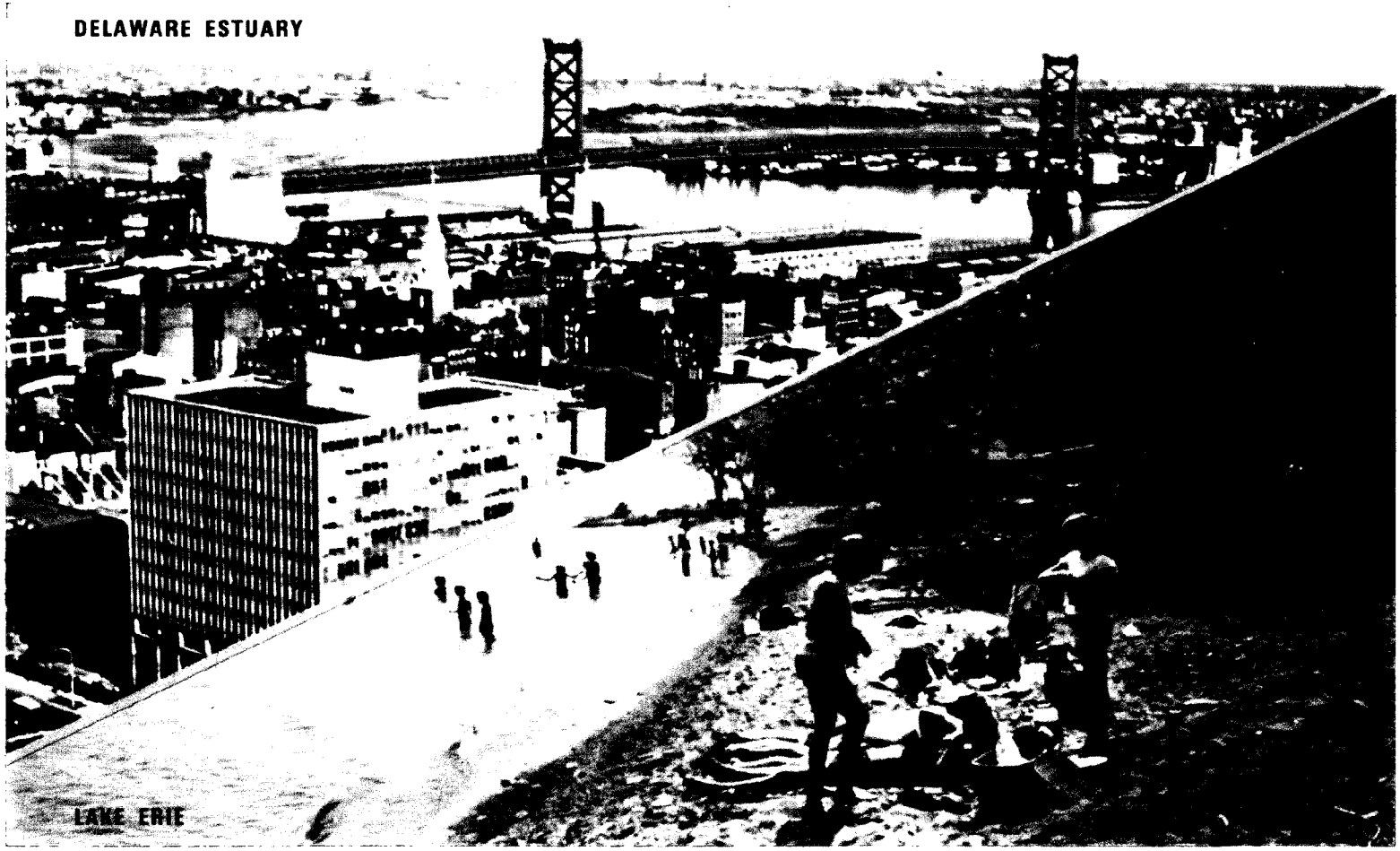
PENNSYLVANIA COASTAL ZONE MANAGEMENT PROGRAM



EXECUTIVE SUMMARY

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PENNSYLVANIA COASTAL ZONE MANAGEMENT PROGRAM

EXECUTIVE SUMMARY

COMMONWEALTH OF PENNSYLVANIA
Dick Thornburgh, Governor

DEPT. OF ENVIRONMENTAL RESOURCES
Clifford L. Jones, Secretary

OFFICE OF RESOURCES MANAGEMENT
C.H. McConnell, Deputy Secretary

SEPTEMBER 1979

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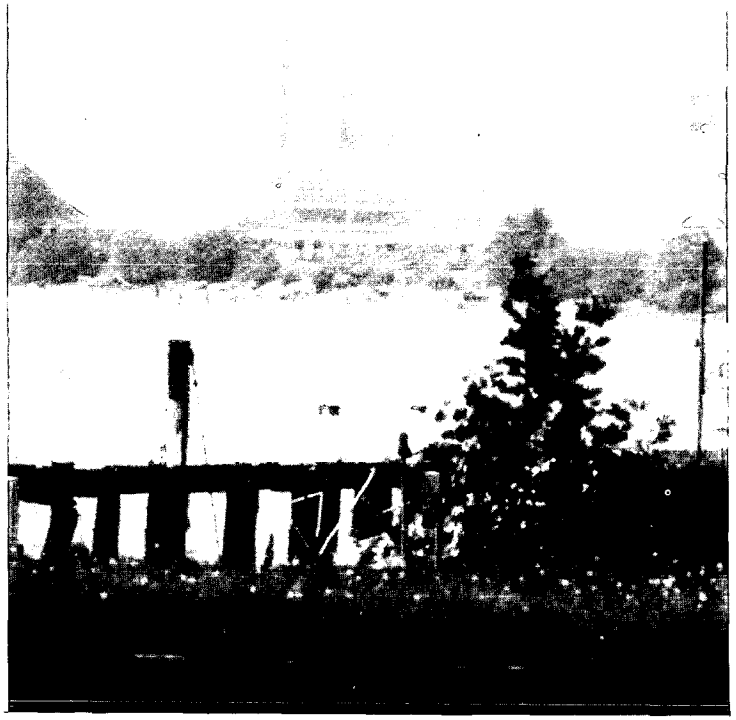

Eddystone Electric Generating Station, Delaware County.

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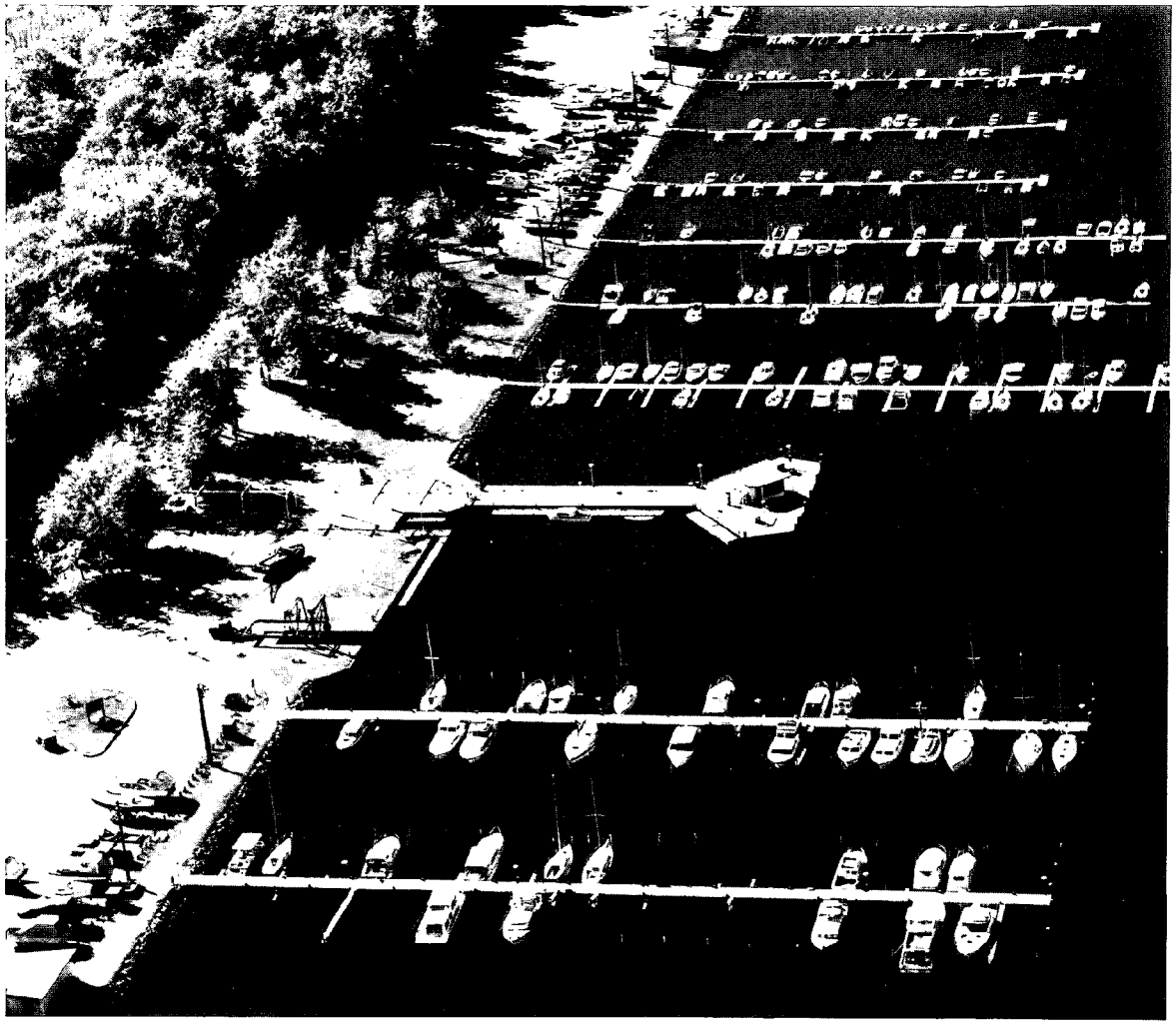
INTRODUCTION

WHAT IS COASTAL ZONE MANAGEMENT?

Concern over development pressures affecting the shorelines of our country's oceans, estuaries and Great Lakes led Congress, late in 1972, to enact the Coastal Zone Management Act (P.L. 92-583). The Act encourages states to develop comprehensive programs to ensure wise and effective management of valuable land and water resources. In formulating their programs to comply with the Act, states may choose from several possible alternatives the management approach which is best suited to their particular problems and issues.

Although participation in the Coastal Zone Management Program is voluntary, all 34 eligible states and territories have attempted to develop programs which satisfy federal requirements. By the middle of 1979, about fourteen states had successfully developed programs while another eight anticipated federal approval by the end of the year.

Federal funds are made available by the National Oceanic and Atmospheric Administration (NOAA) which is in the U.S. Department of Commerce. Additional funds must be supplied by the participating states.



Presque Isle Marina, Erie County.

"The key to more effective use of our coastline is the introduction of a management system permitting conscious and informed choices among development alternatives...in order to insure both (the) management and sound utilization of (coastal) resources."

Our Nation and the Sea - A Plan for National Action *Stratton Commission, 1969.*

The Coastal Zone Management Act makes it national policy:

- to preserve, protect, develop and, where possible, to restore our coastal resources
- to help states manage their coastal responsibilities wisely through the development of appropriate management programs
- for all federal agencies engaged in work affecting coastal areas to consult closely with the state agencies responsible for administering the coastal management programs
- to encourage cooperation among local, state and regional agencies.

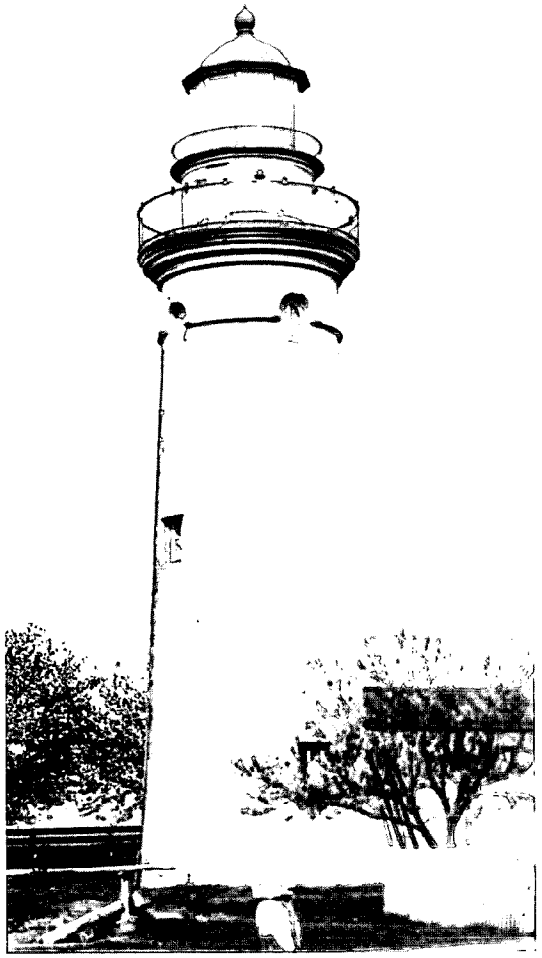
Included within the coastal fringes of the participating states are:

- 9 of the 11 counties which had the fastest growing populations between 1960-1970
- the nation's eight largest cities
- ½ of the U.S. population
- 60,000 miles of shoreline
- 50% of the manufacturing facilities in the U.S.

The Coastal Zone Management Act is a response to a number of crucial problems occurring throughout the country. In some places, unplanned or poorly controlled development is destroying important ecological, historic, cultural and aesthetic values. Studies preceeding enactment of the Coastal Zone Mangement Act recognized that coastal estuaries are among the most productive areas on earth, producing four times as much plant growth as intensively managed corn fields.

Coastal waters throughout the United States serve as spawning and nursery areas for a wide variety of marine life including seven of the 10 most valuable commercial species of fish.

It is estimated that only two percent of the coast is currently in public ownership for recreational use, which averages out to only one square inch per capita. In addition, conflicting demands for the use of shorefront lands have been intensified by the energy crisis. Offshore leasing for petroleum exploration and proposals for deepwater ports, refinery construction and electric generating stations all put pressure on the nation's coastal zone.



Old Land Lighthouse in 1899, Erie City.

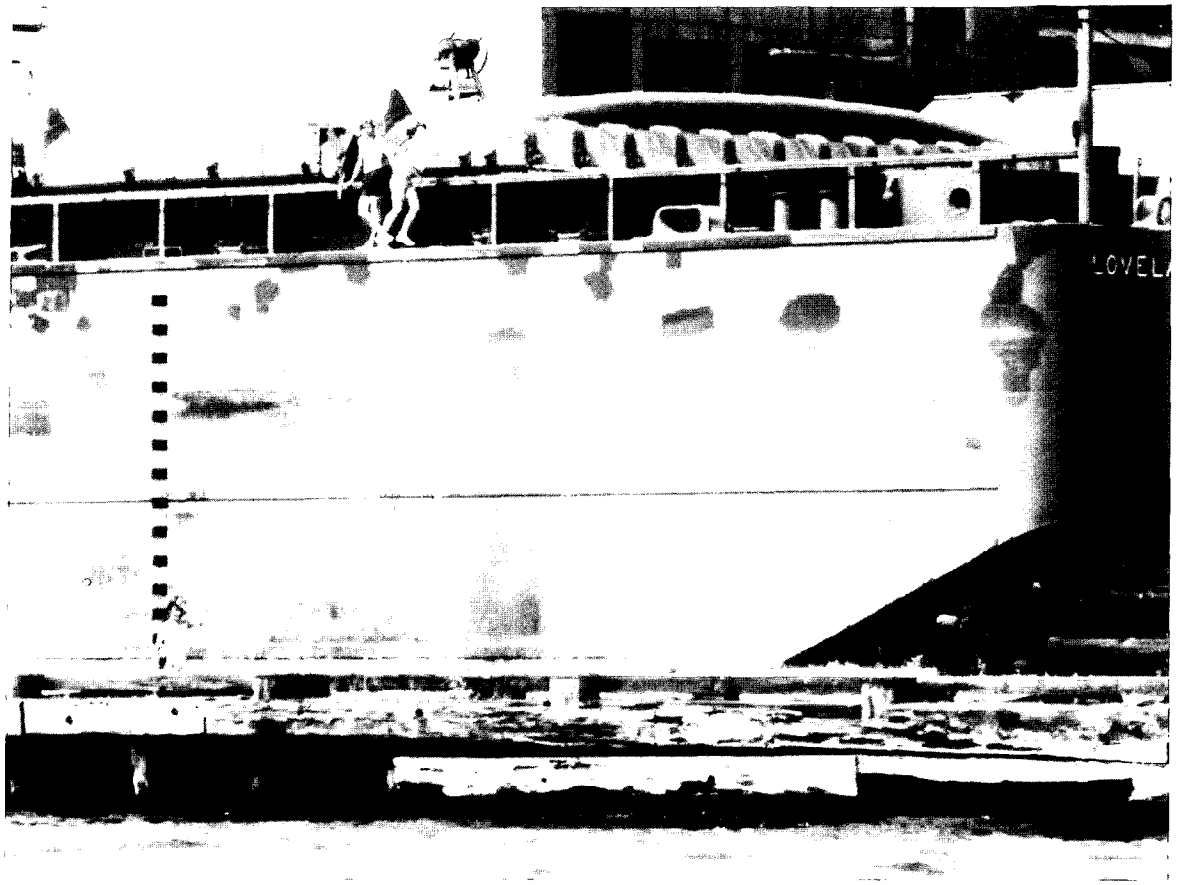
REQUIRED ELEMENTS

The requirements of the Act focus on the planning process and leave most of the details of the management programs to the individual states. However, there are specific elements which the Coastal Management Program must address, including:

- identification of the boundaries of the coastal zone which will be subject to the management plan
- a definition of permissible land and water uses within the coastal zone
- an inventory of geographic areas of particular concern
- broad guidelines on priority of uses in particular areas, especially those uses of lowest priority
- the means by which decisions affecting the coastal zone will incorporate a broad statewide viewpoint
- a description of the organizational structure that will implement the management program, including the interrelationships of local, areawide, state, regional and interstate agencies.

The Program is somewhat unusual in that the implementation strategy must be developed and presented with the other elements of the program. Historically, many plans have been produced and presented to the public without a discussion of how the recommendations will be carried out.

The Coastal Zone Management Program requires that all necessary legislative actions and executive authorities be developed and in-place before funding begins.



Unsupervised Swimming, Delaware River, Philadelphia.

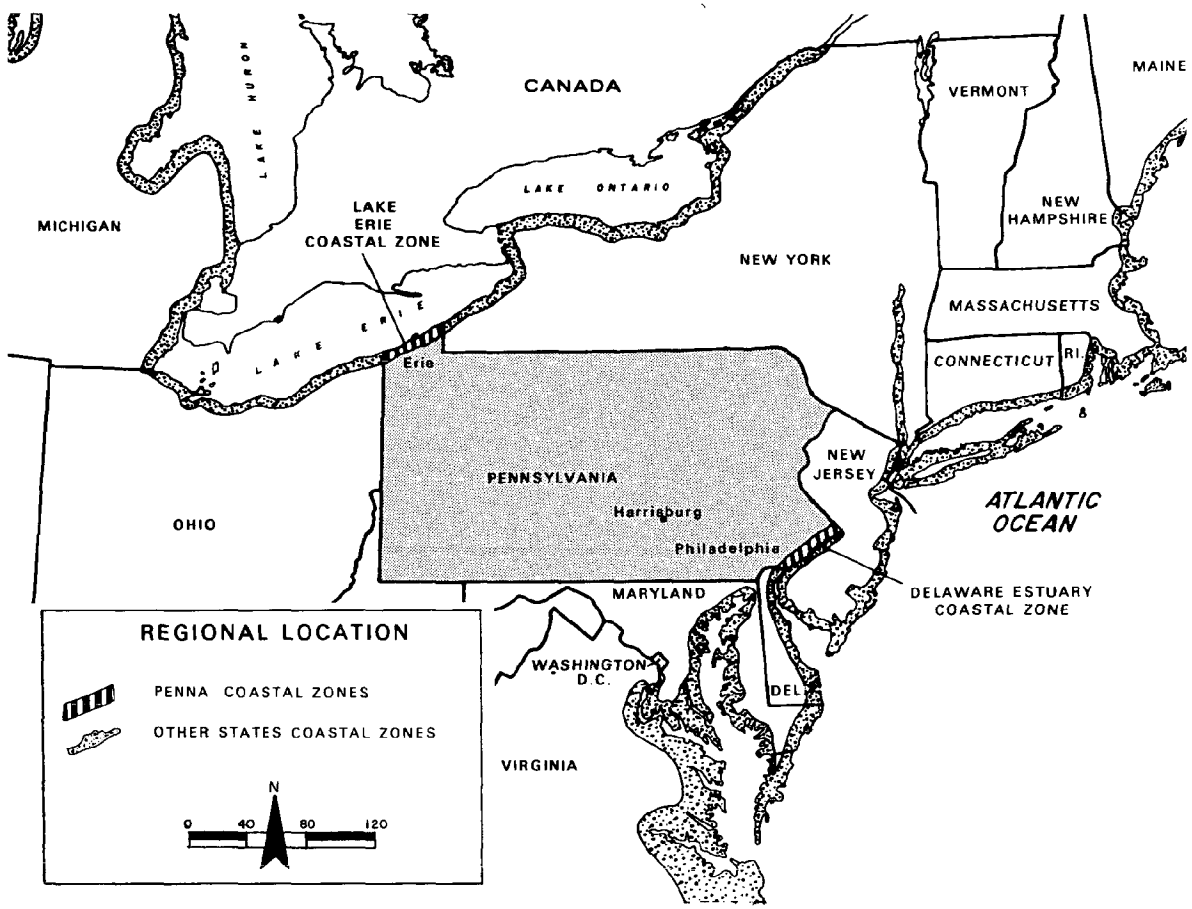
PENNSYLVANIA'S COASTAL ZONES

According to the definition in the Coastal Zone Management Act, Pennsylvania qualifies as a "coastal state" because of two widely separated areas. The 63 mile-long Lake Erie shoreline and the 55 mile segment of the tidal Delaware River in Pennsylvania are both eligible for Coastal Zone Management. Interestingly, Pennsylvania is the only state in the country, other than New York, with two geographically distinct coastal zones. The map indicates the position of Pennsylvania's two coastal zones relative to those of nearby Great Lakes, New England, and Mid-Altantic states.

Although the Coastal Zone Management Act was passed by Congress, and signed into law late in 1972, funding was not available until 1974. In June, 1974, the Governor designated the Department of Environmental Resources as the lead agency for Pennsylvania's Coastal Zone Program.

During the next three years, the Department of Environmental Resources worked with other state agencies, local study area consultants, elected officials, shorefront industries and interested citizens to produce the Coastal Zone Management Program, which is described in the Draft Technical Record.

The first year of the program was devoted exclusively to inventory work and data gathering. During the second year, work progressed on resource analysis, and the development of working papers and technical memoranda on elements required by the Act and by federal guidelines. Finally, the third year of the program was spent in preparing the 500-page, Draft Technical Record including more than 50 accompanying maps. This draft document represents the first and most comprehensive statement prepared by the Commonwealth of Pennsylvania which concerns both the protection and development of coastal resources.



DELAWARE ESTUARY

PHYSICAL CHARACTERISTICS

The Delaware River stretches 270 miles from its headwaters in the Catskill Mountains of New York to the Atlantic Ocean. Compared to the Mississippi, which drains 40 percent of the United States, the Delaware Basin is small, draining only one percent of the land. For much of its length, the Delaware River forms the border between Pennsylvania and the states of New York and New Jersey. At Trenton, 134 miles from the sea, the river drops through its last series of rapids and becomes an estuary, subject to the ebb and flow of daily tides. This is where the major ports and industrial centers of Philadelphia, Camden, Wilmington and Chester are located. Oil refineries, chemical plants, steel mills, warehouses, power plants, container terminals, railroads, highways and bridges dominate the waterfront, while ships from every maritime nation call at the ports along the river.

The collective "Ports of Philadelphia" (including berths in Pennsylvania, New Jersey, and Wilmington, Delaware) comprise the largest freshwater port in the world. Philadelphia is the second largest U. S. port in number of vessels handled and the third busiest seaport in the world. Commercial shipping, both international and domestic, is a key ingredient of the region's economy. Over 9,000 manufacturing concerns and at least 100,000 job opportunities are dependent on port activities.

Port Traffic, Delaware River North of Walt Whitman Bridge.

In order to keep the port viable, the Corps of Engineers dredges the Delaware Estuary and the tidal portion of the Schuylkill River. The main channel of the Delaware is maintained at a depth of approximately 40 feet and a width which varies between 400 and 800 feet as far north as Newbold Island and the Fairless Works of U.S. Steel. Between Newbold Island and Trenton, the channel is maintained at 35 feet. The Schuylkill River is dredged to depths ranging from 26 to 33 feet six miles inland from the confluence with the Delaware. It has been estimated that since 1836, over one billion cubic yards of dredge spoil have been removed from the Delaware River alone.

In addition to navigation, the tidal Delaware and its tributaries are used for such diverse activities as public water supply, waste assimilation, industrial cooling, fish habitat and recreation.

Three Pennsylvania counties, Bucks, Philadelphia and Delaware border the Delaware Estuary in the 55 mile stretch from Marcus Hook to Morrisville. Philadelphia has the most completely developed waterfront with more extensive transportation facilities than the other two counties. A diverse mix of land uses occupies the rest of Philadelphia's riverfront, including manufacturing, utilities and military facilities. In Delaware County, a larger share of waterfront is devoted to manufacturing than in either Philadelphia or Bucks County. Tinicum Marsh, covering approximately 500 acres, is all that remains of the tidal wetlands which originally encompassed at least 13,000 acres between the Chester Creek in Delaware County and the Frankford Creek in Philadelphia. Still, Tinicum Marsh contains Pennsylvania's largest tidal wetland area. The shoreline of Bucks County includes a wide variety of uses and about 5 miles of riverfront are occupied by residential, recreational, or cultural uses, which are unusual in the other counties.

Notable features of the coastal zone in Bucks County include the 4,000 acre U.S. Steel site, which employs more than 8,000 workers, and the 2,300 acre, man-made lakes created by sand and gravel extraction on property owned by the Warner Company.

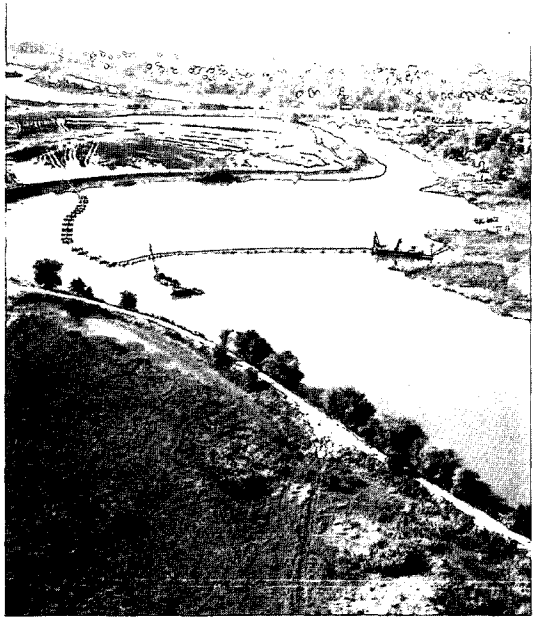
HISTORY AND DEVELOPMENT

On August 28, 1609, Henry Hudson, commander of the Dutch ship, "Half Moon," entered Delaware Bay while searching for a route to the Orient. Beginning in 1631, the Dutch settled along the Delaware Bay, followed by the Swedes and Finns, who founded their colony in 1636 at New Castle near Wilmington, Delaware. The English took over the settlements in 1664 and Philadelphia was founded by William Penn in 1682. The Quakers constructed the first tanneries, brickyards and glassworks.

By 1700, the area population had reached 20,000, divided almost evenly between city dwellers and farmers. Settlements had spread out from the original site at the confluence of the Delaware and Schuylkill rivers, following the shorelines of the Delaware and its tributaries.

Farming remained the principal occupation of the region until after the mid-nineteenth century when a combination of political and technological events triggered rapid changes in the region's social and economic character.

American Egret, Tinicum Marsh.



Dredging and Filling, Tinicum Marsh, 1970.

The 1800's marked the advent of the Industrial Revolution and major changes included the steamship, the telegraph, canals and the railroad. The Delaware Valley had all the natural assets necessary to sustain industrial growth including such resources as water, coal, wood and iron and a prime riverfront location.

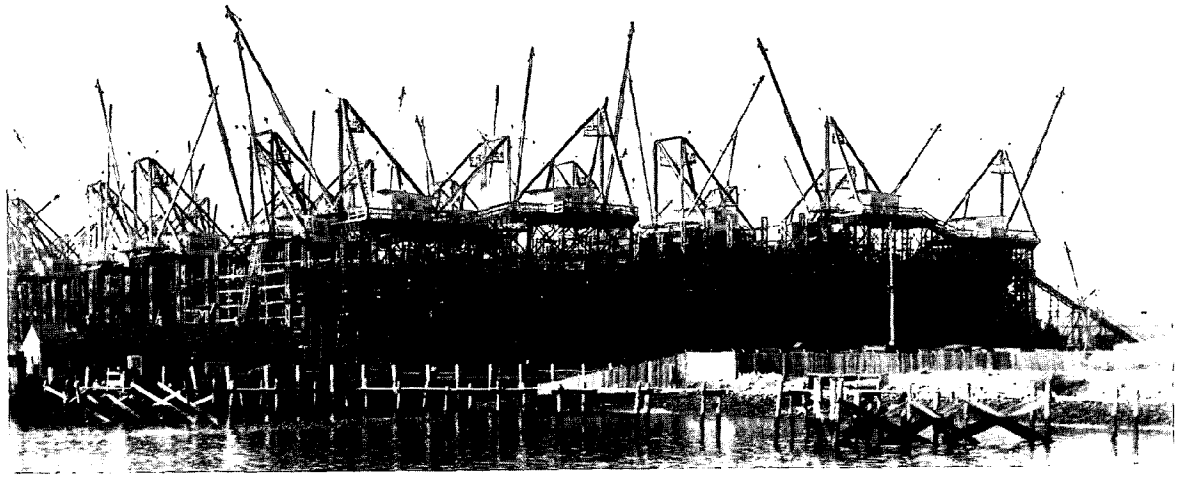
By 1860, the population of Philadelphia was over one half million, but the city was essentially a very large central market for agricultural goods. Philadelphia's industrialization was spurred by the Civil War, so that by 1900 Philadelphia was a major industrial center with a large and rapidly growing skilled labor force. In addition, industry was spreading to other parts of the region. Industrial expansion was most dramatic south of Philadelphia. Between 1860 and 1900, the population of Delaware County increased 210% (from 30,597 to 94,762), with most of this increase concentrated along the Delaware River corridor.

World War I further accelerated the growth of industry southward into Delaware County. Service industries and residential population, encouraged by improved transportation facilities, followed industry's lead and located just inland of the waterfront industrial corridor.

During the late nineteenth and early twentieth centuries, the region absorbed a steady stream of foreign immigrants. This new and ethnically diverse population, drawn to the area in response to the expanding need for industrial labor, altered the region's relatively homogeneous population. The influx ended in 1925 when federal laws severely restricted foreign immigration.

A second wave of immigration to the Study Area came from the southern states. During and after World War II, northern industries attracted large numbers of rural southern blacks. This influx was largely over by 1960, a year which marked the end of almost one hundred years of continuous social change and economic growth.

Shad Fishing on the Delaware River, 1855.



Hog Island Shipyard, Near Present International Airport, 1919.

LAKE ERIE

PHYSICAL CHARACTERISTICS

The five Great Lakes — Superior, Michigan, Huron, Erie and Ontario — comprise the largest body of fresh water in the world. The lakes cover 95,000 square miles, and if the sixty-seven trillion gallons they contain were spread evenly over the mainland 48 states, the land would be flooded to a depth of ten feet. With their connecting waterways, the Great Lakes form the largest inland water transportation route in the world, running 2,300 miles from Duluth, Minnesota to the Atlantic Ocean.

Lake Erie, which covers 9,940 square miles, is the smallest except for Lake Ontario; with a maximum depth of 212 feet it is by far the most shallow. Sixty-three miles of the southern shore of Lake Erie are in the "chimney" of Pennsylvania, between the state boundaries of Ohio and NewYork.

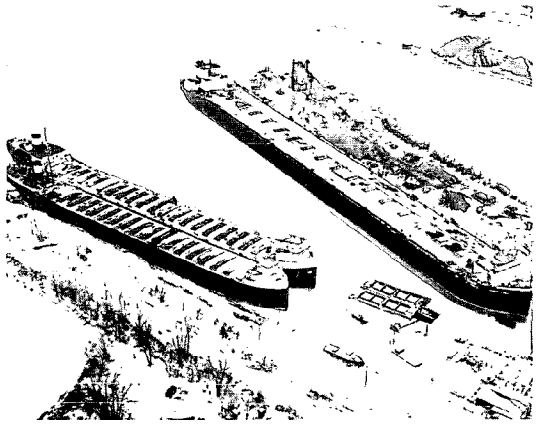
The most outstanding feature of the shoreline is the seven mile-long Presque Isle Peninsula which attracts 3 to 4 million recreational visitors each year. This 3,200 acre sand spit curves out into the Lake forming Presque Isle Bay and sheltering Pennsylvania's only Great Lakes port. The channel entrance and harbor area are dredged to a depth of 29 feet by the U.S. Army Corps of Engineers.

The beaches, dunes and lagoons of Presque Isle contrast sharply with the system of bluffs ranging in height from 10 to 170 feet which separates Lake Erie from the rest of Erie County. There are no major river systems flowing into Lake Erie in Pennsylvania, but there are 50 minor streams, some of which have cut deep gorges into the landscape.

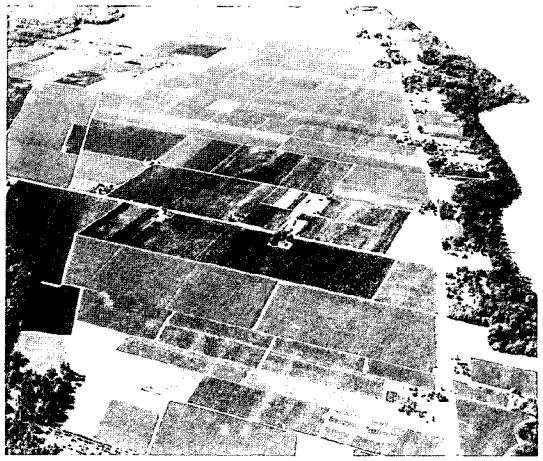
The urban and suburban portions of the City of Erie roughly occupy the central third of the Lake Erie shoreline. The remaining land is sparsely developed with a more rural character. The two largest land uses are agriculture and forest/undeveloped.

Bluffs Along Lake Erie.

Ore Carriers Tied Up for Winter.



Presque Isle State Park, Erie County.



Grape Vineyards, Eastern Erie County.

The coastal zone is strongly influenced by its proximity to the Lake. In addition to the recreational activities centered at Presque Isle and a few other public and private access areas, Lake Erie is a major source of water for both household and industrial use. This almost unlimited supply of water has encouraged recent proposals for an electric generating plant and a 3.5 billion dollar steel mill in the coastal zone. As proposed, the steel mill would occupy 3,000 acres in both Ohio and Pennsylvania and eventually employ 8,000 workers.

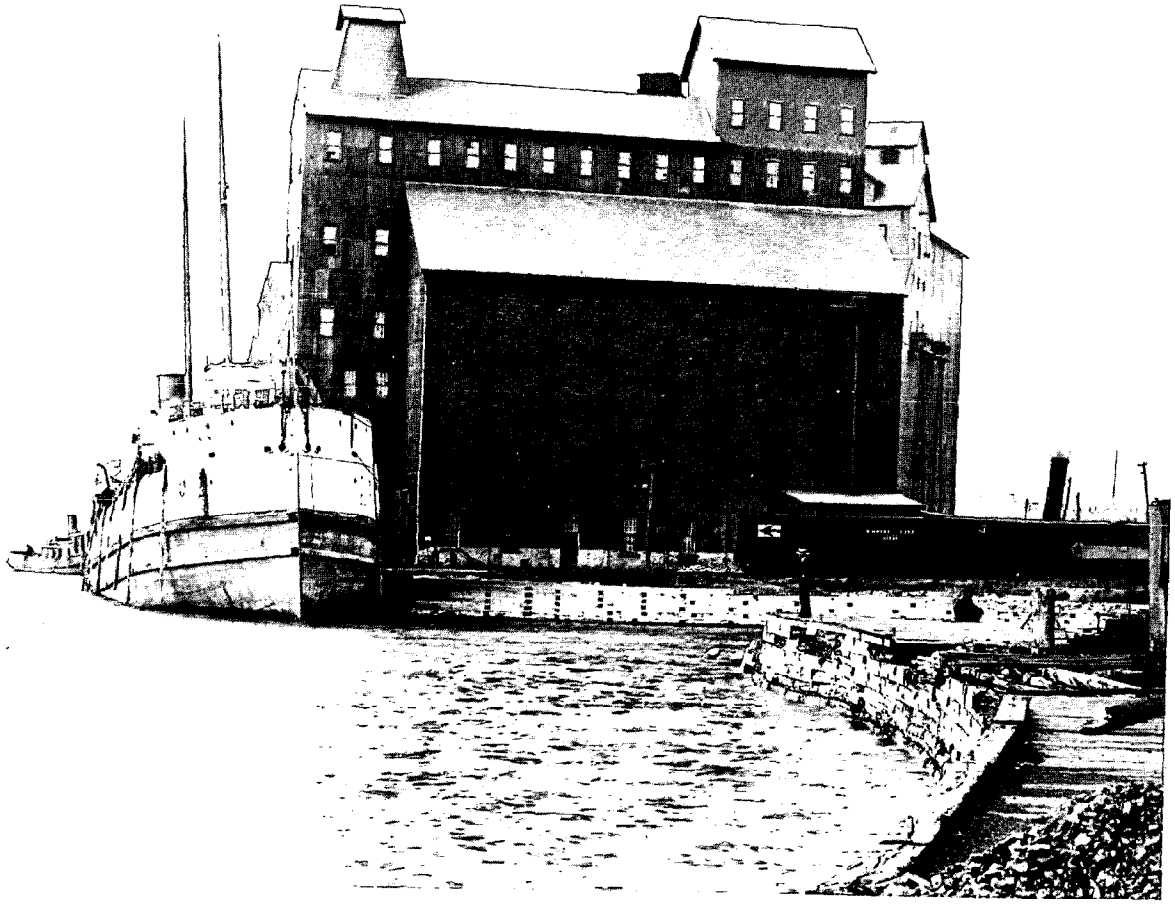
The climatic effect of Lake Erie extends the growing season, and moderates temperature variations which permits the production of specialty crops such as grapes and other orchard products. In the eastern portion of the Lake Erie coastal zone, almost 1/3 of the land is devoted to fruit production.

HISTORY AND DEVELOPMENT

The first European settlers in the Erie area were the French, who after years of expeditions built Fort Presque Isle and Fort LeBoeuf in 1753 for the purpose of protecting the portage route between their St. Lawrence and Mississippi colonies. The two forts were destroyed during the French and Indian War and rebuilt by the British in 1760. Shortly thereafter they were destroyed again during an Indian uprising, and not rebuilt until 1794-95, this time by American troops. Erie and Waterford were laid out and settlers, encouraged by land companies, began arriving in the late 1790's. The U.S. Census records the 1800 population of the town of Erie at 81 persons.

Erie was one of the few American settlements on Lake Erie during the War of 1812 with Great Britain. The Borough of Erie became the shipyards for the American fleet, and from the autumn of 1812 until August of 1813 the fleet was constructed on Presque Isle Bay. On September 10, 1813, the British were defeated at the Battle of Lake Erie.

The development of the County continued at a steady pace after the war, aided by various improvements in transportation. The federal government dredged and improved the Erie Harbor and in 1844 the Erie Extension Canal was completed, providing cheap transportation to the Pittsburgh region. This link in the Pennsylvania canal system remained in use until 1871, by which time the railroad had replaced it. By 1860, the port at Presque Isle was an active part of a flourishing lake trade. More than 600 ships cleared the port in 1860 with total cargoes of 600,000 tons. Despite the demise of the Extension Canal, port traffic increased steadily with 3.9 million tons of cargo passing through the port in 1890. During the 1890's, Erie County with a population approaching 100,000 people, was a flourishing agricultural and manufacturing center.



Grain Elevator and Steamer "Mahoning," Erie, 1898.

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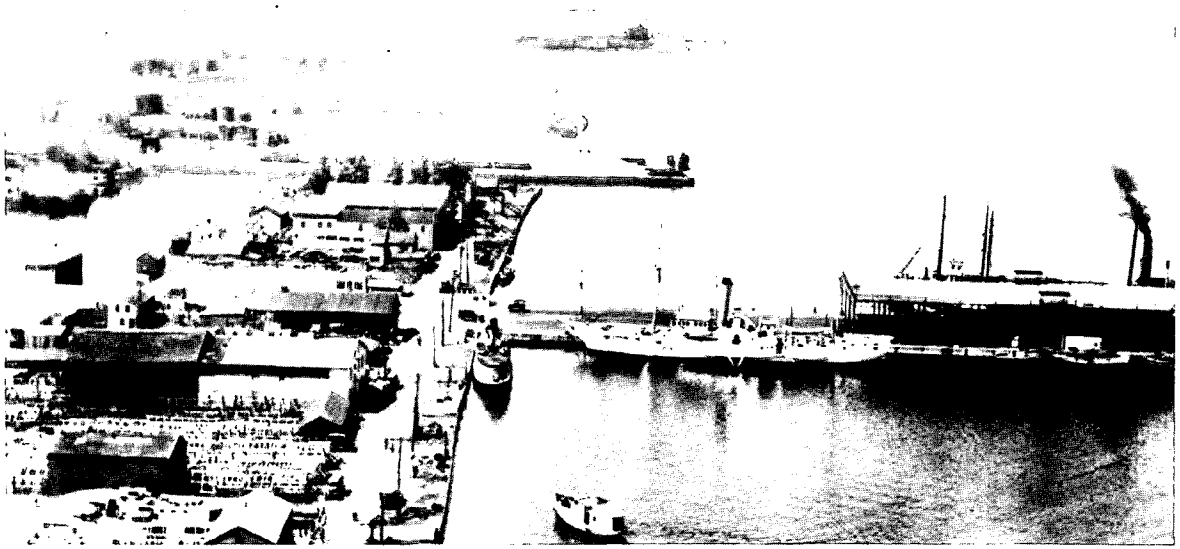


Commercial Fishing Ships and Docks, Erie, 1920.

Traffic at Presque Isle, 1932.

Commercial fishing emerged as a significant activity in the development of Erie County in the mid-nineteenth century. Whitefish, salmon, trout, and sturgeon were among the main fish commodities netted by a fishing industry which rose steadily during the 1890's and peaked during the 1910's and 1920's. The more valuable species disappeared as a result of pollution in the lake and overexploitation of fishing stocks, resulting in the decline of the fishing industry.

By the late 1920's, many of Erie County's current major industries were established, including the General Electric Company, Hammermill Paper Company and numerous foundries. It was in this period, that the expansion of manufacturing activity provided Erie with a reputation for the remarkable diversification of products that characterized its industrial base.

World War II again increased Erie County's manufacturing significance. The resurgence in industrial activity during the war and the high consumer demand in the following years increased the population between 1940 and 1960 by over 38%, from 180,889 to 250,682 people. During the 1960's and through the mid-1970's the population continued to grow at a slower rate.

COASTAL ZONE POLICIES

Following the identification of important waterfront problems and issues, general goals were developed to guide the development of Pennsylvania's Coastal Zone Management program. Since these goals only describe desirable end results or targets, it was necessary to formulate very specific policies to guide State and local actions. These policies constitute the "keystone" of the Coastal Zone Management program. Care has been taken to ensure that the policies are specific enough to provide:

- o a clear understanding of the program,
- o an identification of who will be affected and how, and
- o a strong sense of direction and predictability.

I. COASTAL HAZARD AREAS

Bluff Setback and Erosion Control

1. Require municipalities with bluff erosion areas along Lake Erie Shore to enact set-back ordinances governing permanent structures.

2. Encourage coastal communities where erosion is a continuing problem to prepare stormwater management plans.

3. Provide technical assistance and advice concerning the design of structural and non-structural methods of shore protection and bluff stabilization.

4. Protect public health, enhance navigation, prevent pollution, preserve rights of riparian owners, by regulating shoreline protection structures.

Floodplains

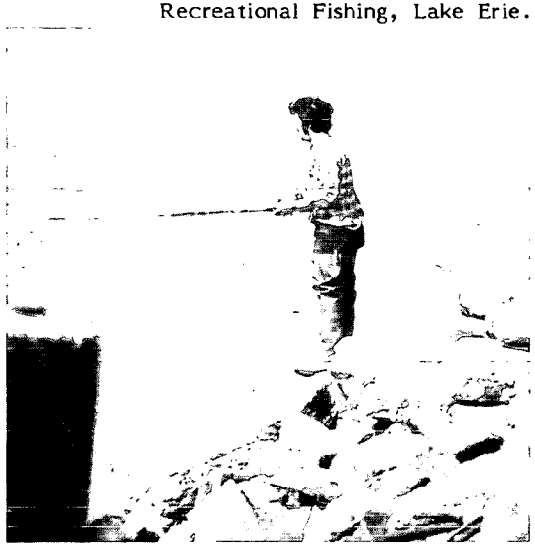
5. Protect life and property, minimize expenditure of funds, and require flood prone municipalities to participate in the National Flood Insurance Program.

II. DREDGING AND SPOIL DISPOSAL

1. Wetlands will not be filled with dredged spoil. Permits will be issued in conjunction with port and harbor facilities, launching ramps, etc.

2. Dredging and filling will not be allowed if they damage public interest, are harmful to fish and game, obstruct navigation or reduce flood flow capacity.

Recreational Fishing, Lake Erie.



3. Hydraulic dredging is preferred to mechanical dredging because of its lesser environmental impact.

III. FISHERIES MANAGEMENT

1. Ensure that waters of the Commonwealth support fish and aquatic life.

2. The Delaware Estuary shall support runs of migratory fish in their historic character.

3. Access to Delaware Estuary and Lake Erie for fishing and boating shall be improved through acquisition of properties for proper development.

4. Stocking of exotic species shall be done to establish more diverse and attractive fisheries in the Delaware system.

5. Undertake an annual assessment of commercial harvest of yellow perch from Lake Erie.

6. Stocking in Lake Erie will be done to provide attractive population for sport harvest.

7. Restrict commercial angling to specific locations to protect certain species.

IV. WETLANDS

1. Preserve, protect and, where possible, enhance or restore tidal and freshwater wetlands.

V. PUBLIC ACCESS FOR RECREATION

1. Provide additional public opportunities along the waterfronts of Lake Erie and the Delaware River for active and passive recreational activities.

2. Continue to utilize fee-simple acquisition and expand the use of other techniques (easements, lease-backs, etc.).

3. High priority will be given to development of public access in specially identified Geographic Areas of Particular Concern (GAPCs).

4. Utilize new sources of funding available from the Coastal Zone Management Program and the Coastal Energy Impact Program to enhance public access.

VI. HISTORIC SITES AND STRUCTURES

1. Encourage the preservation, protection, enhancement and reuse of historically valuable sites and structures.

VII. PORT ACTIVITIES

1. Encourage, promote and support the economic development of the ports in the Delaware Estuary and Lake Erie.

2. Support long-range, comprehensive planning for future development and growth of Pennsylvania ports.

VIII. ENERGY FACILITY SITING

1. It is the policy of the Coastal Zone Management program to strengthen and improve the Commonwealth's existing energy facility permitting process. This process will facilitate the development of sufficient facilities to meet future energy needs and ensure that this development occurs in an environmentally responsible manner.

2. Develop intrastate natural gas and petroleum supplies in Lake Erie and on State lands, with proper environmental safeguards.

3. Support the development of Outer Continental Shelf resources.

Gulf Oil Refinery, Philadelphia.

IX. INTERGOVERNMENTAL COORDINATION

State Consistency

1. Initiate a program of "State Consistency" to ensure consultation and development of a unified state viewpoint before permits are issued.

Air and Water Quality

2. Support attainment of the national water quality goals for all waters within the Coastal Zones.

3. Adopt by reference the goals of the Clean Air Act of 1977.

X. PUBLIC INVOLVEMENT

1. Provide citizens and interest groups with opportunity for early and continuous involvement through effective communication and participation.

2. Strengthen and expand the Coastal Zone Advisory Committee; review program developments and advise on coastal problems and policies.

3. All meetings where "formal action" is to be taken will be open to the public and held in areas which are reasonably accessible.

PA. CZM PROGRAM

DELAWARE ESTUARY COASTAL ZONE

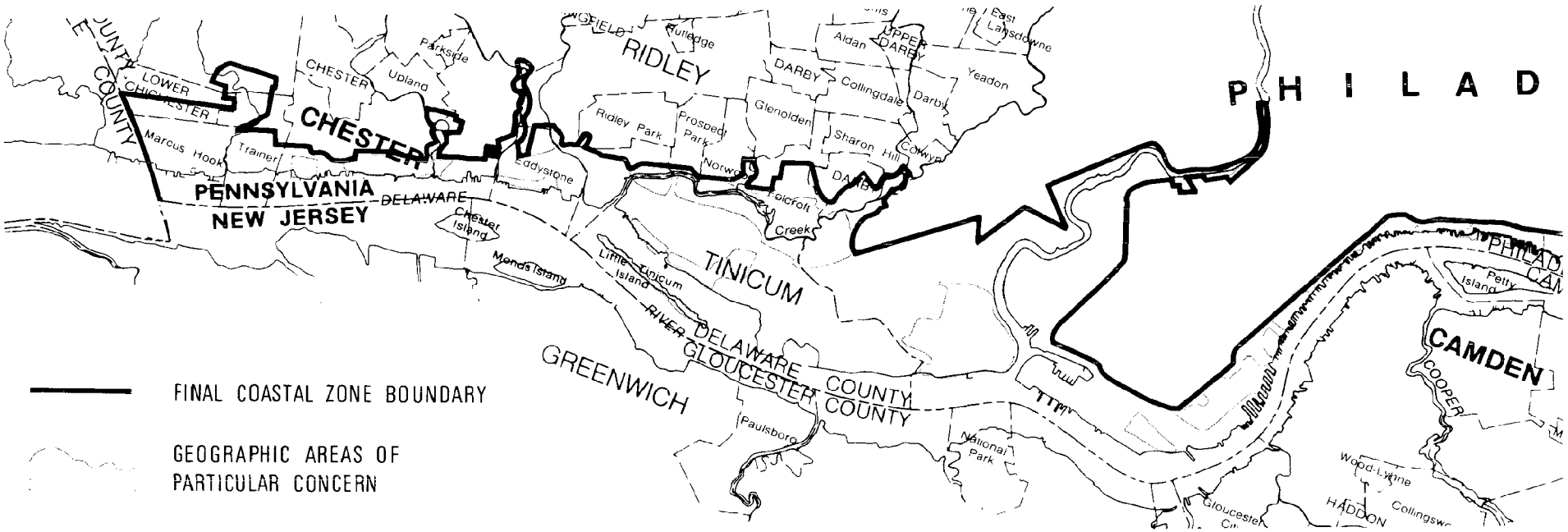
Boundaries - One of the first steps in the development of the Coastal Zone Management program was the establishment of a Preliminary Study Area, in which a detailed inventory was conducted of environmental, social, land use and economic data. Using information collected during the inventory phase, the final inland boundary was developed and the coastal zone was narrowed to include those uses and features with the most "direct and significant impact" on the tidal waters of the Delaware River. The final boundary includes: all waterfront properties, all direct users of the river, and vacant parcels at or near the water's edge. The coastal zone is irregular in shape. Its width varies from only 1/8 mile in urban areas like Philadelphia and Bristol to over 3½ miles in Falls Township, Bucks County.

Municipalities - The Delaware Estuary Coastal Zone includes parts of 20 municipalities in 3 counties. A complete list of these communities appears on page 22.

Population and Employment - The inland boundary excluded most residential areas and the 1970 population in the Delaware Estuary Coastal Zone was about 33,500. Employment totaled 78,500 in 1970 with manufacturing and construction representing the largest category.

Geographic Areas of Particular Concern - Areas requiring special management proceedures or involving issues of greater-than-local concern are identified on the map below. These critical areas are divided into four categories.

- Areas of Significant Natural Value– include woodlands, wetlands, wild-

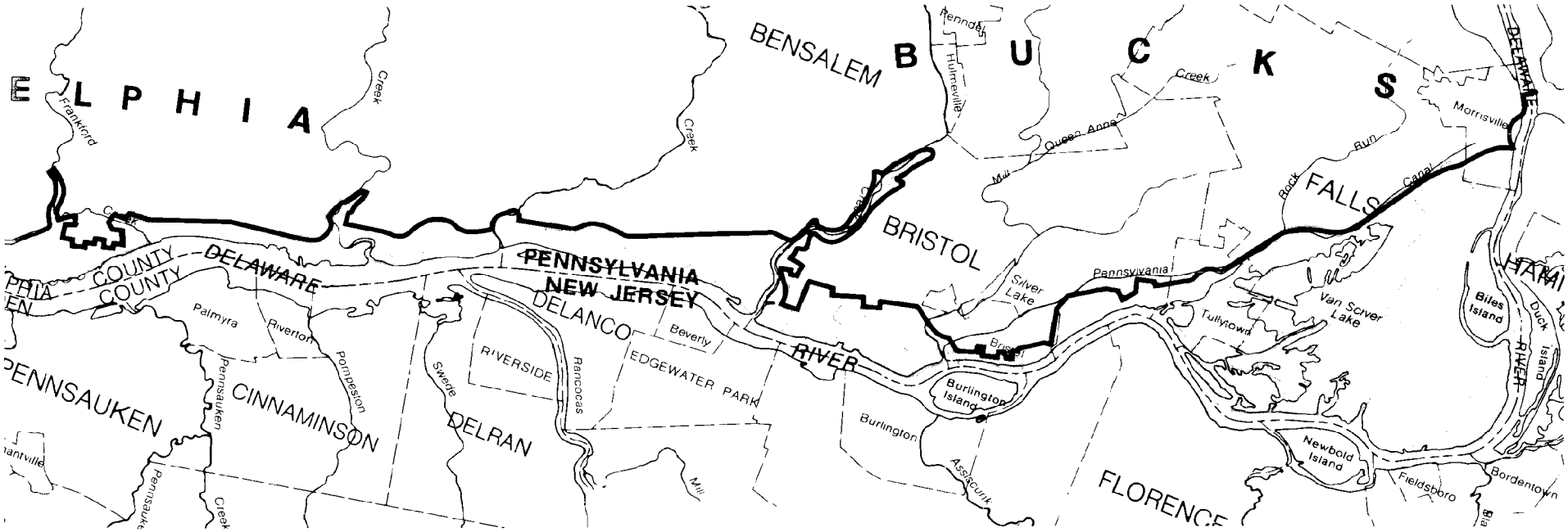


life habitats and floodplains. Seven areas have been identified in the Delaware Estuary coastal zone. Examples include: Tinicum Marsh, Little Tinicum Island and land adjacent to "Andalusia" (the Biddle Estate in Bucks County).

- o Development Opportunity Areas - are especially suited to more intensive use through development or redevelopment. Seventeen areas have been identified including: the Chester waterfront, Eddystone waterfront, Fort Mifflin Reservation, Walt Whitman Bridge Area, Port Richmond, Frankford Arsenal, Turkey Hill - Van Sciver Area, and part of Money Island.
- o Areas of Significant Recreational, Historical or Cultural Value -where reclamation, restoration, public access or other remedial actions may be needed. Twenty-two areas have been mapped including: Essington waterfront, Folcroft Landfill, Schuylkill River Park, Mouth of the Pennypack Creek, Neshaminy State Park, Radcliff Street Historic District and the Pennsylvania Canal.
- o Overlap Areas - have the potential for a variety of uses, and may present special opportunities for sensitive development. Six areas have been delineated including: Penn's Landing, Van Sciver Lake, Money Island and Biles Island.

Priorities - The Coastal Zone Management Program recommends broad priorities for the use of coastal resources. Through a process that considered demand for various uses, degree of water dependency and anticipated impacts, the following uses were suggested for high priority in the Delaware Estuary coastal zone:

- o Active, waterfront recreation (marinas, boat ramps, public access).
- o Preservation of remaining wetlands and habitat areas.
- o Modern marine terminals and facilities.
- o Manufacturing and innovative reuse of obsolete facilities.
- o Multiple-use projects (especially those that combine employment and recreation opportunities).



LAKE ERIE COASTAL ZONE

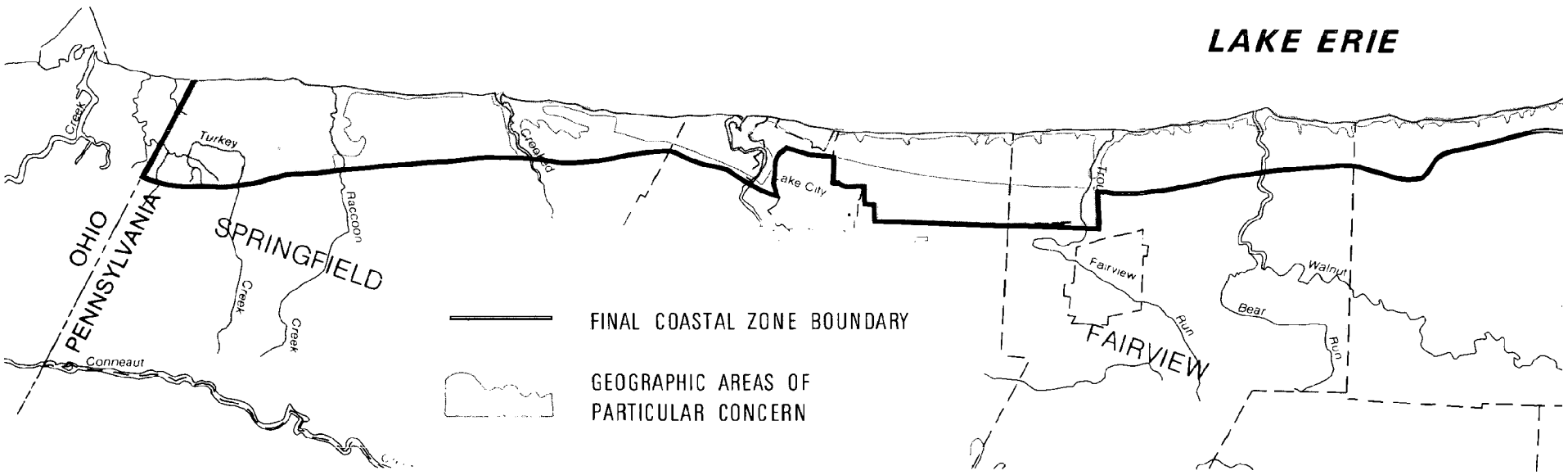
Boundaries - In the early phases of the Coastal Zone Management Program, a Preliminary Study Area was established which was the focus of a detailed inventory of environmental, social, economic and land use conditions. The Preliminary Study Area followed municipal boundaries and varied in width from 5 to 7 miles. Following extensive analysis and discussion by citizens, planners and local officials, the Coastal Zone was substantially reduced to include those areas with a significant impact on Lake Erie as well as lands affected by the Lake. In many cases the inland boundary of the coastal zone follows cultural features such as roads, railroads, or the limits of concentrated urban development. The extensive vineyard and orchard areas of Erie County were included because of the climatic impact of Lake Erie and the beneficial modifications to the length of the growing season.

In the western portion of Erie County the coastal zone boundary follows the ConRail tracks from the Ohio line to Lake City Borough. Between Lake City and the City of Erie the boundary generally follows Lake Road (Route 5 and Alternate Route 5). In the City of Erie the coastal zone narrows to a strip that is only 400 feet wide in places. In Harborcreek and North East Township the coastal zone widens to more than 3 miles.

Municipalities - The Lake Erie Coastal Zone includes all or parts of 10 municipalities in Erie County. A list of these municipalities appears on page 22.

Population and Area - The 1975 population of the Lake Erie Coastal Zone was approximately 23,500. The coastal zone includes about 83 square miles of land and the waters of Lake Erie, within Pennsylvania as far north as the border with Canada.

Geographic Areas of Particular Concern - Four categories of critical areas have been identified and mapped. While all are called Geographic Areas of Particular Concern (GAPCs), they exhibit different characteristics



and may be subject to different kinds of future land use conflicts. For each type of GAPC the Coastal Zone Management program has developed a recommended set of priorities for future use.

- o Areas of Significant Natural Value - are unique to the coastal environment or vulnerable to disturbance during development. Five areas have been identified in the Lake Erie coastal zone. Examples include the 35 linear miles of bluffs along the shore of Lake Erie, the Crooked Creek and Trout Run stream corridors, as well as prime agricultural and vineyard areas.

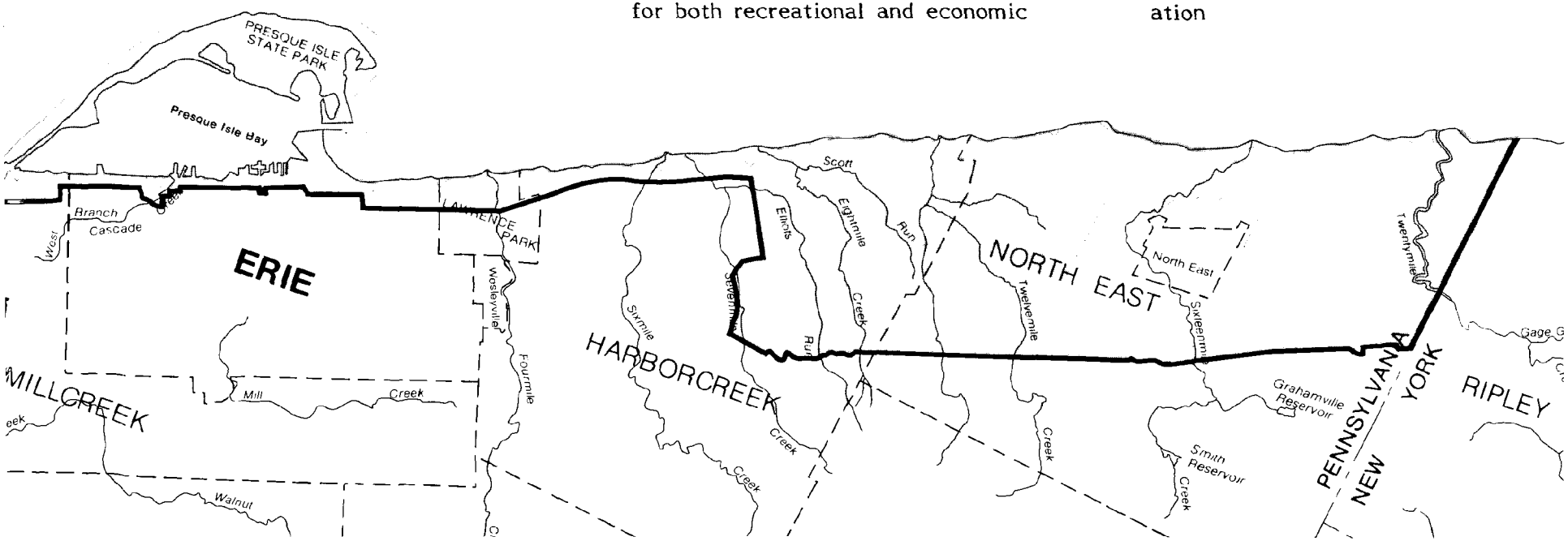
- o Development Opportunity Areas - are appropriate for waterfront development serving regional, state or national needs. Two areas are recommended on Lake Erie - the U.S. Steel property in Springfield Township and the Pennsylvania Electric Company site.

- o Areas of Significant Recreational, Historical or Cultural Value -include existing and potential open space and public access areas. Nine areas have been identified such as: Raccoon, Elk, Walnut Creeks, Scott Park, Sixmile and Twentymile Creeks and Presque Isle State Park.

- o Overlap Areas - have the potential for both recreational and economic development. Presque Isle Bay has been identified because of its recreational value and because it is Pennsylvania's only Great Lakes harbor.

Priorities - The Draft Technical Record recommends broad priorities for the use of coastal resources. In the Lake Erie coastal zone, highest priority was accorded to:

- o Development of the Port Erie
- o Protection of unique coastal agriculture such as vineyards.
- o Offshore drilling in Lake Erie
- o Studying impacts of the U.S. Steel development and a major electric generating station.
- o Development of improved public access to facilitate water-based recreation



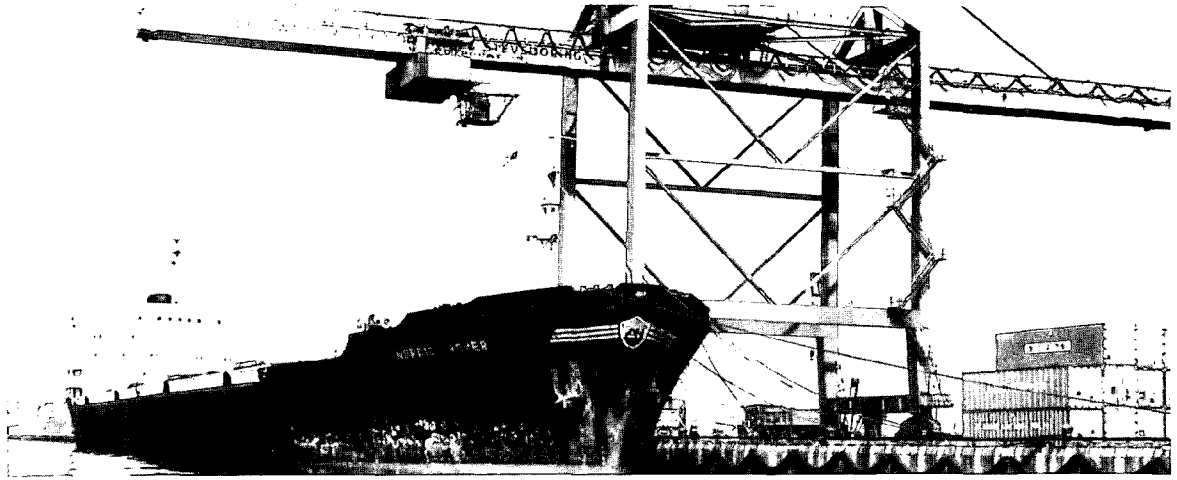
MAKING THE PROGRAM HAPPEN

Before a Coastal Zone Management Program can be approved and funded by the National Oceanic and Atmospheric Administration (NOAA), the State must demonstrate that it has the legal authorities necessary to carry out and enforce the specific coastal zone policies established in the program. A thorough legal analysis has been completed, which compared each of the coastal policies (contained on pages 14 and 15) with relevant state statutes, regulations and authorities. The analysis concluded that currently existing state controls will be adequate to implement many of the policies, including:

- o regulation of development in floodplains,
- o management of sport and commercial fisheries,
- o siting of energy facilities and development of gas supplies in Lake Erie,
- o achievement of clean water and clean air standards, and
- o accessibility and public notice of meetings in the coastal zone.

The legal analysis disclosed that new or expanded authority will be required to:

- o insure that new development is not endangered by bluff erosion along Lake Erie
- o protect remaining wetlands and regulate the disposal of dredged materials,
- o guarantee development of additional recreation areas along Lake Erie and the Delaware River, and
- o establish a program of "State Consistency" to coordinate state regulatory agencies and permit procedures in the coastal zone.



Containerized Shipping, Tioga Marine Terminal, Philadelphia.

Only the policy on bluff setback and erosion control will require that new legislation be developed and introduced to the General Assembly. Legislation on wetlands and dredging is currently pending, while policies on shoreline access and recreation will be handled by an inter-departmental Memorandum of Understanding. The program of "State Consistency" will be developed and implemented in response to an executive order issued by the Governor.

Coastal Zone Advisory Committee - A single committee will be formally established to advise state officials, review the program, make recommendations on regulations affecting coastal resources and assist in periodic revisions. The Coastal Zone Advisory Committee will utilize the existing State CZM Subcommittee as a nucleus but membership will be expanded.

Coastal Zone Steering Committees - The existing Coastal Zone Steering Committees which have been operating for more than three years in the Lake Erie and Delaware Estuary coastal zones will be retained and strengthened. The committees will provide coordination between Pa. DER, the lead state agency, and local officials, county and regional agencies. The Steering Committees will assist in the development of the continuing planning process, the formulation of products and review of work programs.

BENEFITS OF A MANAGEMENT PROGRAM

FINANCIAL INCENTIVES

States which are able to successfully develop a Coastal Zone Management Program, which is approved by the Governor and the Secretary of the U.S. Dept. of Commerce, are eligible to receive federal matching funds to carry out various aspects of the program. These funds are authorized by the following sections of the Coastal Zone Management Act:

Section 306 - Pennsylvania can expect to receive between $750,000 and $1,000,000 per year. Much of this money will be made available to local communities in the coastal zone, on a voluntary basis, to update comprehensive plans, zoning ordinances or subdivision regulations to support the goals, objectives and policies of the CZM program. Municipalities may use planning grants and technical assistance to address such local concerns as: flooding, bluff erosion, or economic development. Special attention will be directed to problems and issues of greater-than-local concern such as the siting of large-scale facilities, recreation access and port development.

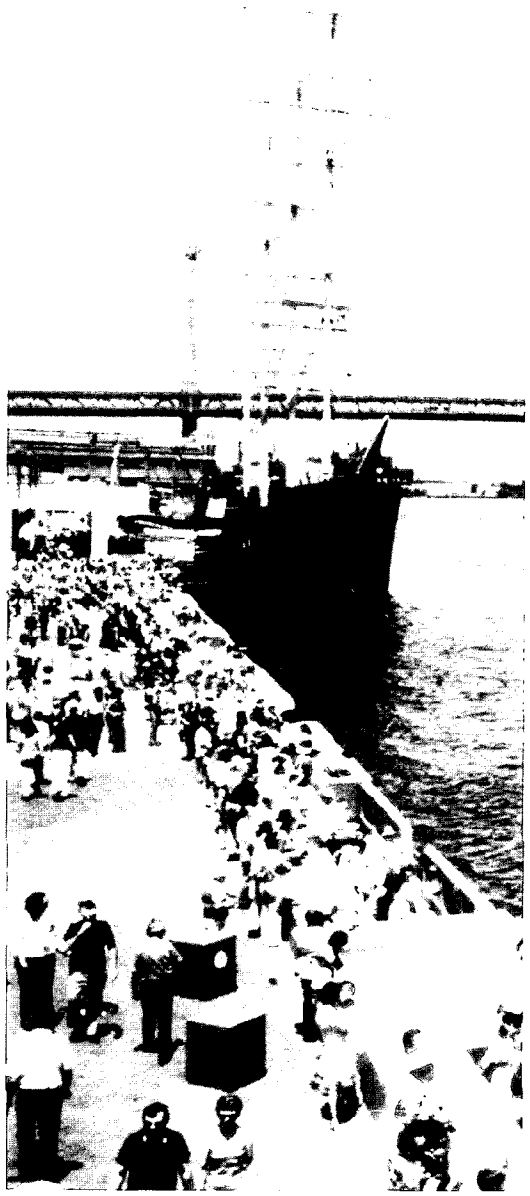
Section 308 - Pennsylvania will be eligible to receive between 1/2 million and 2 1/2 million dollars annually from the Coastal Energy Impact Program (CEIP). These funds are to be used for energy related planning and the provision of facilities required as a result of energy development. Grants and loans may be used for land acquisition and for construction. These funds will be administered by the Pennsylvania Department of Community Affairs.

Section 315 - could eventually provide funds for the development of public access areas and recreation facilities along Lake Erie and the Delaware River. To date no funds have been appropriated by Congress.

OTHER INCENTIVES

States in which CZM programs are adopted and operating can anticipate wiser and more efficient use of coastal resources and better communication on coastal issues due to the establishment of a "State-local" partnership. The CZM program will promote "State Consistency" which will insure a coordinated response from state regulatory agencies on decisions affecting the coastal zone. A similar concept will attempt to insure that federal actions are as consistent as possible with the state's coastal goals and objectives. This should give both the state and local officials more leverage with federal agencies - at least within the coastal zone.

Pennsylvania will use the CZM program to establish a fisheries assistance program aimed at increasing the recreational and commercial value of coastal fisheries. Finally the CZM program will continue and expand active citizen involvement in coastal zone decisions.



Sailing Ship "Moshulu," Penn's Landing, Phila.

INFORMATION

If you have questions or a request for additional information contact:

Pa. Dept. of Environmental Resources
Office of Resources Management
Coastal Zone Management Branch
P.O. Box 1467, Harrisburg, PA. 17120

Delaware Valley Regional Planning Commission
1819 J.F. Kennedy Boulevard
Philadelphia, PA. 19103
(215) 567-3000

Erie County Department of Planning
Erie County Court House
Erie, PA. 16501
(814) 456-8851

Lead State Agency:
Pa. Dept. of Environmental Resources
Coastal Zone Management Branch
E. James Tabor, Manager
Gerald M. Sudick, Planning Chief

Delaware Estuary Coastal Zone Consultant:
Delaware Valley Regional Planning Commission
John J. Coscia, Director, Env. Plng. Div.
Michael A. Wolf, CZM Program Manager

Lake Erie Coastal Zone Consultant:
Erie County Department of Planning
Russell D. Robison, County Executive
Christopher Capotis, Planning Director

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Delaware River Port Authority - 5
U.S. Fish and Wildlife Service - 6 (right)
Historical Society of Penna. - 7 (top)
Erie Co. Historic Society - 11 (bottom)
Erie Times News - 1.
City of Phila., Dept. of Records, Public Archives - 7 (bottom).
Penna. Dept. of Env. Resources - 8 (top), 14.

Available Publications:

Coastal Zone Management Draft Technical Record:
500 pages with 45 color, fold-out maps. The report, which covers both Lake Erie and the Delaware Estuary, may be ordered from:
State Book Store
Room 202, P.O. Box 1365
10th and Market Streets
Harrisburg, PA. 17125
Price $33.96 including postage and sales tax.

The following publications are available from the Penna. Dept. of Environmental Resources:

Four Environmentally Significant Areas, DVRPC, Nov. 1976. 50 pages describing four of the largest natural areas remaining in the Delaware Estuary Coastal Zone. Concepts of diversity, succession and vulnerability are discussed. Supplies limited.

Shoreline Erosion and Flooding - Erie County, Great Lakes Research Institute, June 1975. 172 pages and appendices. The purpose of this study was to identify and classify hazard areas on the shore of Lake Erie. One hundred and nine areas were classified and average recession rates since 1938 were measured at 89 points throughout the county.

The Role of Vegetation in Shoreline Management - Great Lakes Basin Commission, 1978. A 32 page booklet prepared to provide shoreline property owners along the Great Lakes with a comprehensive view of shoreline and bluff erosion problems. The solutions emphasize vegetation establishment and management and its role in shoreline stabilization.

Coastal Tidings - a newsletter covering both Lake Erie and Delaware Estuary Coastal Zones. It is anticipated that issues will appear every 2-3 months, beginning in September, 1979.

This booklet was prepared by:
Michael A. Wolf, Text and Layout
John O'Reilly, Graphics and Artwork

COASTAL MUNICIPALITIES

Delaware County:
- Upper Chichester Township
- Lower Chichester Township
- Ridley Township
- Tinicum Township
- Marcus Hook Borough
- Trainer Borough
- Eddystone Borough
- Ridley Park Borough
- Prospect Park Borough
- Norwood Borough
- Folcroft Borough
- Darby Township
- Chester City

City of Philadelphia

Bucks County:
- Bensalem Township
- Bristol Township
- Falls Township
- Bristol Borough
- Tulleytown Borough
- Morrisville Borough

Erie County:
- Springfield Township
- Girard Township
- Lake City Borough
- Fairview Township
- Millcreek Township
- Erie City
- Lawrence Park Township
- Harborcreek Township
- North East Township
- North East Borough

The Coastal Zone Management Program is partially financed by the Federal Government through the Office of Coastal Zone Management, National Oceanic and Atmospheric Administration under Section 305 of the Coastal Zone Management Act of 1972 (P.L. 92-583).

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