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State of Rhode Island Coastal Management Program and Draft Environmental Impact Statement

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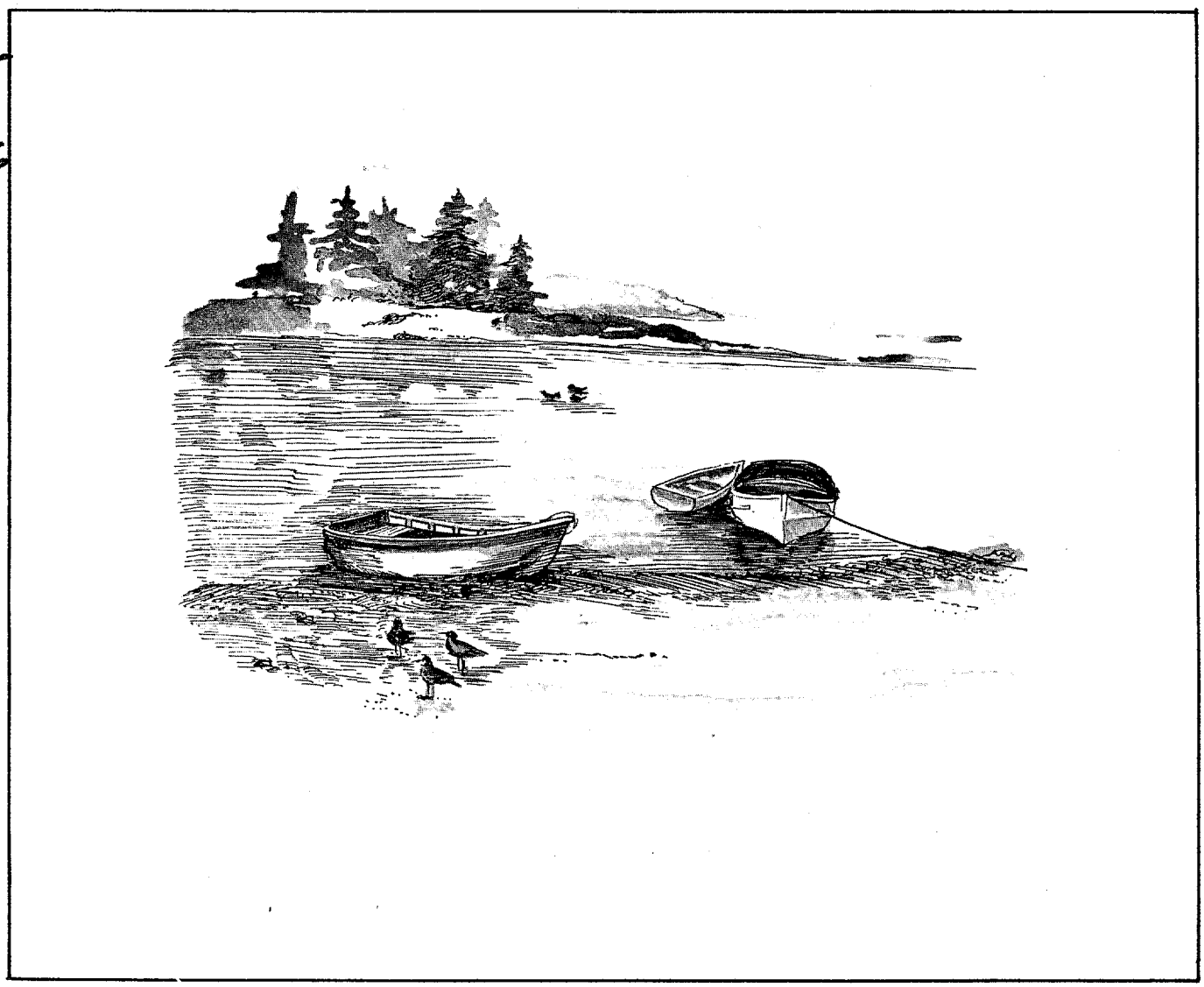

U.S. National Oceanic & Atmospheric Administration. Office of Coastal Zone Management

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NOV 29 1977

In accordance with the provisions of Section 102(2)(C) of the National Environmental Policy Act of 1969, we are enclosing for your review and consideration the draft environmental impact statement prepared by the Office of Coastal Zone Management, National Oceanic and Atmospheric Administration, Department of Commerce, on the proposed Rhode Island Coastal Zone Management Program.

Any written comments you may have should be submitted in duplicate to the parties listed below by January 10, 1978.

If you have any questions about the enclosed statement, please feel free to contact:

Kathryn Cousins or
Dick O'Connor
Office of Coastal Zone Management
3300 Whitehaven Street, N.W.
Washington, D. C. 20235
Telephone: 202/634-4235

Thank you for your cooperation in this matter.

Sincerely,

Sidney R. Galler

NOV 29 1977

Sidney R. Galler
Deputy Assistant Secretary
for Environmental Affairs

Enclosure

U.S. National Oceanic + Atmospheric Administration. Office of Coastal Zone Management.
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PUBLIC HEARINGS

Public Hearings on this

Draft Environmental Impact Statement

will be held on

December 14, 1977
Room 313
State House
Providence, RI
7:30 p.m.

and

December 15, 1977
Independence Hall
University of Rhode Island
Kingston, RI
7:30 p.m.

NOTE TO READERS

The National Environmental Policy Act of 1969 mandates that an environmental impact statement be prepared as part of the review and approval process of major actions by Federal agencies. The action comtemplated is final approval of the Rhode Island Coastal Management Program under Section 306 of the Federal Coastal Zone Management Act of 1972, as amended. An immediate effect of approval is the qualification of the State for Federal matching funds for use in administering the Program. In addition, the Coastal Zone Management Act stipulates that Federal activities affecting the coastal zone shall be, to the maximum extent practicable, consistent with an approved State management program.

For purposes of reviewing this proposed action, the key concerns are:

- whether the Rhode Island Program is consistent with the objectives and policies of the national legislation.

- whether the State management authorities are adequate to implement the State Program.

- whether the award of Federal funds under Section 306 of the Federal Act will help Rhode Island to meet those objectives, and

- whether there will be a net environmental gain as a result of Program approval and implementation.

The Office of Coastal Zone Management believes, the answers to these key questions are affirmative. The Office wants the widest possible circulation of this document to all interested agencies and parties in order to receive the fullest expression of opinion on these questions.

To those people whose time is limited in reviewing this Environmental Impact Statement, the following sections are recommended reading in order to understand the essential elements we are attempting to convey to the public:

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This Program is of major significance, not only to Rhode Island, but to the Nation. It is one of the first Programs submitted from the eastern coastal States. Further, the Rhode Island coast represents a concentration of natural, historic, and economic attributes that is of national importance. The Office of Coastal Zone Management thanks those participating in the review of the Rhode Island Program and this environmental impact statement.

Summary

(X) Draft Environmental Impact Statement ( ) Final Environmental Impact Statement

Department of Commerce, National Oceanic and Atmospheric Administration, Office of Coastal Zone Management. For additional information about this proposed action or this statement, please contact:

Office of Coastal Zone Management
National Oceanic and Atmospheric Administration
Attn: Ms. Kathryn Cousins
Regional Manager, North Atlantic Region or
Richard S. O'Connor
Assistant Manager, North Atlantic Region
3300 Whitehaven St., N.W.
Washington, D.C. 20235
Phone: 202/634-4235

1. Type of Action

Proposed Federal approval of the Rhode Island Coastal Management Program

(X) Administrative ( ) Legislative

2. Brief Description of Action

It is proposed that the Secretary of Commerce approve the Coastal Management Program of the State of Rhode Island pursuant to P.L. 92-583. Approval would permit implementation of the proposed program, allowing program administration grants to be awarded to the State, and require that Federal actions be consistent with the Program.

3. Summary of Environmental Impacts and Adverse Environmental Effects

Approval and implementation of the Program will allow the State to better coordinate and more effectively implement existing State management of its coastal zone. The State will condition, restrict, or prohibit land and water uses in some parts of the Rhode Island coast, while encouraging development in other parts. Each coastal municipality will retain primary responsibility for managing land use along its coast. The impacts of the Rhode Island Coastal Zone Management Program will be generally beneficial, although there may be some adverse, short-term economic impacts on some coastal users, and the Program will entail the irreversible commitment of some coastal resources.

4. Alternatives Considered

A. Federal Alternatives

The Associate Administrator could delay or deny approval of the Rhode Island Coastal Management Program under the following conditions:

1. If the Program does not have the authorities necessary to implement the Program at the time of 306 approval.

2. If the Program does not adequately achieve the goals of the Coastal Zone Management Act as expressed by Congress in Section 303 of the Act.

3. If the national interest in the siting of facilities in the coastal zone were not adequately considered.

4. The Program does not meet the specific requirements of the Coastal Zone Management Act.

B. State Alternatives

5. The State could withdraw its application and not seek Federal assistance.

6. Wait until all the new planning requirements of the Act are completed.

7. Expand the authority of the CRMC and/or area of permit jurisdiction.

8. Incorporate the CRMC into the new Department of Environmental Management.

9. Revise the Program by defining a different landward boundary.

5. List of all Federal, State and Local Agencies and Other Parties from which Comments have been Requested:

Federal Agencies
Advisory Council on Historic Preservation
Department of Agriculture
  Forest Service
  Soil Conservation
Department of Commerce
  Economic Development Administration
  Maritime Administration
  National Oceanic and Atmospheric Administration

Federal Agencies (cont.)

Department of Defense
  Department of the Air Force
  Department of the Army
    Army Corps of Engineers
    Natural Resources Branch
  Department of the Navy
Department of Health, Education and Welfare
  Office of Assistant Secretary for Administration and Management
  Office of Planning Systems
Department of Housing and Urban Development
  Office of Community Planning and Programs
  Office of Environmental Quality
Department of the Interior
  Bureau of Land Management
  Office of Policy Analysis
Department of Justice
  Marine Resources Division
  Pollution Control Section
Department of Labor
Department of Transportation
Department of the Treasury
Energy Research and Development Administration
Environmental Protection Agency
  Marine Protection Branch
  Office of Federal Activities
Energy Research and Development Administration
  Assistant Administrator for Environment and Safety
  Division of Biomedical and Environmental Research
Federal Energy Administration
Federal Power Commission
General Services Administration
Nuclear Regulatory Commission

State/Local Government and Local Interest Groups

Members of the Coastal Resources Management Council
Coastal Resources Center
New England River Basins Commission
State Senate and House of Representatives Leaders
Statewide Planning Program
Department of Economic Development
Office of the Attorney General
Department of Community Affairs
Solid Waste Management Corporation
Public Utilities Commission
Department of Environmental Management
Department of Health
Governor's Office
Water Resources Board
R.I. Congressional Delegation
New England Regional Commission

State/Local Government and Local Interest Groups (cont.)

Town Council Presidents
City Council Presidents
Coastal Mayors
Town Planning Boards
Town Planners
Town Administrators and Managers
Conservation Commissioners
Coastal Municipal Libraries and University Libraries
Concerned Citizens of Rhode Island
Rhode Island Seafood Council
Ecology Action of Rhode Island
Point Judith Fisherman Coop
Ecology Action for Rhode Island
Rhode Island Marine Trade Association
Narragansett Bay Yacht Association
Aquidneck Island Ecology
Narrow River Preservation Association Inc.
Propellor Club of U.S.
Wildlife & Conservation Commission
Rhode Island League of Woman Voters
Save the Bay, Inc.
Rhode Island Sportsman Club, Inc.
Rhode Island Audubon Society
Federation of Garden Clubs
Rhode Island Historical Society
Rhode Island Builders Association
Rhode Island Petroleum Association
Rhode Island League of Cities and Towns
Greater Providence Chamber of Commerce
Algonquin Gas Company
New England Power
Providence Gas Company
Conservation Law Foundation
Mobil Oil Corporation

National Special Interest Groups

American Association of Port Authorities
American Farm Bureau Federation
American Fisheries Society
American Institute of Architects
American Institute of Planners
American Littorial Society
American Mining Congress
American National Cattlemen's Association
American Petroleum Institute
American Right of Way Association
American Shore and Beach Protection
American Society of Civil Engineers
American Society of Planning Officials
American Waterways Operators
Atlantic States Marine Fisheries Institute
Atommic Industrial Forum

National Special Interest Groups (cont.d.)

Boating Industry Association
Chamber of Commerce of the U.S.
Coastal Society
Coastal States Organization
Conservation Foundation
Council of State Planning Agencies
Cousteau Society
Edison Electric Institute
Environmental Defense Fund, Inc.
Environmental Policy Center
Freinds of the Earth
Isaak Walton League
League of Women Voters of the U.S.
Marine Mammal Commission
Marine Technology Society
Mortgage Bankers Association of America
National Association of America
National Association of Counties
National Association of Electric Companies
national Association of Engine & Boat Manufacturers
National Association of Home Builders
National Association of Realtors
National Association of Regional Councils
National Association of State Boating Law Administration
National Audubon Society
National Boating Federation
National Canners Association
National Coalition for Marine Conservation, Inc.
National Commission on Marine Policy
National Conference of State Legislators
National Environmental Development Association
National Farmers Union
National Federation of Fisherman
National Fisheries Institute
National Forest Products
National Governors Conference
National League of Cities
National Ocean Industries Association
National Parks and Conservation Association
National Recreation and Parks Association
National Science Foundation
National Science Teachers Association
National Waterways Conference
National Wildlife Federation
Natural Resources Defense Council
Nature Conservancy
Sierra Club
Society of Real Estate Appraisers
Soil Conservation Society of America
Sport Fishing Institute

National Special Interest Groups (cont.d.)

United Brotherhood of Carpenters and Joiners of America
U.S. Conference of Mayors
Western Oil and Gas Association
Wilderness Society
Wildlife Society
Wildlife Management Institute
World Dredging Association

6. This DEIS was submitted to CEQ on November 18, 1977 notice of availability in the Federal Register was November 25, 1977. Public comments should be submitted to OCZM by January 10, 1978.

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State of Rhode Island and Providence Plantations

EXECUTIVE CHAMBER, PROVIDENCE

November 16, 1977

J. Joseph Garrahy
Governor

Mr. Robert W. Knecht, Acting Director
Office of Coastal Zone Management
National Oceanic and Atmospheric
Administration
2001 Wisconsin Avenue
Washington, DC

Dear Mr. Knecht:

This letter shall constitute the documentation required under the Coastal Zone Management Act of 1972, as amended, and regulations set forth at 40 Federal Register 1683 dated Thursday, January 9, 1975, Title 15, Chapter IX, Part 923 entitled "Coastal Zone Management Program Approval Regulations" as amended at 41 Federal Register 48112 dated November 2, 1976, 923.21, 923.22, 923.23, and 923.24.

I have reviewed the Coastal Resources Management Program, as submitted, and approve this management program for the coastal zone as state policy.

The Office of the Governor shall be the single agency designated for the purpose of receiving and administering the grants under Section 306 of the Coastal Zone Management Act of 1972, as amended.

It is the opinion of the Governor that the State of Rhode Island, through its agencies, has the requisite authority to administer land and water regulations and control development in accordance with the Coastal Resources Management Program to be submitted. It is further the opinion of the Governor that the state has in place the organizational structure to implement the management program.

Sincerely,

J. Joseph Garrahy
GOVERNOR

State of Rhode Island and Providence Plantations

EXECUTIVE CHAMBER, PROVIDENCE

J. Joseph Garrahy
Governor

EXECUTIVE ORDER

No. 17

November 16, 1977

Designation of Office of the Governor as Recipient of Federal Coastal Zone Management Program Implementation Funds

WHEREAS, the State of Rhode Island desires to manage the resources of its coastal region in a manner which achieves the objectives of Section 46-23-1 of the General Laws of 1956 as amended, and to utilize the authorities existing in the several agencies of state government and all available sources of technical and financial assistance in managing these resources, including such federal grants as may be available; and

WHEREAS, the State of Rhode Island has prepared an effective, coherent, and unified program for the management of its coastal resources which can be implemented through existing authorities and by existing agencies; and

WHEREAS, the State of Rhode Island has requisite authority through its agencies to administer land and water regulations, control development, resolve conflicts, and otherwise carry out its management program, and adequate provision has been made for coordinated participation of all governmental entities in the implementation of the State's Coastal Resources Management Program; and

WHEREAS, the Coastal Resources Management Council is established by law as the principal agency to administer and implement the State's Coastal Resources Management Program;

NOW, THEREFORE, by the virtue of authority vested in me as Governor of the State of Rhode Island and Providence Plantations, it is hereby ordered as follows:

1) The Office of the Governor is hereby designated as the Agency which shall fulfill the requirements of sub-section 306(c)(5) of the Coastal Zone Management Act of 1972, as amended (16 USC 1455(c)(5).) In this capacity, the Office of the Governor shall apply for, receive, and administer grants under Section 306; shall monitor and evaluate the management of the State's coastal resources; shall account for the expenditure of federal funds by all recipients of such funds; shall make periodic reports to the Office of Coastal Zone Management, all governmental agencies concerned, and the public on the management of the State's coastal resources; and shall request federal approval of amendments or refinements of the management program as necessary.

2) The "State of Rhode Island Coastal Resources Management Program," September 1977, sets forth the policies and program for management of the coastal resources of this State. The Coastal Resources Management Council is given principal responsibility for the implementation of this program. The Coastal Resources Management Council and all appropriate agencies of the State government including, but not limited to, the Department of Environmental Management, the Department of Health, and the Statewide Planning Program, shall act in accordance with the policies and objectives of the management program, to the extent consistent with State statutes and regulations.

3) The Office of the Governor shall prepare an annual work program and application for federal funds under Section 306 and submit said work program and application to the Office of Coastal Zone Management. The work program and allocation of funds shall be prepared in consultation with all agencies concerned. Approval of the annual work program and funding allocations shall be subject to mutual agreement of the Office of the Governor and the Coastal Resources Management Council.

Respectfully yours,

J. Joseph Garrahy
GOVERNOR

The Rhode Island Coastal Resources Management Program was adopted by the Coastal Resources Management Council on September 29, 1977.

John A. Lyons, Chairman

Alvaro W. Freda, Vice-chairman

Paul Hicks, Secretary

Vincent J. Oddo, Jr.

Joseph Turco

Capt. John J. Neary, Jr.

Dennis J. Murphy

Barbara Colt

Carolyn Brassil

Donald C. Brown

Rep. Charles T. Wright

William Miner

Chester T. Whaley, Jr.

Sen. William A. Castro

Rep. Richard B. Kiley, Sen. Joseph Chaves and Carlton A. Maine are also members of the Council.

Part 1

INTRODUCTION

A. COASTAL MANAGEMENT IS NOT NEW TO RHODE ISLAND

Designated State Agency

The Office of the Governor shall be the single agency which will be fiscally responsible for receiving and administering grants under Section 306. The State of Rhode Island Coastal Resources Management Council is the agency responsible for implementation of the Rhode Island Coastal Resources Management Program and thus the agency responsible for the implementation of the Section 306 Program.

The Council, by Legislation, is the principle mechanism for the management of the resources of the State's coastal region and has all requisite authorities for the management, planning, and operational function of Section 306 implementation. To ensure unified coordination, the Office of the Governor shall act in concert with the Coastal Resources Management Council for administration, designation, and expenditures of Section 306 grants. Joint approval of the Office of the Governor and the Coastal Resources Management Council is required prior to such administration, designation, and expenditures.

The Office of the Governor as single agency responsible for receiving and administering Section 306 grants shall monitor approved programs and activities funded by Section 306 and prepare and submit reports to the Office of Coastal Zone Management on said programs and activities. For purposes of this Draft Environmental Impact Statement, the actions and regulations of the Council will be analyzed in the probable impact section and alternatives.

The Council

The Coastal Resources Management Council was created by the Rhode Island Legislature in 1971 as "the principal mechanism for management of the state's coastal resources. The Council consists of 17 members appointed by the Governor, the Lieutenant Governor and the Speaker of the House and must consist of at least four local officials representing communities of various sizes. (The membership requirements of the Council are outlined in Appendix A)

The Coastal Region

The coastal region is defined for planning purposes as those lands within approximately one mile of tidal waters (the inner boundary of the census tract bisected by a line drawn one mile inland from tidal waters). As so defined the coastal region contains several coastal cities and towns in their entirety and encompasses nearly all the coastal watershed. For permit review purposes, the boundary includes all coastal towns. The planning region is shown on the two foldout maps that accompany this volume.

The Council Authority over the Coastal Region

The Council's Legislative mandate is clear:

> "...it shall be the policy of this state to preserve, protect, develop and where possible, restore the coastal resources of the State for this and succeeding generations through comprehensive and coordinated long-range planning and management designed to produce the maximum benefit for society from such coastal resources; and that preservation and restoration of ecological systems shall be the primary guiding principle upon which environmental alteration of coastal resources will be measured, judged, and regulated."

The Council has direct permitting authority over all activities between the mean high water mark and the outward limits of the State's territorial sea, coastal wetlands, physiographic features and all directly associated areas contiguous to and necessary to preserve the integrity of such areas and features.[1]

It also has direct permitting authority over a number of specific activities wherever they occur in the state where it finds a reasonable probability that a proposal will:

(1) conflict with a Council management plan or program
(2) significantly damage the environment of the coastal region; and/or
(3) make any area unsuitable for any uses or activities to which it is allocated by a Council plan or program.

Those activities are:

- power generating and desalination plants;
- chemical or petroleum processing, transfer or storage;
- mineral extraction;
- shoreline protection facilities
- sewage treatment and disposal and solid waste disposal facilities

In effect the Council has direct authority over the entire shoreline and over those activities that are likely to significantly affect the shore or tidal waters.

1 Physiographic features are defined as all coastal ponds and shoreline systems included in Sections 110 and 120 of Part II of this document.

In those areas of the coastal region lying outside of coastal wetlands, physiographic features and contiguous areas, the Council will make permit decisions with respect to proposals in connection with its authority to review applications for permits for sewage treatment and disposal (including individual, private septic systems). The term sewage has been broadly defined and permitting authority over sewage facilities gives the Council the power to regulate a wide variety of major developments if they conflict with the three criteria listed above. In areas outside the coastal region, the Council shall only review those applications related to major facilities.

All State agencies are directed by the Rhode Island Coastal Resources Management Act, to cooperate and act consistently with the Council's plans and programs for the coastal region. In addition, the Council's plans for the coastal region are an elaboration of, and fully consistent with the State Guide Plan. New comprehensive municipal plans must be in conformance with the State Guide Plan

The Council's Permit Review Process

The Council is the last step for in-State permit procedures and acts formally on an application only when all local and other State approvals have been obtained. Persons proposing alterations along the shoreline are informed by Council staff or by local authorities when a Council permit is required. Relevant proposed Federal activities are channeled to the Council for review by staff at the Statewide Planning Program, the States A-95 clearinghouse. Applications for any activities that may come under Council jurisdiction are forwarded by other State agencies to the Council for review.

Applications for Council permits are processed by staff of the Department of Environmental Management's Division of Coastal Resources. The staff ascertains what other State and Federal permits are needed and that the application procedure is being followed in proper sequence. Comments from interested parties including local, State and Federal officials, private groups and individuals are reviewed. Data relevant to the nature of the proposed activity and the site are taken from the maps at the Department of Environmental Management. A biologist, an engineer and at least one member of the Council then verify the information in a site visit and prepare a written statement which addresses the engineering plans submitted, their assessment of the site's suitability for the proposed actions, an identification of significant natural features, the results of any tests performed and, recommendations for Council action on the permit application. Finally, a single page summary of the major points raised through the review process and references to applicable management policies and regulations is prepared. All the completed review forms, comments from individuals, groups, local, State, and Federal agencies are provided to the Council members before they act on the application. The entire package of materials is also available to the public. These steps are a refinement of the permit review process that has been ongoing for the past several years.

The State's Administrative Procedures Act and the Council's own procedures ensure ample public notice of all pending Council permit activities. Hearings are held if there are one or more objections or requests for a hearing from interested parties. Local governments, State and Federal agencies and any interested citizen who so requests, are sent copies of every application before the Council. The time needed to process an uncontested application is approximagely 45 days. For the past several years the Council has been processing applications at a rate of approximately 150 each year.

The results of the Council's work are wide ranging. Several persons who have filled areas of coastal wetland have been required to remove the fill and restore the area. Innumerable projects that would have required the filling or alteration or coastal wetlands has been modified so that no damage to coastal wetlands has resulted. Council regulations and policies have prevented residential development on previously undeveloped barrier beaches and new structures on developed barrier beaches are only permitted if stringent criteria are met. No new building has been permitted on sand dunes. The Council has required that a project involving a phone cable be extensively re-routed in Rhode Island Sound so that it would not interfere with commercial fishing grounds. The Council is effective in working with Federal agencies and has been instrumental in activating stalled Federal projects, such as navigational improvement to the Port of Galilee.

Since it was established in 1971, the Coastal Resources Management Council has reviewed over 600 permits. Due to an increasing number of applications, the number of "approvals" each year has slowly increased; approximately 125 permits were granted during fiscal year 1977 (7/1/76-7/1/77).

Approximately 97% of all permit applications have been approved, many after modifications suggested by the Council and its staff have been incorporated. The activities most frequently denied were septic systems for individual homes (7 denials), filling below mean high water (9), and piers or docks (4).

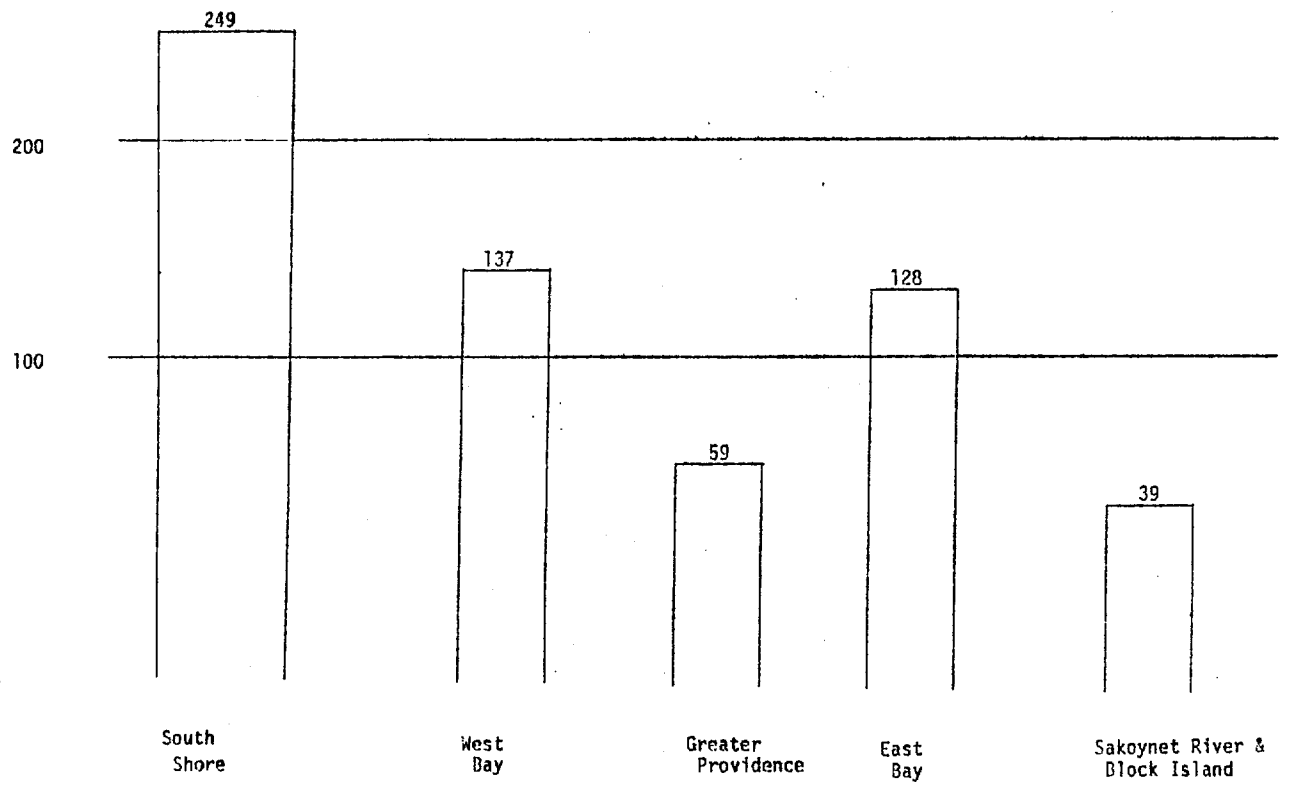
Approximately one-third of the approvals were conditioned by the Council to minimize adverse environmental effects. Where applicable procedural conditions are attached to permits. These conditions require that the applicant comply with all Federal and State water quality standards and regulations, may make the permit revocable after fifty years, may require payment of a usage fee, stipulate that any necessary Federal permit be obtained, and, in most instances, require the applicant to notify the Council when construction is to begin and when construction is completed.

The types of substantive conditions attached to permits vary greatly depending on the type of project. Common conditions stipulate in what manner and in what locations dredge spoil shall be disposed, require that steps be taken to insure that wetlands are not damaged by construction activity, require that proposed structures be placed above mean high water, or require that no wastes are discharged into the waters of the state.
More than one-third of all applications were for the construction of docks, boat ramps, piers and floats. The next most common types of permits were in order, 1) for the construction of bulkheads, 2) rip-rap, 3) seawalls and groins; 4) septic systems for individual dwellings; 5) and sewage treatment facilities and sewage outfalls.

The Council has not received an application for a power generating or desalination plant, or for a chemical or petroleum processing, transfer, or storage facility.

Pressure for coastal development is spreading south from the already heavily developed urban concentration of the greater Providence area into previously undeveloped areas. Development pressure has been particularly strong in recent years in the town of Narragansett and along the south shore southwest of Narragansett Bay. According to detailed examinations performed by the Coastal Resources Center permitting activity has been concentrated in or near sheltered bays, coves, rivers and salt ponds. Chart I shows the number of council permits granted by region.

Chart I: NUMBER OF PERMITS GRANTED BY REGION (1971 - 1975)



Over one-half (52%) of all applications received were submitted by private individuals as opposed to 28% of the applications submitted in connection with proposed commercial or industrial developments. The remaining 20% of the applications were submitted by municipal (12%), State (7%) and Federal (1%) government agencies.

One measure of the effectiveness of the permitting procedure is the time required to achieve a final determination from the time that an application is submitted. A detailed investigation of this question for the period 7/1/73 to 7/1/75 was conducted by the Coastal Resources Center. It was found that an average of 16 weeks was required to process an application. Eighty three percent of all project applications were resolved within 6 months of the time when the application was submitted.

This information, however, fails to measure public and private decisions not to proceed with development as a result of the permit review process. The existence of a strong environmental review procedures has discouraged certain types of development that would adversely impact the coastal environment.

B. WHAT WILL BE NEW AS A RESULT OF THIS PROGRAM

1. Regulations will be in place. All coastal physiographic features and activities under Council jurisdiction will be subjected to regulations adopted on the dates listed:

- Activities in Tidal Waters and coastal ponds, September 1977
- Sand Dunes, 1974, amended 1975
- Beaches and barrier beaches, 1974, amended 1975
- Cliffs, ledges, bluffs, September 1977
- Coastal Wetlands, 1975
- Flood hazard areas, September 1977
- Erosion Control Measures, September 1977
- Aquaculture, September 1977
- Areas in or contiguous to public beaches and coastal parks, and historic districts, September 1977
- Areas in or contiguous to coastal conservation, fisheries or wildlife management areas, public rights of way and public view sites, September 1977

- Mineral extraction, 1975
- Sewage treatment facilities, September 1977
- Solid waste facilities, September 1977
- State sewage treatment investment, according to the Program, September 1977
- Ocean dumping, September 1977
- Dredging in tidal waters, September 1977
- Causeway or bridge through or over coastal waters, September 1977
- Petroleum and LNG processing transfer, and storage, September 1977
- Vessel to vessel transfer of petroleum, 1973
- Power generating, September 1977
- Commercial/industrial siting in selected port areas, September 1977

2. A prohibition is placed on processing applications to construct electrical power generating facilities and oil storage tank farms in or affecting the coastal region until such time as necessary evaluations or studies are complete, but not to extend beyond September 30, 1978.

3. Permits will be conditioned or prohibited for activities inconsistent with the regulations and policies adopted by the Council and incorporated into the program.

4. Additional staff will be provided to service the Council.

5. Federal Government activities will be required to be consistent with the State program, to the maximum extent practicable.

6. The Coastal Management Program and the State Guide Plan are consistent and State agencies are required to be consistent with both.

7. Detailed coastal maps and other information will be available. The planning process has led to the production of orthophoto quadrangle maps (black and white photographs planimetrically corrected to conform with U.S. Geological Survey (topographic maps) for the entire coastal region at a scale of 1:12,000). Mapable features of the region have been transferred onto overlays for each orthphoto base map and include such features as local zoning, recreation facilities, historic sites, wetlands public water and sewage lines and flood hazard zones. These maps will be of great use to other State agencies and to local cities and towns as well as to the Council's staff.

C. WHAT THE RHODE ISLAND COASTAL PROGRAM WILL NOT DO

The Rhode Island Coastal Management Program will not regulate the following activities or land uses:

1) The Program will not have zoning controls or powers. These will remain the responsibility of local government.

2) The Program does not regulate single family homes or control sprawl unless they have a direct impact on coastal resources.

3) The Program will not stop all development on altered or developed barrier beaches.

4) The Program does not propose increased public acquisition of recreation facilities other than those areas proposed in the Bay Island Park Plan.

5) It is not a growth management program however the Program does direct growth away from some key coastal resources.

D. THE FEDERAL COASTAL ZONE MANAGEMENT PROGRAM

The Coastal Zone Management Act of 1972 (P. L. 92-583) was passed in recognition of the importance of the coastal zone of the United States and the potentially adverse affects of intense pressures upon this national resource. The Act authorized a program of financial assistance to States to manage their coasts and is administered by the Secretary of Commerce, who in turn delegated this responsibility to the National Oceanic and Atmospheric Administration (NOAA), Office of Coastal Zone Management. The program was substantially modified by Coastal Zone Management Act Amendments of 1976 (P. L. 94-370).

The CZMA opens by stating "there is a national interest in the effective management, beneficial use, protection, and development of the coastal zone." (Section 302(a)). The statement of Congressional findings goes on to describe how competition for the utilization of coastal resources, brought on by the increased demands of population growth and economic expansion, has led to the degradation of the coastal environment, including the "loss of living marine resources, wildlife, nutrient-rich areas, permanent and adverse changes to ecological systems, decreasing open space for public use, and shoreline erosion." The CZMA then states, "the key to more effective protection and use of the land and water resources of the coastal zone is to encourage states to exercise their full authority over the land and waters in the coastal zone by assisting states...in developing land and water use programs...for dealing with coastal land and water use decisions of more than local significance." (Section 302(h))

The State level of government has prime responsibility for achieving "effective management, beneficial use, protection, and development of the coastal zone" (Section 302(a)). Under Section 305 of the Federal Act, up to four years of grants are available to 34 coastal states and territories (the Great Lakes States are included) to finance up to 80 percent of program development costs. General guidelines for the preparation of management programs are provided in 15 CFR 920.50.

After developing a management program, the State may submit its program to the Associate Administrator for approval. If a program has deficiences which can be remedied but prohibit full approval under Section 306, the State is eligible for additional funding under Section 305(d). Funds provided under this Section can be used for initial program implementation and continued program development efforts. (15CFR 920.61) If approved, the State is then eligible for annual grants under Section 306 to administer its management program.

OCZM has published criteria to be used for approving State coastal management programs and guidelines for program administrative grants (15 CFR Part 923, Federal Register 40 (6): 1683-1695). These criteria and guidelines set forth (a) the standards to be utilized by the Associate Administrator in reviewing and approving coastal management programs developed and submitted by coastal States for approval, (b) procedures by which coastal States may qualify to receive program administrative grants, and (c) policies for the administration by coastal States of approved coastal management program. The Associate Administrator will review the management program in accordance with the following general requirements:

(1) That the management program is comprehensive. It must address and provide for the management of those significant resources, uses and areas that the State has determined, through its development process and in consultation with all relevant interests as required by the Act and these regulations, make its coastal zone a unique, vulnerable and/or valuable area requiring various forms of management;

(2) That the policies, standards, objectives and criteria upon which decisions pursuant to the program will be based are articulated clearly and are sufficiently specific to provide (i) a clear understanding of the content of the program, especially in identifying who will be affected by the program and how, and (ii) a clear sense of direction and predictability for decision makers who must take actions pursuant to or consistent with the management program; and

(3) That there are sufficient policies of an enforceable nature to insure the implementation of and adherence to the management program.

As of August 1, 1977, 33 out of 34 eligible coastal states and territories had received program development grants and two States (Washington and Oregon) and two segments had received program approval under Section 306. This is one of seven programs that will seek approval prior to June 1978.

The 1976 Amendments established a new assistance program consisting of grants, loans, and bond guarantees to States impacted by OCS oil and gas or other forms of energy development. In order to be eligible for assistance, a State must be receiving development (305) or administrative (306) grants, or, in the Associate Administrator's view, be developing a management program consistent with the policies and objectives contained in Section 303 of the Coastal Zone Management Act. Other sections of the Act provide grants to States to coordinate, study, plan, and implement interstate coastal management programs (Section 309); allow the Associate Administrator to conduct a program of research, study, and training to support State management programs (Section 310) and provide grants to States to acquire lands for access to beaches and other public coastal areas. (Section 315)

Besides the financial assistance incentive for State participation, the Coastal Zone Management Act stipulates that Federal activities affecting the coastal zone shall be, to the maximum extent practicable, consistent with approved Statement management programs the "Federal consistency" requirement, Section 307(c)(1) and (2)). The State must concur with any applicant's certification that a Federal license or permit affecting land and water uses within the coastal zone is consistent with the State's coastal management program. Section 307 of the Coastal Zone Management Act requires that any outer Contental Shelf oil and gas activity described in an exploration, development, or production plan be certified to the Secretary of the Interior that it is consistent with an approved State management program. The State must concur with such certification prior to any approval by the Department of the Interior. Section 307 further provides for mediation by the Secretary of Commerce when serious disagreement arises between a Federal agency and a State with respect to the administration of a State's program and shall require public hearings in the concerned locality.

E. HOW THE RHODE ISLAND COASTAL PROGRAM MEETS FEDERAL ACT REQUIREMENTS

The table below indicates which Chapters of the Rhode Island Program describe how the State's management program meets the specific requirements of Section 306 of the Coastal Zone Management Act:

Office of Coastal Zone Management Requirements 15 CFR Part 923, Section:		Page
.4(b)	Problems, Issues and Objectives	xvii
.5	Environmental Impact Assessment	Part 1, 3, 4, 5, 6, 7, 8
.11	Boundaries	306
.12	Land and Water Uses to be Managed	262
.13	Areas of Particular Concern	300
.14	Guidelines on Priority of Uses	291
.15	National Interest in the Siting of Facilities	309
.16	Area Designation for Preservation and Restoration	300-305
.17	Local Regulations and Uses of Regional Benefit	323
.18	Shorefront Access Planning	To be completed in first year of Program implementation
.19	Energy Facility Planning	
.20	Shoreline Erosion	
.31	Means of Exerting State Control over Land and Water Uses	260-269
.32	Organizational Structure to Implement the Management	255
.33	Designation of Single Agency	i
.34	Authorities to Administer Land and Water Use, Control Development and Resolve Conflicts	255
.35	Authorities for Property Acquisition	Appendix A2

Office of Coastal Zone Management Requirements 15 CFR Part 923, Section: (cont.)		Page
.36	Techniques for Control of Land and Water Uses	Appendix A
.41	Full Participation by Relevant Bodies in Adoption of Management Program	246-248
.42	Consultation and Coordination With Other Planning	266-269
.51	Public Hearings	Subsection 6.2
.52	Gubernatorial Review and Approval	Cover letter
.53	Segmentation	Not applicable
.54	Applicability of Air and Water Pollution Control Requirements	Water p.87 Air p.133 p.128

F. THE DEVELOPMENT OF THE COASTAL PLAN

In 1969, a group of concerned citizens recognized that Rhode Island's 419 mile coastline, and Narragansett Bay in particular, were in danger. No single plan or authority existed to regulate the use of these resources, developments that were restricting future choices were proceeding at an accelerating rate and much of great value had already been lost. The problem of how coastal resources should be managed became the topic of two years of intense legislative debate. The result was the creation of the Coastal Resources Management Council in 1971.

The legislature did not envision that the Council would give rise to another State bureaucracy but that it would rely on other units of State government to provide it with the staff needed to develop and administer its programs. Thus, the Coastal Resources Center at the University of Rhode Island is primarily responsible for conducting research and drafting resource plans. The Council also relies heavily on the Statewide Planning Program for assistance in developing its plans, assurance that Council actions are fully consistent with the State Guide Plan and for notification of Federal programs that may affect coastal management plans and programs. The recently created Department of Environmental Management combines, the former Department of Natural Resources with several divisions formerly within the Department of Health. The new agency combines all the divisions with which the Council works most closely and will facilitate future cooperation. The Department's Division of Coastal Resources will continue to carry out the daily operations of the Council by processing permit applications, scheduling hearings and providing the Council with the staff it needs to meet its regulatory reponsibilities.

The Federal Coastal Zone Management Act of 1972 has striking similarities to the coastal management legislation passed the previous year in Rhode Island. In 1973, Rhode Island became one of the first States to receive a planning (305) grant under the new Federal statute. These funds enable the State to hire planning personnel, perform studies and involve the public in the process of developing a management program more quickly than would otherwise have been possible. The requirements for a program eligible for program implementation (306) grants have provided a detailed framework within which the State program has developed and one similar to that of neighboring States working to attain the same goal. For a State as small as Rhode Island, commonality of purpose with adjoining States is of particular importance.

A host of problems requiring immediate attention faced the newly formed Council in 1971. Its first decision was not to declare a moratorium on development while a plan was developed and thus planning and management would have to proceed concurrently. The order in which plan elements were developed and adopted was governed by necessity. Regulations over the ship-to-ship transfer of

oil were adopted in 1973, detailed policies and regulations for the management of barrier beaches were first adopted in 1974 and subsequently amended in 1975. A plan element governing marine minerals mining was also passed in 1975.

The Rhode Island public and specific interest groups have been extensively involved in the process that has resulted in the adoption of coastal management policies. During the past four years task forces have been created to help frame policies on barrier beaches, fisheries, and marine sand and gravel extraction. Public workshops have been held on topics such as offshore oil development, erosion control and aquaculture. Thirteen workshops were held to discuss drafts for the various sections of this document. The Council also strives to solicit public input and to promote awareness of coastal management issues through a public education program and by working to assure maximal press coverage of all major issue. The development of this document has received extensive media coverage.

This volume sets forth for the first time a comprehensive management program made up of Findings, Policies and Regulations for each management topic. The production of this volume does not mean, however, that the planning process has finished but, rather, that the framework has been completed. Elements of the Program will have to be refined in the future; for example, detailed regulations governing individual septic systems along the shoreline will be developed over the next year.

All adopted elements of the management plan are based upon an extensive inventory and assessment of the State's coastal resources. This work has been accomplished primarily at the Coastal Resources Center where available information on Rhode Island's coastal ecosystems and the State's socio-economic characteristics has been compiled and reviewed. Primary research has been undertaken in several areas where available data was lacking. The coastal inventory and assessment emphasizes the interrelationships between man and his environment. Particular attention has been given to how individual systems respond to stress, their direct and indirect values to man and their links with other ecosystems. Areas dominated by man, his uses and structures have been assessed in much the same manner as "natural systems." This process has made it clear that the present level of understanding of how living systems function and relate to one another is limited and that only in a few situations is it possible to predict what the effects of an alteration will be. Environmental impacts of structures and human activities vary enormously depending on the magnitude of the alteration and precisely how and where it takes place. For this reason the management approach taken in this document relies heavily upon performance standards.

G. THE MAPS ACCOMPANYING THIS DOCUMENT

The foldout map entitled "Priorities of Use for the Rhode Island Coastal Region" illustrates the application of the coastal management program to the coastal region. The map shows areas where the use is already determined (preempted lands) and preferred future uses for uncommitted lands. The result is a refinement of the State Guide Plan, the formally adopted set of policies which provide the framework in which future development in the State will take place. This map has been produced through use of a computerized data inventory and, since it is drawn from a computer print-out, is cartographically distorted. The second foldout shows those areas that have been designated as Geographic Areas of Particular Concern and Areas Designated for Preservation and Restoration.

Part II

DESCRIPTION OF THE PROPOSED ACTION

ACKNOWLEDGEMENTS

The Rhode Island Coastal Resources Management Program was prepared by the Rhode Island Coastal Resources Management Council in cooperation with the Coastal Resources Center of the University of Rhode Island. All Program elements were developed in close cooperation and consultation with the Council's Planning and Policy Committee. A great many individuals, agencies, and groups made major contributions to the development of the Program and their assistance is gratefully acknowledged. The principle members of the staff that produced the document are as follows:

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NOTE: To minimize redundancy, the Introduction of the Rhode Island Coastal Resources Management Program, as formally adopted on September 29, 1977 is not included in this document; all substantive portions of the Introduction are incorporated into Part I of this draft Environmental Impact Statement.

GOALS FOR THE MANAGEMENT OF THE RHODE ISLAND COASTAL REGION

1. PRESERVE, PROTECT, DEVELOP AND WHERE POSSIBLE RESTORE THE COASTAL RESOURCES OF THE STATE; THE PRESERVATION AND RESTORATION OF ECOLOGICAL SYSTEMS SHALL BE THE PRIMARY GUIDING PRINCIPLE UPON WHICH ENVIRONMENTAL ALTERATIONS WILL BE JUDGED.

2. MAINTAIN A BALANCE BETWEEN CONSERVATION AND DEVELOPMENT AND BETWEEN CONFLICTING PRIVATE AND PUBLIC INTERESTS THAT WILL PROVIDE THE GREATEST LONG TERM BENEFITS TO THE PEOPLE OF RHODE ISLAND.

3. PROTECT AND PRESERVE VALUABLE NATURAL AND CULTURAL FEATURES SUCH AS HISTORIC SITES, BARRIER BEACHES, COASTAL PONDS, WETLANDS, AND FISHING GROUNDS THAT ARE VULNERABLE TO DEVELOPMENT AND MISUSE.

4. PROTECT THE PUBLIC FROM HAZARDS BROUGHT BY FLOODS, EROSION AND THE PLACEMENT OF BUILDINGS AND SEPTIC SYSTEMS ON UNSUITABLE LANDFORMS AND SOILS.

5. PROTECT AND PROMOTE PUBLIC ACCESS TO THE SHORE AND PROVIDE HIGH QUALITY RECREATIONAL OPPORTUNITIES TO ALL WHO COME TO THE RHODE ISLAND SHORE.

6. PROMOTE THE FULLEST USE OF NATIVE EXPLOITABLE RESOURCES CONSISTENT WITH MANAGEMENT PRACTICES DESIGNED TO MAXIMIZE LONG TERM BENEFITS IN LIGHT OF CHANGING REGIONAL FOOD AND FUEL SITUATIONS.

7. PROVIDE SUITABLE WATERFRONT SITES FOR INDUSTRIES AND BUSINESSES THAT REQUIRE DIRECT ACCESS TO COASTAL WATERS WHILE DIRECTING OTHER INDUSTRIES TO SUITABLE INLAND SITES.

8. ASSURE THAT NEEDED MAJOR ENERGY FACILITIES ARE NOT ARBITRARILY EXCLUDED FROM THE COASTAL REGION BUT THAT SUCH FACILITIES ARE PLACED IN ENVIRONMENTALLY SUITABLE SITES.

9. SUPPORT THE OBJECTIVES OF THE STATE GUIDE PLAN.

10. DIRECT NEW DEVELOPMENT AWAY FROM SENSITIVE AREAS AND INTO ALREADY DEVELOPED AREAS.

11. ENSURE THAT THE PUBLIC IS INVOLVED IN THE MANAGEMENT PROCESS AND THAT THE PROGRAM IS RESPONSIVE TO THEIR VIEWS.

12. ESTABLISH A WORKING PARTNERSHIP AMONG LOCAL, STATE AND FEDERAL GOVERNMENTS THAT INSURES THE EFFICIENT ADMINISTRATION OF THE COASTAL MANAGEMENT PROGRAM.

13. ENCOURAGE AND SUPPORT THE RESEARCH AND PLANNING NECESSARY FOR THE DEVELOPMENT OF SOUND MANAGEMENT PRACTICES.

14. MEET FEDERAL AND STATE AIR AND WATER QUALITY STANDARDS AND GOALS.

Chapter 1
The Natural Setting

100 The Natural Setting

100.0-1 GENERAL FINDINGS:

A. The Council's legislative charge states that the "preservation and restoration of ecological systems shall be the guiding principle upon which environmental alteration of coastal resources will be measured, judged and regulated."(46-23-1; G.L.R.I.)

B. Ecological systems are the basic functional units of nature.

- Ecosystems include both physical and biological components as well as invisible pathways of cycling nutrients and other chemicals.
- Ecosystems are maintained by a flow of energy. The sun is by far the most important source of energy; however, in the marine environment energy from tides and currents is also important.
- The more obvious values of the natural environment such as stocks of fish and water quality are preserved only by maintaining the integrity of the entire ecosystem.

C. The Rhode Island coastal region is part of a larger marine and terrestrial system which includes the coastal region from Cape Cod to Cape Hatteras.

- Within this large system smaller units can be usefully defined and managed. The maintenance of linkages between subunits is essential for the maintenance of the whole.
- Rhode Island's coastal ecosystems can be usefully divided into neritic, estuarine, and shoreline systems.
  - Rhode Island's neritic systems, which include Rhode Island and Block Island Sounds, are transitional areas between open ocean and estuarine environments.
  - Rhode Island's estuaries, which include such water bodies as Narragansett Bay, Point Judith Pond, and the Pettaquamscutt River are semi-enclosed coastal water bodies with free connection to the sea in which seawater is measurably diluted with freshwater.
  - Shoreline systems include the state's entire intertidal zone and associated coastal physiographic features (beaches; cliffs, ledges and bluffs; coastal wetlands; barrier beaches and sand dunes).

D. Because our understanding of how ecosystems function and respond to stress is limited and the impacts caused by man's many activities vary widely, blanket prohibitions or permissions for any human activity within the natural environment can seldom be made.

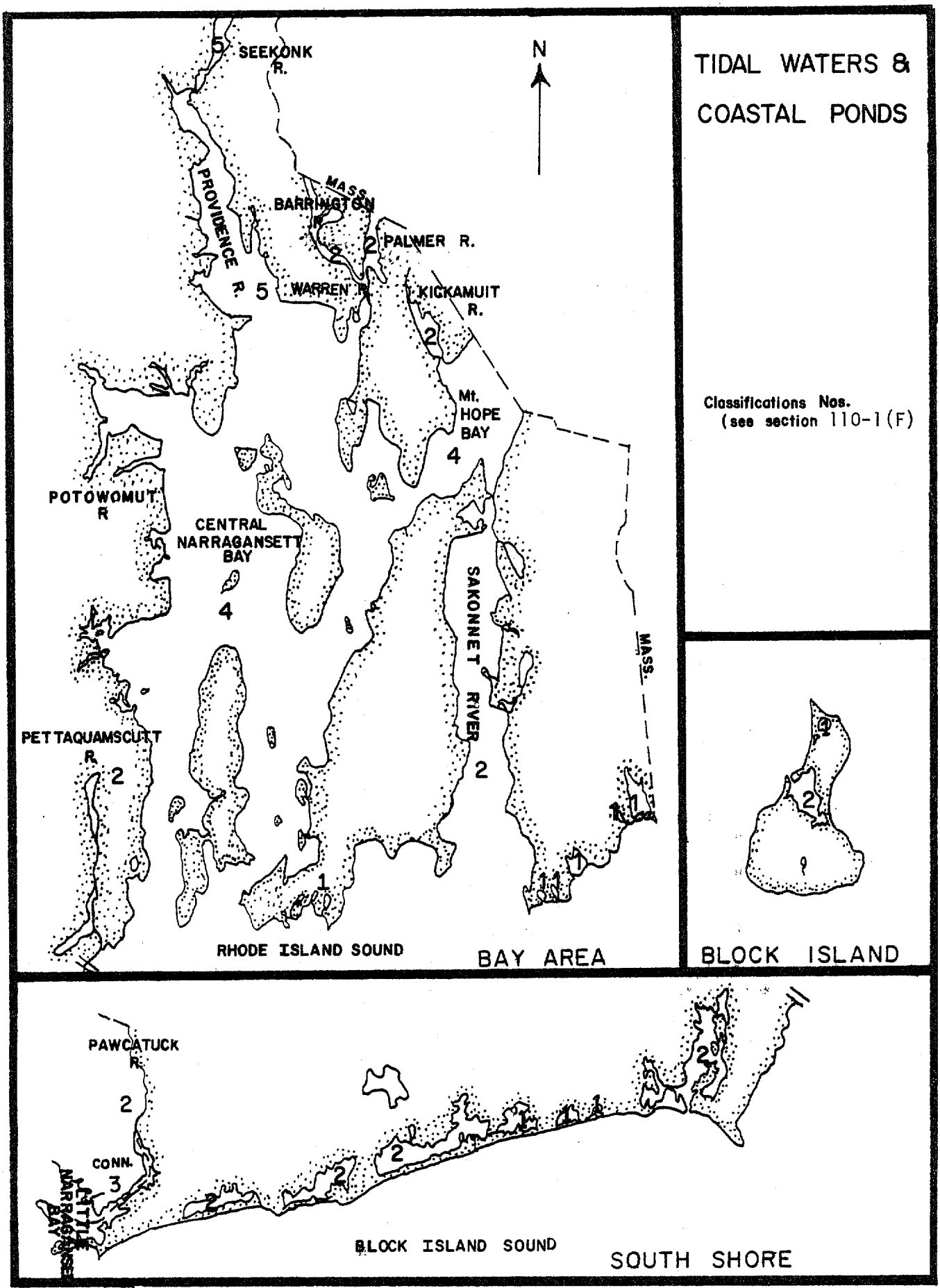
- Although individual components of ecosystems have been extensively studied, our knowledge of how these components interact in nature is in its infancy.

- It is often not possible to confidently trace an observed change in the environment to the specific stress or stresses that caused it.

- The impacts of any human activity vary with the magnitude, intensity, duration and manner in which the activity is performed as well as with the time of year and the location where it takes place.

- Each type of coastal system has its own capabilities for tolerating human induced stresses and thus present different opportunities and constraints for use. For example, what may be an acceptable discharge of hot water or sewage effluent into Rhode Island Sound may be totally unacceptable for a coastal pond.

Figure 1-1



Maps of these features (scale of 1:12000) are available at the Council's offices

110.1 Block Island and Rhode Island Sounds

110.1-1 FINDINGS:

A. Only a portion of the Sounds are within state territorial waters.

- Neritic systems are primarily influenced by external oceanographic processes, including tidal action and currents, nutrient exchanges, and the import and export of biologic components.

B. The amount and detail of environmental data on the Sounds is considerably less than that available for estuaries. It may be summarized as follows:

- The topography of the sea floor has been mapped and is shown on U.S. Coast and Geodetic Survey charts. Low elevation and drowned valleys characterize both Sounds.

- Too few surface sediment samples have been taken to map the distribution of sediments, but clean sands are known to dominate.

- The water circulation in both Sounds is dominated by the tides.

- Thermoclines are usually present in both Sounds during the late spring and early summer.

- Plankton populations are intermediate between those associated with estuarine and oceanic waters.

- Rhode Island is on a boundary between northern and southern fish populations and a great diversity of species is therefore present. Mackerel, cod, butterfish, weakfish and cunner are known to spawn regularly in Block Island Sound.

- Only very generalized information is available on the benthos. Commercially important species including lobsters and ocean quahaugs are abundant and support significant fisheries.

C. The Sounds are at present relatively undisturbed by human activities but the pressures for change are mounting.

- Dragged fishing gear disturbs the benthic habitat.

- Dredge material from dredging projects in the Bay and elsewhere have been dumped in Rhode Island Sound. Public concern over the environmental consequences of ocean dumping have halted all dumping in the Sounds since 1971.

- Sand and gravel of glacial origin are found over much of the sea floor. These deposits may become of commercial interest as land sources of sand and gravel are depleted.

- Several well travelled shipping lanes traverse the Sounds. A traffic separation scheme is in effect for ships entering and departing from Narragansett Bay.

110.2 Estuaries and Coastal Ponds

110.2-1 FINDINGS:

A. Estuaries are extremely complex, delicately balanced and consequently fragile ecosystems.

- The character of an individual estuary, and thus its ability to support various activities, is governed principally by four parameters:
  - The form of the basin: its size, shape, topography and water depth.
  - The characteristics of water flow: the volume and variation of fresh and salt water inflow, circulation patterns including current velocities and direction, and flushing time.
  - Water properties: salinity, temperature, transparency, nutrient supplies, dissolved oxygen and pollutants.
  - The type and distribution of sediments: particle size, organic and oxygen content.

- The physical parameters of estuaries can be easily and often inadvertently altered by man.

- Flushing rates of estuarine systems are an important factor in determining their sensitivity to pollutants.
  - Coastal ponds and sheltered embayments with slow flushing rates may become eutrophic when there is a plentiful supply of nutrients.
  - Septic systems on the lands adjacent to these areas are consequently of great concern.
  - Poorly flushed estuarine areas are also natural settling basins and are therefore sensitive to activities which introduce sediments to the estuary.

B. A primary value of Rhode Island's estuarine systems is their extremely high biological productivity and diversity.

- Phytoplankton, macroalgae, eelgrass (Zostera marina) and benthic microalgae provide an abundant and varied food supply which support large and diverse faunal populations, including birds, shellfish and finfish.

- Estuaries contribute directly to the productivity of the state's commercial and recreational fisheries.

- Estuaries, and coastal ponds in particular, are valuable nursery areas for finfish. It is estimated that two-thirds of all commercially important finfish species rely upon estuaries during at least a part of their life cycle.

- Detritus and phytoplankton support commercially and recreationally important populations of filter feeding mollusks such as scallops, soft shelled clams, quahaugs and oysters.
  - Low salinity estuaries support many of the state's remaining commercially exploitable oyster populations.

- Estuaries, coastal ponds, and adjacent marshes provide some of the state's best remaining habitat for some 35 species of migrating and nesting waterfowl and numerous shorebirds, especially those species least tolerant to man's presence.
  - This is of great significance because the lack of suitable habitat is the most critical limitation on waterfowl populations in Rhode Island.
  - Estuaries and coastal ponds are particularly attractive because they do not freeze over as frequently as inland ponds and thus provide good winter habitat.
  - Rhode Island's central position in the Atlantic flyway makes its estuarine habitats particularly important during migration .

. Nesting and feeding waterfowl are directly affected by the destruction of submerged plant communities in shallow waters and excessive disturbance from surrounding development and heavy motor boat traffic.

C. Rhode Island's estuaries are places of great natural beauty.

- Their open expanses provide a needed contrast and scenic relief from often heavily urbanized shorelands.

- Estuaries provide valuable recreational opportunities and help support the state's tourist industries.

- Coastal ponds and associated barrier beaches are among the state's most beautiful and recreationally attractive coastal features.
  . Their sandy beaches are heavily used by summertime bathers.
  . They provide for diverse recreational experiences including boating, fishing and shellfishing, bird watching, hunting and picnicking.

D. Rhode Island's estuaries are integrated ecological systems, several of which extend into the neighboring states of Connecticut and Massachusetts. Planning and management for these areas will therefore require interstate cooperation and coordination.

- Under Section 309 of the federal Coastal Zone Management Act, states may be funded for interstate projects.

E. Among the most distinctive physiographic features of Rhode Island's ocean shoreline are its 35 coastal ponds.

- The ponds associated with barrier beaches were created thousands of years ago when longshore currents formed a sand spit between the headlands of the South Shore and Block Island shorelines.

- Residential development pressure around many of the state's coastal ponds is growing and will require careful management if the environmental and social amenities the ponds provide are to be preserved.
  . On site sewage disposal in the typically porous and sandy soils surrounding the ponds contributes to or demonstrates a growing potential for contributing to nutrient enrichment of pond waters. In some ponds eutrophication is already an aesthetic nuisance and an environmental problem during the summer months.
  . Intensive residential development detracts from the natural beauty of coastal ponds and renders them a less attractive place near which to live.

- The design and construction of breachways into coastal ponds is of growing concern to the Council because of their wide ranging impacts on the pond's character and the complexity of the many issues involved in their siting.
  . The presence and design of a breachway is the prime determinant of the character of a coastal pond.

- Breachways subject ponds to tidal fluctuations, changes in circulation patterns, increased flushing, current velocities and salinities, any of which can have dramatic effects on the pond ecosystem.
- Breachways provide connections with the open ocean necessary to support anadromous fish populations, allow food transfer between the pond and ocean environments, and allow for the migration of juvenile fish nurtured in the ponds to the ocean where their development continues.
- Six Rhode Island coastal ponds have permanently stabilized breachways and seven others are regularly inundated by sea water.
- Breachway construction and/or modification always creates changes in the pond environment, but whether that change is judged beneficial or detrimental depends on the magnitude of the change and the intended use of the pond.
- Increased salinity may be desirable for the growth of some shellfish species, but may attract predators which prey on other species such as oysters.
- Increased current velocities may stir up bottom sediments and enrich the water column with nutrients. In association with lowered water temperatures high current velocities stimulate eelgrass growth. A monoculture of eelgrass may have undesirable environmental and/or recreational consequences.
- Increased flushing introduces important ocean nutrients into a pond while purging it more quickly of pollutants. It may also, however, flush planktonic organisms including fish and shellfish larvae out into the open ocean, reducing the amount of food available to support life in the ponds and possibly decreasing the value of the pond as a nursery for fish and shellfish.
- Breachways through barrier beaches are subject to natural forces which frequently contribute to filling of both the breachway and of the pond to which it leads.
- Periodic dredging is often required to keep these breachways and related channels open to navigation.
- The extent and nature of impacts generated by construction of breachways are influenced by breachway design and siting.

- Recreational boating is a popular and growing use of the state's coastal ponds.
  - The ponds provide sheltered anchorages and waters.
  - They are near popular open ocean sport fishing grounds.
  - Boating generates demand for channel and breachway construction and dredging.
  - Heavy motor boat activity may create environmental problems in small shallow ponds:
    - Bottom sediments may be stirred up burying shellfish and reducing light penetration;
    - Eelgrass beds may be destroyed by propellor action;
    - Petroleum residues and antifouling paint may concentrate in the flesh of shellfish.

F. Rhode Island's tidal waters and coastal ponds exhibit tremendous diversity in their natural characteristics, degree of alteration and the human activities they do and/or can support. This diversity is of great value to the citizens of Rhode Island. The Council therefore, finds it useful to group all tidal waters and coastal ponds according to their natural characteristics. (e.g. flushing times, shoreline habitat type, productivity, water quality), degree of alteration (e.g. dredged channels, rip rapped shoreline), patterns of human use and potential to support different human activities.

- Information on Rhode Island's tidal waters and coastal ponds is uneven; as new information is developed on these systems, classification may have to be revised

- Summaries of the use of the state's coastal ponds as fish and waterfowl habitats and for human activities are presented in Table 1-1.

    . All coastal ponds are designated as either
      Type 1: Conservation/Low Intensity Use or
      Type 2: Multiple Use Recreation (Table 1-1)

- For management and classification purposes, the Council finds it useful to look at the Narragansett Bay System as nine subunits (Figure 1-1).

TABLE 1-1

ACTIVITIES IN AND VALUES OF RHODE ISLAND'S COASTAL PONDS

Pond	Shell-fish	Fin-fish	Water-fowl	Sanct.* Cons.	Boat-ing	Marina Yacht Cl.	Res. Devel.	Priorities for use
Westerly A	L	L	L	N	L	N	H	1
Westerly B	L	L	L	N	L	N	H	1
Mauschaug	H-o	L	H	N	L	N	M	1
Little Mauschaug	H-o	L	M	N	L	N	M	1
*Winnapaug (Brightman's)	H	H	M	N	M	N	H	2
Quonochontaug	H	H	M	Y	H	Ya	M	2
Michel (Torso)	L	L	L	N	L	N	H	1
Garden (Snood)	L	L	L	N	L	N	H	1
East (Kentucky)	L	L	L	N	L	N	H	1
*Charlestown	H-o	H	H	Y	H	Ma	M	2
Green Hill	H-o	H	M	N	H		H	2
Trustom	L	L	H	Y	L	N	L	1
Cards	L	L	M	N	L	N	M	1
Potters	H	M	M	N	M	N	H	1
Wesquage	L	L	H	Y	L	N	H	1
Lily	L	Fr	M	N	L	N	L	1
Almy	L	Fr	M	N	L	N	L	1
Easton	L	Fr	H	N	L	N	H	1

ACTIVITIES IN AND VALUES OF RHODE ISLAND'S COASTAL PONDS

Pond	Shell-fish	Fin-fish	Water-fowl	Sanct.* Cons.	Boat-ing	Marina Yacht Cl.	Res. Devel.	Priorities for use
Nelson	M	Fr	L	Y	L	N	L	1
Gardiner	L	Fr	M	Y	L	N	L	1
Watch Hill	L	L	L	N	L	N	L	1
Round			M	N	L	N	M	1
Long			H	N	L	N	M	1
*Briggs Marsh	L	L	H	Y	L	L	L	1
Ship Cove			M	N	L			1
Round Meadow			L	N	L	N	H	1
Tunipus			M	N	L	N	L	1
Quicksand	H-o	H	H	Y	L	N	L	1
Sachem	L	L	H	Y	L	N	L	1
Great Salt Pond	H-p	H	M	N	H	Ma, Ya	M	2
Pt. Judith Pond	H-p	H	H	Y	H	Ma, Ya	H	2
Hazard Avenue Pond			H	Y	L	N	M-L	1
High Hill Marsh		H	H	Y	L	N	M	1
Trims Pond	H-p	H	M	N	L	N	L	1
Harbor Pond	H-p	H	M	N	L	N	M	1
Nannaquacket	L-M	M	M	N	L	N	M	1
Lake Canonchet	L	L	L-M	N	L	N	L	1

ACTIVITIES IN AND VALUES OF RHODE ISLAND'S COASTAL PONDS

Pond	Shell-fish	Fin-fish	Water-fowl	Sanct.* Cons.	Boat-ing	Marina Yacht Cl.	Res. Devel.	Priorities for use
Little Neck Pond	L	L	L-M	N	L	N	L	1
Middle Pond	L	L	H	N	L	N	L	1
Wash Pond	L	L	H	N	L	N	L	1

M Medium
L Low to none
H-o High, includes oysters
Fr Freshwater species
H High
H-p High with pollution problems

N No
Ma Marina
Ya Yacht Club
* Sanctuary or Conservation Area
Y Yes
1 Conservation/Low Intensity Use
2 Multiple Use Recreation

TYPE 1: CONSERVATION/LOW INTENSITY USE TIDAL WATERS AND COASTAL PONDS

- The Council finds that the Potowomut River, Barrington River and Palmer River estuaries and the coastal ponds designated Type 1 in Table 1-1 are of great value to the state of Rhode Island because they are relatively undisturbed and maintain their full natural values. The following uses are compatible with maintenance of these values and are designated as highest priority:
  - conservation
  - wildlife management
  - public recreation/parks
  - education & research
  - preservation of open space and aesthetic values

- The Council finds the following uses to have the potential to disrupt or destroy the primary value of these estuaries and coastal ponds and therefore designates the following uses to be of low priority:
  - Industrial development
  - Sewage disposal and storm water runoff
  - Deposition of fill
  - Extensive grading or excavation
  - Installation of cables and pipelines
  - Storage and transport of hazardous materials
  - Dredging

Potowomut River

Description

The Powtowomut River defines the town border between North Kingstown and Warwick, and drains five Rhode Island communities. The estuary extends 2.2 miles upstream to the Forge Bridge. The River is bordered by woodlands and by salt marsh. Its major source of freshwater is the Hunt River which is in turn fed by Frenchtown and Fry Brooks.

A. Anadromous fish: An alewife population seasonally ascends the Potowomut to spawn in upper portions of the Hunt River. A remnant smelt run used to pass through the river but has not been observed in recent years.

B. Shellfish: The muddy bottom of the Potowomut River supports a vigorous soft shell clam population and a small oyster bed at the river's mouth. Small quantities of quahaug can be found in the river's deeper waters.

C. Water quality: The Potowomut estuary is well flushed and maintains an SA classification for water even though streams flowing into it have significantly lower classifications.

Barrington River

Description

The Barrington River flows through the town of Barrington from the Massachusetts border south to Tyler Point were it empties into the Warren River. The 4.5 mile river is bordered by salt marsh for over two-thirds of its length. Abutting lands in the upper reaches of the River are relatively undeveloped, while lower portions support high intensity residential development. The river's major fresh water source is the Runnin River which drains portions of East Providence and Pawtucket as well as five Massachusetts communities.

A. Salt marshes: The Barrington River marshes have been designated coastal natural areas. Although most of the marshes are in private ownership, several portions have been formally protected through acquisition by conservation interests.

Mosquito control program: The town of Barrington is presently implementing an "open marsh water management" program for mosquito control in the salt marshes. A series of narrow channels are being hand dug across the marsh to eliminate stagnant pools which are ideal mosquito breeding grounds. The project is being carefully monitored by the town and the Coastal Resources Management Council.

B. Bird life: The Barrington River, like all upper Bay estuaries, provides valuable habitat for wintering waterfowl. Extensive marshes, especially those surrounding Hundred Acre Cove, are important feeding and breeding grounds for waterfowl and shorebirds.

C. Anadromous fish: Small shad and alewife populations pass through the Barrington River to spawn in the upper reaches of the Runnin River and Prince's Pond respectively.

D. Shellfish: The lower portion of the river south of Massasoit Bridge is closed to shellfishing due to pollution. One Hundred Acre Cove which supports vigorous populations of quahaugs, oysters, and soft shell clams is under intensive management by the Department of Environmental Management. Shellfishing in this cove is presently closed because of overfishing.

E. Education and passive recreation: The town of Barrington is enthusiastic about utilizing the Barrington River as an educational resource. The local school maintains a small marine laboratory on the lower river and the town has developed a nature trail in Osamequin Park.

F. Water quality: The Barrington River generally has excellentwater quality; however, the River's lower portion (below Massasoit Avenue Bridge) is out of compliance with its SA classification due to effluents from the Warren wastewater treatment plant which are carried upstream at high tide.

G. Intergovernmental coordination: Since the Runnin River, the major freshwater source for the Barrington River, defines the border between East Providence, RI, and Seekonk, MA, intergovernment coordination is essential to maintain the estuary's high water quality and biological values.

Palmer River

Description

The Palmer River originates in Massachusetts and flows for less than two miles between Barrington and Warren to Tyler point where it joins the Barrington River. The Palmer River is the least developed estuary in Rhode Island and is nearly entirely surrounded by salt marsh. The watershed of the Palmer River includes three Massachusetts and two Rhode Island communities.

A. Salt marshes: The Palmer River marshes have been designated as a coastal natural area. The town of Barrington is carrying out an open marsh water management mosquito control program on its side of the river.

B. Bird life: The Palmer River is extremely valuable to waterfowl, particularly during the winter when fresh water areas are iced over.

C. Anadromous fish: An alewife population and the state's largest shad population pass through the Palmer River spawning grounds in Massachusetts.

D. Shellfish: The Palmer River supports abundant populations of soft shelled clams and oysters. Because access to the estuary is limited, these populations have not suffered from over-exploitation. The lower portions of the estuary are presently closed to shellfishing because of pollution.

E. Water quality: The Palmer River is classified SA above the Rt.114 bridge. Belcher Cove and a short reach above upper Grinnell Point are out of compliance with this classification due to upstream transport at high tide of effluent from the Warren wastewater treatment plant.

TYPE 2: MULTIPLE USE RECREATION TIDAL WATERS AND COASTAL PONDS

- The Council finds that the Kickamuit River, Sakonnet River, and Pettaquamscutt River and the coastal ponds designated Type 2 in Table 1-1 are extremely valuable to the state of Rhode Island for the multiple recreational uses they support.

- The Council finds the following uses are supportive and/or compatible with the maintenance of these values and designates them of highest priority:
  - Recreational fishing (including shellfishing)
  - Public recreation and parks
  - Wildlife management and hunting
  - Preservation of open space and aesthetic values
  - Education and research

- The Council finds that the maintenance of these multiple recreational uses is of highest priority.

- The following uses have the potential to disrupt or destroy the primary value of these estuaries and coastal ponds. The Council, therefore, designates them low priority.
  - Industrial development
  - Deposition of fill
  - Discharge of domestic and industrial sewage
  - Extensive gradings or excavation
  - Storage or transport of hazardous materials
  - Any activity that threatens to disrupt recreational activities

Kickamuit River

Description

The Kickamuit River flows through the town of Warren; its lower half defines the town line between Warren and Bristol. The tidal portion of the river extends from the East Warren Dam at Child Street to its mouth at Mount Hope Bay. The estuary's major fresh water sources are the upper reaches of the Kickamuit River and Heath Brook. Over one third of the Kickamuit estuary is bordered by salt marshes, and sand beaches border a large portion of the remaining shoreline.

A. Shellfish: Quahaugs, oysters and a few soft shelled clams support a small recreational shellfishery in the Kickamuit River. A severe heat spell during the summer of 1975, which resulted in anoxic conditions, and rapid siltation in the upper reaches of the estuary, have curtailed shellfish production in recent years.

B. Recreation: The Kickamuit River is primarily used and managed for multiple use recreation. Recreational shellfishing, sportsfishing and boating as well as many passive recreational activities are popular in and around the Kickamuit. A number of beaches are maintained by private associations and individuals.

C. Water quality: Recreational activities are enhanced by the generally excellent water quality of the river. The River is classified SA in the tidal portion and A in the non-tidal portion. The mouth of the river is out of compliance with its water quality classification due to pollution from Mount Hope Bay.

D. Intergovernmental coordination: The towns of Warren and Bristol are effectively working together in management efforts for the Kickamuit River.

Sakonnet River

Description

The Sakonnet River is the eastern-most arm of the Narragansett Bay estuarine system and extends from Mount Hope Bay to Rhode Island Sound. Brackish Mount Hope Bay water enters the Sakonnet through the "Narrows" and small amounts of freshwater enter the Sakonnet through Sin and Flesh Brook and Nonquit Pond which together drain Tiverton and Little Compton, and several small streams which drain the eastern portions of Aquidneck Island.

The scenic Sakonnet River is bordered by large stretches of rural land, particularly in Little Compton. Two ponds - Nannaquaket and Nonquit are found on its eastern shore. The rest of the shoreline is bordered by rock ledges, cobble and sand beaches, and a few large marshes.

A. Salt marshes: The Seapowet and Fogland marshes, on the Sakonnet River's eastern shore, have been designated as coastal natural areas. Both marshes are owned by conservation interests.

B. Bird life: Because the Sakonnet River is relatively undeveloped, bird life abounds. Gould Island, in the upper river, is one of New England's few active rookeries for several species of shorebirds including egrets and herons. Seapowet marsh is another excellent shorebird and waterfowl area and is used extensively by many species of herons and egrets and hundreds of sandpipers. Nannaquacket Pond is rich with waterfowl.

C. Anadromous fish and fishery resources: Nonquit Pond in Tiverton supports a substantial alewife run. Floating fish traps are set along shores of the Sakonnet; scup is the most important species taken.

D. Shellfish: The upper half of the Sakonnet River is a productive quahaug ground and is fished commercially. Conchs are fished commercially throughout the river.

E. Recreation: The Sakonnet River is a scenic resource heavily used for a multitude of recreational activites including sailing, swimming, sportfishing and hunting. Several marinas are clustered in the "Narrows" at the head of the Sakonnet. Since navigation through the Narrows is difficult, few boats enter the Sakonnet from Narragansett Bay.

F. Water Quality: The water quality within the Sakonnet River is excellent and is nearly all classified as SA. Two minor discharges of domestic sewage enter the Sakonnet from Portsmouth. Polluted waters entering from Mount Hope Bay cause the northern end of the Sakonnet River to be out of compliance with its SA classification.

Pettaquamscutt River

Description

The Pettaquamscutt River flows from the Gilbert Stuart Dam to Rhode Island Sound. Its watershed includes 13.7 square miles in South Kingstown, North Kingstown, and Narragansett. The Pettaquamscutt is fed by the Mettatuxet River by way of Carr Pond and Gilbert Stuart Stream. The River's tidal prism is small due to the narrow cross section of its inlet. Flushing rates decrease from the Narrows to the Upper Basin; flushing time in the River's Ponds may be measured in years, and its mid-sections in weeks.

Near its head, the Pettaquamscutt has two deep ponds (40 to 60 feet) which are highly scenic and mostly undeveloped. The water within the ponds is strongly stratified and anoxic conditions prevail near the bottom. The central portion of the river is narrow and averages about 8 feet in depth. Its shores are extensively developed in residential housing. Pettaquamscutt Cove and the Narrows make up the lower portion of the river. The Cove averages less than 3 feet in depth and is surrounded by extensive salt marshes. The Narrows is a shallow channel connecting Pettaquamscutt Cove to Rhode Island Sound. The channel is bordered by fringe marshes and shrubby vegetation. Both the Cove and the Narrows are virtually undeveloped.

A. Salt marshes: There are approximately 250 acres of salt marshes in the lower river. Large portions of marsh are protected through the acquisition program of the Audubon Society of Rhode Island.

B. Bird life: The Pettaquamscutt River, and in particular its salt marshes, are extremely valuable as waterfowl habitat.

C. Finfish: Finfish are plentiful in the Pettaquamscutt River; 64 species have been identified. The greatest concentrations are found between Bridgetown Bridge and Gilbert Stuart Streams. The river is heavily used by many species as a nursery ground.

The Pettaquamscutt River supports a good alewife run. More than one million adults travel upstream to the mouth of Gilbert Stuart Stream but only about 20% of these reach the spawning grounds in Carrs Pond.

D. Shellfish: Blue crabs, which support both a recreational and a small commercial fishery, are found along the entire length of the Pettaquamscutt River. Quahaugs, mussels and soft shelled clams are also found and there are small but productive oyster beds in the upper ponds.

E. Recreation: The Pettaquamscutt River is valued for the multiple recreational uses it supports. Shellfishing in its shallow waters is as popular as finfishing from its bridges and from boats. A number of sandy beaches along the river are maintained by private associations and individuals. The river supports light boating activity, though virtually all access points are owned by private concerns. Public access is limited to one town ramp in the lower basin owned by North Kingstown and one state owned ramp at Middlebridge. Large expanses of undeveloped lands comprise the upper watershed and surround the lower reaches of the river. The town of Narragansett has acquired acres of land bordering Pettaquamscutt Cove and is presently deciding on plans for its use. The Pettaquamscutt River has extremely valuable scenic qualities and plans have been made by the state for future scenic overlooks on the river.

F. Residential development: Although the population surrounding the Pettaquamscutt River increased by 78% from 1957 to 1974, over 41% of the watershed remains undeveloped. Much of the recent development borders the mid-river section and most households use septic systems for sewage disposal. Of the four soil types in the area, only one is suitable for septic tanks; other soils are limited by excessive slopes, high water tables or shallow soils.

G. Water quality: The Pettaquamscutt River is currently in compliance with its SA classification. However, recent observations indicate that water quality is deteriorating. The pollution problem is a direct result of inadequately filtered septic tank effluents draining into the river and contaminated run-off. Erosion and sedimentation resulting from clearing and construction in upland areas has resulted in shoaling and a decrease in the flushing time in some areas.

H. Intergovernmental Coordination: The towns within the Pettaquamscutt River watershed are cooperating in the management of this resource. The Tri-Town Narrow River Planning Committee aided by Coastal Management Program funds, prepared a comprehensive land use advisory plan for the Pettaquamscutt watershed.

TYPE 3: HIGH INTENSITY RECREATION ESTUARIES

- The Council finds that the Pawcatuck River Estuary and Little Narragansett Bay and the Warren River are extremely important to the state of Rhode Island for the high intensity recreational activities they support.

- The Council finds the following uses are supportive and/or compatible with high intensity recreational use and designates them of high priority:
  - Recreational boating
  - Public Access
  - Maintenance and improvement of existing marinas and boatyards
  - Hunting and sportfishing
  - Wildlife management

- The Council finds that uses which interfere with the high priority uses stated above or the ecological integrity of these estuaries to be of low priority.

Pawcatuck River and Little Narragansett Bay

Description

The River Basin: The Pawcatuck River Basin is the largest in Rhode Island, draining 24% of the state. Much of the drainage basin is forest and agricultural lands. The 29 mile river is fed by 159 miles of tributaries that traverse 8 Rhode Island and 4 Connecticut communities. The four main tributaries are the Wood, Beaver, Queens and Chipuxet Rivers.

The Estuary: The Pawcatuck is formed where the freshwater of the Pawcatuck River meets the waters of Fishers Island Sound. Bordered by the town of Stonington, Connecticut to the west and Westerly, Rhode Island to the east, the estuary extends 6 miles upstream from the mouth of the river to the remnants of a dam which marks the maximum inland intrusion of saltwater. The estuarine shoreline is composed of glacial till. There are 2-3 miles of beach and dune terrain mostly in Rhode Island, and approximately 500 acres of salt marsh, mostly in Connecticut.

The Bay: Little Narragansett Bay, an area of approximately 2 square miles, is at the mouth of the Pawcatuck River on the landward side of Napatree barrier beach. The bay averages 6 feet in depth. A 7 mile long channel (10 foot control depth) from Fishers Island Sound to Westerly is maintained to facilitate boating.

Little Narragansett Bay is generally well flushed (a flushing factor of 33%) with the exception of some of the well sheltered coves such as the "Kitchen" of Napatree Point.

A. Bird life: The salt marsh bordering the north side of Little Narragansett Bay and the Napatree barrier beach both abound in bird life. During the fall the Point and marshes serve as resting and feeding stops before the flight across Long Island Sound. Ducks, geese, loons, grebes and others feed in the surrounding waters both in summer and winter. One hundred and twenty-five bird species have been sighted on Napatree.

B. Anadromous fish: The Pawcatuck estuary and Little Narragansett Bay support a small gill net fishery for smelt, and the best alewife run in the State.

The Department of Environmental Management has begun a program to reestablish shad and to introduce steelhead trout in the Pawcatuck River.

C. Shellfish: The Pawcatuck used to support a substantial commercial and recreational shellfishery (scallops, oysters, clams, and mussels). Presently the entire estuary is closed to shellfishing due to pollution. With deterioration of bottom conditions from increased silt and decaying organic matter, scallops, clams, mussels and quahaugs have been dying out. The Bay still supports a breeding population of oysters.

D. Recreational: Scenic Napatree Beach, is highly valued for recreation. Most of the barrier is a conservation area regulated by the Watch Hill Fire District. Vehicles were banned from Napatree in 1970 and a dune stabilization project including the use of snow fencing and the construction of boardwalks is currently underway. Rangers, hired by the Watch Hill Fire District, educate beach users about problems and solutions for maintaining the barrier.

The 9 boatyards and marinas, 4 public launching areas and facilities in neighboring towns make the Pawcatuck River estuary and Little Narragansett Bay one of the most popular recreational boating areas in the state. The number of boaters using the area has been steadily increasing and it is not uncommon to see 200-300 boats anchored along the bayside of Napatree Beach on a summer weekend. As boating traffic increases there is a demand for more navigation channels, anchorage basins and marinas. Little Narragansett Bay's capacity for boating activity has not yet been determined, but there is some local concern that it has already been surpassed. The Estuary is also heavily used for waterfowl hunting and sportsfishing.

E. Water quality and pollution: Most of the Pawcatuck River estuary and Little Narragansett Bay are out of compliance with their SB and SA rating. Pollution is caused by industrial wastes, municipal sewage effluent, and boating.

The garbage and raw sewage contributed by recreational boaters and a few houseboats anchored in the Bay have caused deterioration of bottom conditions and are believed to be responsible for the death of many shellfish in the area.

Approximately 250,000 gallons of effluents are discharged into the Pawcatuck River Basin by large industries each day. Municipal treatment plants at Westerly and the Borough of Pawcatuck in Stonington, Connecticut discharge primary treated and untreated sewage into the estuary.

F. Interstate cooperation: Through it is essential for an effective management program for the Pawcatuck Estuary and Little Narragansett Bay, very little interstate communication has developed concerning the management of this area. Two planning projects involving the Pawcatuck river basin have included communities on both sides of the state line, but no joint management efforts have been initiated.

Warren River

Description

The Warren River begins at the junction of the Barrington and Palmer Rivers at Tyler Point, then extends approximately 1.7 miles to its mouth in Narragansett Bay. Brackish water enters this estuary via the Barrington and Palmer River Estuaries. A large portion of the Warren River is bulkheaded and supports water dependent industries, in particular small shipbuilding companies. On the western shore there are large stretches of fringe marsh.

A. Anadromous fish: The Warren River is traversed by anadromous fish on route to the Palmer, Barrington and Runnin Rivers. These include the two remaining shad runs in the state and several alewife populations.

B. Shellfish: The entire Warren River is closed to shellfishing due to pollution.

C. Recreation: With at least 8 marinas and boat yards, and a number of shipbuilding companies, the Warren River supports intensive boating activity. During the summer weekends there are often "traffic jams" in upper portions of the river.

D. Water quality: Virtually all the Warren River is classified SC due to discharge from the Warren wastewatertreatment plant. At the River's mouth wastes are sufficiently diluted to classify the river SB. A plan to upgrade this plant to secondary treatment has been approved and a secondary plant should be operational by 1980.

TYPE 4: MULTIPLE USE TIDAL WATERS

- The Council finds that Central Narragansett Bay, Mt. Hope Bay, and Rhode Island and Block Island Sounds are extremely valuable to the people of Rhode Island for the large number of diverse uses they support. These uses include:
  - Shipping and navigation
  - Recreational boating
  - Bathing
  - Commercial and sport fishing
  - Passive recreation
  - Education and research
  - Wildlife observation and management
  - Commercial, industrial and residential development
  - Preservation of open space and aesthetic values
  - Hunting and fishing
  - Public Recreation and Parks
- The Council finds that the maintenance of multiple uses in these tidal waters is of the highest priority.

Central Narragansett Bay

Description

Central Narragansett Bay divides into two passages as it extends southward from the Providence River to Rhode Island Sound. The Central Bay drains the Providence, Warren, and Potowomut River Estuaries, Mt. Hope Bay and several smaller streams which enter the Bay through Greenwich Bay and Wickford Cove. Central Narragansett Bay receives waters from the Narragansett Bay system's 1,800 square mile drainage basin in Rhode Island and Massachusetts.

The Central Bay is relatively deep and navigable nearly throughout. The average depth in the East Passage is 58 feet, with soundings of more than 100 feet adjacent to Prudence Island. The West Passage averages 25 feet in depth. A dredged 35 foot channel connects the two passages to the north of Conanicut Island.

The waters of Narragansett Bay are well mixed. Tidal currents are moderate and most of the area is well flushed. However, the numerous sheltered embayments surrounding the Bay such as Mill Gut, Potter Cove, Warwick Cove, Greenwich Cove, and Allen Harbor are poorly flushed.

Most of the Central Bay is surrounded by depositing shores. The shores towards the mouth of the Bay tend to have more rock and ledge outcrops and sandy beaches than the upper sections. The western shore is characterized by muddy shelving shores and marshes, while Conanicut and Aquidneck Islands have cobbly, steeply sloping beaches. About 13% of the Central Bay's shoreline is bulkheaded or rip-rapped.

A. Multiple use: Central Narragansett Bay must support a multiplicity of activities. The upper reaches around Warwick are intensively developed while its lower reaches retain a rural character. Greenwich Bay and Bristol Harbor support numerous marinas and are important boating centers; Newport Harbor is both a

fishing port and yachting center and the East Passage is the major shipping channel to the ports of Providence and Fall River. The central portion of Narragansett Bay must be carefully managed to optimize multiple uses and minimize conflicts among competing uses.

B. Salt marshes: Salt marshes border 9% of the shore and fringe marshes border another 20%. Several salt marshes within the Central Bay have been designated as coastal natural areas including Great Creek Marsh in Jamestown and Mill Gut in Bristol; other extensive marshes include Bissel Cove, Tibbett's Creek and Mill Creek in North Kingstown, and Marsh Point, Mary's Creek and Baker's Creek in Warwick.

C. Bird life: During the winter the open waters of the Central Bay are host to large numbers of waterfowl. Commonly found in waters off Prudence and Hope Islands are scaup, scoters, goldeneyes, mergansers, black ducks and Bonaparte's and laughing gulls. It is not uncommon to see rafts of waterfowl of a thousand individuals or more. The smaller coves and inlets are frequently used by grebes, coots, buffleheads, canvasbacks and widgeons. There is an important heron rookery on Hope Island.

D. Anadromous fish and fishery resources: Over 40 species of demersal fish are found within the Central Bay, winter flounder being by far the most abundant species. Numerous species including menhaden, striped bass and bluefish are seasonally abundant. Anadromous fish, including alewife and remnant shad and smelt populations, pass through the Central Bay on their way to spawning grounds in streams and rivers that drain into the Bay.

E. Shellfish: The Central Bay abounds with shellfish. Quahaugs are particularly abundant with average densities of 100 bushels per acre in productive areas. For the past several years the most productive quahaug ground has been the area bounded by Conimicut Point and Nayatt Point to the north, and Warwick Point, Prudence Point and Popasquash Point to the south. The area is closed to shellfishing after heavy rains. Other productive areas include: Greenwich Bay, Pine Hill Cove, the unpolluted side of Bristol Harbor and the east side of the West Passage from Wickford to the Jamestown Bridge. Oysters, which used to abound within the Bay, are now reduced to remnant populations in isolated embayments of the Central Bay (Wickford Harbor, Allen Harbor, Greenwich Bay, Bristol Harbor and Fox Hill Pond) and are mostly taken by recreational fishermen during the summer months.

F. Recreation: The Central Bay is a focal point for recreation in Rhode Island. The Bay's proximity to most of the state's population, its numerous islands, coves and inlets and its abundant fish and wildlife populations make it a haven for recreational pursuits. The open expanses of the Bay offer some of the finest boating in Rhode Island. Boating activity, marinas and boat yards are concentrated within Greenwich Bay, Bullock Cove and Newport, Wickford and Bristol Harbors.

The Central Bay's shoreline does not have especially good bathing beaches, although several pocket beaches exist. Many sections of the shore are heavily utilized for surf fishing and shellfishing while other points provide good picnic areas. The development of a Bay Island Park System (See Section 470.0-1) would further enhance the recreational value of the Central Bay.

G. Shipping and Navigation: The East Passage is the major shipping channel from Rhode Island Sound to the Ports of Providence and Fall River. Because both ports primarily handle petroleum products, large numbers of oil tankers pass through the channel. Conflicts between cargo ships and recreational boaters are sometimes a problem.

H. Water quality: Water quality within Central Narragansett Bay is generally very good (SA) but some areas, mostly sheltered embayments, have pollution problems. The upper part of the Central Bay is classified SB because of polluted waters that enter from the Providence River. Newport, Bristol and Quonset Point all receive discharges from municipal sewage treatment plants and are classified SC. Effluent discharges from pleasure craft have resulted in a SB classification for Potter Cove, and parts of Greenwich Bay. Industrial discharges enter the Central Bay directly in only a few places.

I. Future development: Large tracts of recently surplused Navy land surround Central Narragansett Bay. At a time when most of Rhode Island's coastline is already preempted by existing uses the sudden availability of large blocks of uncommitted real estate presents numerous opportunities. Pressure for residential development surrounding Central Narragansett Bay is focused around sheltered bays, coves and rivers, particularly Greenwich Cove and Newport Harbor.

Mt. Hope Bay

Description

Mt. Hope Bay is a partially mixed estuary at the mouth of the Taunton River on the Rhode Island/Massachusetts border. Its drainage area totals 547 square miles and includes the watersheds of the Kickamuit, Cole, Lee and Taunton Rivers and the Watuppa Pond area. Although 90% of the drainage area lies within Massachusetts about two-thirds of the Bay is within Rhode Island. The fresh water inflow varies seasonally but averages 38 million cubic feet per tidal cycle. The ratio of tidal volume to freshwater inflow is large, varying from 28:1 to 106:1. Water leaving the Bay flows primarily under the Mt. Hope Bridge; only 30% enters the Sakonnet River. Mt. Hope Bay is well flushed, the flushing rate has been estimated to be about 5 tidal cycles.

Water depths in Mt. Hope Bay average 17 feet and 70% is less than 15 feet. Two channels dredged to 35 foot depths traverse Mt. Hope Bay, one leading to Tiverton and the other to Fall River.

Part of the shoreline surrounding Mt. Hope Bay is heavily developed. There is a power plant at Brayton Point and numerous oil terminals in Tiverton and Fall River. The Bay's western shore is much less developed.

A. Fishery resources: Fish eggs and larvae are extremely abundant in Mt. Hope Bay; in the peak month of June, eggs average $100/m^3$, compared to an average $20/m^3$ in central Narragansett Bay.

B. Shellfish: Although considered a productive quahaug ground, pollution levels have closed all of Mt. Hope Bay to shellfishing.

C. Recreational opportunities: Mt. Hope Bay is extensively used for hunting, boating, and sportsfishing.

D. Shipping and navigation: Ships, mostly oil tankers (90-95% of all commerce) pass through Mt. Hope Bay on their way to extensive petroleum storage facilities (over 4,000,000 barrels) in Tiverton and Fall River. As the trend to larger tankers grows, the 35 foot deep channels within Mt. Hope Bay become increasingly inadequate. The Corps of Engineers has initiated a project to dredge the Mt. Hope Bay shipping channel to a 40 foot depth to Tiverton and then North to the Braga Bridge in Massachusetts. A draft environmental impact statement has been issued, but a suitable dump site for the spoil has not been found.

E. Water quality: Water quality in Mt. Hope Bay is generally poor. On the Rhode Island side, water quality ratings are SD, SC and SB. The Massachusetts side is rated SC and SB. The differences in ratings are due to differences in the criteria by which the ratings are defined.

Mt. Hope Bay suffers from multiple sources of pollution, most of which originate in Massachusetts. The Fall River combined storm runoff and sewage system, which operates at a primary treatment level, introduces 15 to 20 million gallons of effluent per day plus an undetermined amount of raw sewage from overflow outfalls into the Taunton River. The Taunton River also receives bacterial, and high oxygen demand wastes, heavy metals and toxic chemicals from industries in Taunton, Fall River, Norton and other municipalities. The Quequechan River and Lees River into which the New England Power Company at Brayton Point releases about 800 million gallons of heated effluent per day are also major pollution sources.

TYPE 5: URBAN ESTUARIES

- The Council recognizes that the Providence River and Seekonk River estuaries are extremely valuable to the state's economy because of the commercial and industrial uses they support. These estuaries are also valuable recreational resources for the densely populated regions of upper Narragansett Bay.

- The Council finds the following uses are supportive and/or compatible with these values and designates them of high priority.
  - Shipping and navigation
  - Port development and maintenance
  - Shoreline dependent commerce and industry
  - Restoration of water quality
  - Maintenance and expansion of appropriate recreational opportunities

- Activities which significantly interfere with the above stated uses or would further degrade water quality are found to be of lowest priority.

TYPE 5: URBAN ESTUARIES

Providence River

Description

The Providence River is formed by the confluence of the Woonasquatucket and Moshassuck Rivers. As the river flows south towards Narragansett Bay, it is joined by the Seekonk River and, near its mouth, the Pawtuxet River. The drainage area for the Providence River and its tributaries includes 11 communities in Rhode Island and 19 communities in Massachusetts. Most of the state's industry is found within the Providence River drainage basin. The combined freshwater flow of the Woonasquatucket and Moshassuck River into the estuary varies seasonally but averages 111 cubic feet per second (cfs). The Pawtuxet River contributes an average of 393 cfs of freshwater. The saltwater to freshwater ratio in the Providence River is large, but the river develops a halocline in the spring and a thermocline in the summer. Water circulation patterns in the Providence River are often dominated by the wind.

The Providence River is traversed by a 40 foot dredged channel which runs from upper Narragansett Bay to Providence Harbor. The shoreline surrounding the upper River is nearly all bulkheaded, but below Pawtucket Cove and Sabin Point the River is bordered by marshes and sand beaches.

A. Salt marshes: The Providence River was once nearly completely surrounded by salt marshes. The few remaining salt marshes are highly productive and have comparable ecological values to the less disturbed marshes in lower Narragansett Bay.

B. Bird life: Although severely polluted, the Providence River retains its typical estuarine values for birds and waterfowl. The shallows and mudflats around and within Watchemoket Cove are particularly important habitat for shore birds.

C. Shellfish: The Providence River contains extensive beds of large quahaugs; densities are conservatively estimated at 150 bushels per acre and a density of 300 bushels per acre may be found in some places. Because the Providence River is heavily polluted it is closed to all shellfishing.

D. Finfish: Bluefish, menhaden, fish eggs, and larvae are returning to the Providence River.

E. Recreation: India Point Park is a valuable recreational resource for the city of Providence.

F. Shipping and navigation: A 40 foot dredged channel connects upper Narragansett Bay to Providence Harbor. Several berths within the port urgently require maintenance or new dredging to 40 feet; however the location of suitable dredged material disposal sites has prevented nearly all dredging in recent years. The Port of Providence is the fourth largest in New England and contributes substantially to Rhode Island's economy. The port handles large volumes of petroleum products.

G. Industrial and commercial development: The shores of the Providence River are heavily urbanized. Land uses are predominately preemptive. A number of the facilities lining the waterfront are deteriorating and/or abandoned. Renewal and redevelopment of these areas must receive high priority attention.

H. Water quality: Water quality within the Providence River is severely degraded. The upper Providence River is out of compliance with its SC classification and the water in downtown Providence is class SD. Providence's combined storm runoff and sewage system, which is operating at a primary treatment level, introduces 60 million gallons per day (MGD) of effluent to the River; an undetermined amount of raw sewage flows directly into the River at times of heavy rainfall. A plan to upgrade the plant should be completed in 1978. During the summer, dissolved oxygen concentrations in the Providence River fall very low and during some nights the upper River becomes anoxic. Providence Harbor sediments are viscous, highly organic, and are contaminated with petroleum hydrocarbons and heavy metals. The lower reach of the Pawtucket River is class D where it joins the Lower Providence River, but is not in compliance with this classification and is a nuisance condition. The application of advanced wastewater treatment should upgrade the River to class C.

Seekonk River

Description

The Seekonk River is the tidal portion of the Blackstone River. It begins

below the Main Street Dam in Pawtucket and extends approximately 4.8 miles south to the Providence River. The major freshwater contributors to the Seekonk River are the Blackstone and Ten Mile Rivers. The Blackstone River, whose tributaries originate in central Massachusetts, flows through the urbanized northern reaches of Rhode Island draining 15% of the state and contributing an average of 1,000 cfs of fresh water to the Seekonk River. The Ten Mile River, which drains 3 municipalities in Massachusetts, joins the Seekonk through Omega Pond. The Ten Mile River has an average flow of 50 cfs. There are 18 dams on the last 18.4 miles of the Blackstone River and 8 dams on the last 7.5 miles of the Ten Mile River.

The Seekonk River is shallow and extensive mudflats are found in its upper reaches. A dredged channel (16 feet at the mouth, 9 feet at the head) traverses the River. The shoreline is heavily developed and bulkheaded throughout.

Management Concerns

A. Birdlife: Although heavily developed, the Seekonk River provides important habitat for birds.

B. Shellfish: There is no information of the shellfish resources of the Seekonk River. The entire area is closed to shellfishing by pollution.

C. Recreation: There is considerable waterfowl hunting in the Seekonk River.

D. Water quality: The Seekonk River is classified SC and is presently in compliance with this classification. The principal sources of pollution are the Blackstone Valley District Commission's secondary treatment plant at Bucklin Point which services Cumberland, Lincoln, Central Falls and Pawtucket, the City of Pawtucket's combined sewer overflows, the inflows of polluted water from the Blackstone and Ten Mile Rivers, and surface runoff from oil storage terminals. The Blackstone River is classified C where it forms the Seekonk River Estuary. The Ten Mile River, which receives discharges from numerous industrial sources, mostly jewelry and metal plating plants, brings toxic heavy metals into the Seekonk River.

E. The diversity in both natural characteristics and patterns of human use of Rhode Island's tidal waters and coastal ponds is an important resource. This diversity must be maintained through the adoption of management priorities which give particular attention to each estuary's distinctive characteristics. The Council therefore, finds it useful to categorize the state's coastal waters and designate use priorities for each category:

110.0-2 POLICIES AND REGULATIONS:

A. Definitions:

1. Tidal waters and coastal ponds include the following waterbodies;
   a. Rhode Island and Block Island Sounds
   b. Estuaries
   c. Coastal ponds

2. Developments and operations include for all Council permitting purposes any use and/or alteration of and/or activity in, under or over the state's tidal waters and coastal ponds except for navigation, fishing and/or fisheries management.

B. The Council's primary guiding principle in evaluating proposals for the alteration of tidal waters and coastal ponds shall be the preservation and restoration of these systems.

C. Alteration of tidal waters and coastal ponds; general permit requirements and regulations:

1. Any person, firm or governmental agency proposing any development or operation within, above or beneath Rhode Island's tidal waters and coastal ponds as defined above extending out to the limit of the state's jurisdiction in the territorial sea shall first obtain a Council permit.

   Applicants for such a permit shall demonstrate by a fair preponderance of evidence that the proposed development or operation will not:
   a. Conflict with any Council Plan or Program.
   b. Make any area unsuitable for any uses or activities to which it is allocated by a Council Plan or Program; or
   c. Significantly damage the environment of the coastal region.

2. It shall be further demonstrated by reliable and probative evidence that the coastal resources are capable of supporting the proposed activity including the impacts and/or effects upon:
   a. Circulation and flushing patterns;
   b. Sediment deposition patterns;
   c. Biological communities, including vegetation, shellfish and finfish resources, and wildlife habitat;
   d. Aesthetic and/or recreational value;
   e. Water quality;
   f. Public access to and along the shore;
   g. Erosion and flood hazards;
   h. Runoff patterns;
   i. Biological productivity

3. Where required demonstrations as set forth under 1 and 2, above, cannot be or are not made, the Council shall require appropriate modifications to or shall deny the application in question.

D. Alteration of tidal waters and coastal ponds; specific permit requirements and regulations:

1. Alteration of conservation/low intensity use estuaries and coastal ponds:
    a. The following uses or activities shall require a Council permit pursuant to C. 1, above and shall be permitted only upon demonstration that a bona fide benefit to the public welfare will result and further that no reasonable alternative exists:
        (1) Industrial development;
        (2) Sewage disposal and storm water runoff;
        (3) Deposition of fill;
        (4) Extensive grading or excavation;
        (5) Installation of cables and pipelines;
        (6) Storage and transport of hazardous materials;
        (7) Dredging.
    b. Such permits shall further be subject to general permit requirements set forth under C.1 and 2, above.

2. Alteration of multiple use recreation estuaries and coastal ponds:
    a. The following uses or activities shall require a Council permit pursuant to C. 1, above and shall be permitted only upon demonstration that a bona fide benefit to the public welfare will result and further that no reasonable alternative exists:
        (1) Industrial development
        (2) Deposition of fill
        (3) Discharge of domestic, municipal and industrial sewage
        (4) Extensive grading or excavation
        (5) Storage or transport of hazardous materials
        (6) Any activity disruptive of recreational use
    b. Such permits shall further be subject to general permit requirements set forth under C.1, and 2, above.

3. Siting, construction, alteration and/or maintenance of breachways:
    a. The siting, construction, alteration and/or maintenance of any breachway into a coastal pond whether of a temporary or permanent nature shall require a Council permit pursuant to C.1, above.
    b. Applicants for such a permit shall demonstrate by a fair preponderance of evidence that the proposed action(s), particularly as these relate to the width, depth, shape and orientation of the proposed breachway to longshore current patterns, will have no significant adverse environmental impacts(s) on the coastal pond or any beach, wetland or other natural system contiguous thereto.
    c. In addition to the general permit requirements and regulations listed under C.1 and 2, above, it shall be further demonstrated by reliable and probative evidence that the coastal resources are capable of supporting the proposed activity including the impacts and/or effects of resulting boating activity upon:
        (1) Turbidity;
        (2) Release of petroleum or antifouling residues;
        (3) Noise;
        (4) Dredging requirements;
        (5) Destruction of eelgrass beds.

d. The Council may permit temporary breaching of coastal ponds where necessary to maintain anadromous fish runs and reduce flooding of adjacent areas upon demonstration that no significant adverse environmental impact shall result.

4. Alteration of tributary water bodies:
   a. Persons, firms or governmental agencies proposing any activity affecting or alteration of any tributary to a tidal water body or coastal pond shall provide the Council timely notification of such proposals including most particularly:
      (1) Stream channelization;
      (2) Dam implacement or removal;
      (3) Other flood control measures;
      (4) Sewage discharges;
      (5) Devegetation of stream banks.
   b. Notification shall be in writing and shall be submitted at least 120 days prior to initiation of the proposed action. Notification shall describe in words and or maps the location, nature, size and duration of the action, proposed environmental safeguards and any other information the Council may subsequently request.
   c. Where, on the basis of information presented to it in the above notification or by any other source, the Council finds a reasonable probability that significant changes in the volume and/or quality of fresh water flowing into a tidal water body or coastal pond will result from the proposed action, it shall require that a Council permit first be obtained.
   d. Such permits shall further be subject to general permit requirements set forth under C.1 and 2, above.

5. Alteration of salinity and water volume:
   a. The siting, construction and/or alteration of causeways or bridges over; hurricane or other storm/flood barriers in; the dredging and/or filling of; the withdrawal, or diversion of water from; and/or the discharge of water into any tidal water body or coastal pond shall require a Council permit pursuant to C.1, above.
   b. Applicants for such permits shall demonstrate by a fair preponderance of evidence that the proposed action(s) will not have significant adverse impacts on the affected water body or pond, particularly as these relate to alterations of the fresh to salt water ratio.
   c. Such permits shall further be subject to general permit requirements set forth under C.1 and 2, above.

120: SHORELINE SYSTEMS

120.0-1 GENERAL FINDINGS:

A. Where tidal waters meet the land a great variety of geologic forms have evolved.

- Along the open ocean are wide sandy beaches, steep cobble beaches and seacliffs.

- In estuaries and coastal ponds a wide variety of low bluffs, sandy to muddy shores and coastal wetlands are found.

B. All shoreline systems are dynamic and change their shape and character in response to storms, currents, human modifications and the gradual rise in sea level.

- Some ten thousand years ago, during the last glaciation, Rhode Island's ocean shore was several miles seaward of its present position. Sea level has since been rising, though at varying rates, causing the shore to retreat inland.
  - The present rate of sea level rise is small, about one foot each century. A foot of vertical rise, however, accounts for an inland retreat of some 30 feet along many sand beaches.

- The gradual movement of the shoreline can be temporarily delayed by building walls and dumping fill, but it must be recognized that a slowly retreating shoreline is a reality that must be accommodated in coastal plans.

- Dramatic changes to the coastline may occur in a few hours during a major storm or in a few years in areas of rapid erosion. Erosion and flood prone areas are discussed separately in Sections 130 and 140.

120.1 BEACHES

120.1-1 FINDINGS:

A. Beaches are dynamic, flexible features.

- The character of a beach is determined primarily by the particle size of the sediment, wave and current action, slope and the organic and water content of the sediment. Any activity which

alters one or more of these parameters will significantly change the character of the beach as a whole.

- Sandy beaches usually undergo seasonal changes in profile. The beach is usually broad and flat when waves are small (usually in the summer) and steep and narrow when large waves move sediments off the shore to form bars (usually in the winter).

B. Beaches are maintained by sediments from many sources. It is frequently difficult to establish the source of sediments for an individual beach.

- The major potential sources of sediment include: the erosion of headlands, terrestrial sediments borne by streams and rivers, and marine sediments transported by waves and currents.

- Shoreline protection facilities, breakwaters and inland dams may significantly alter the supply of sediment to beaches.

C. Beaches are unsuitable sites for permanent structures since they are unstable, dynamic features and are prone to flooding. Structures may also interrupt the flow of sediments along a beach causing deposition on one side of the structure and erosion on the other.

D. Many beaches are of great recreational value. The large sand beaches of the South Shore are heavily used for swimming, fishing and walking. Maintaining public access to beaches is a critical concern.

120.2 BARRIER BEACHES AND SAND DUNES

IDENTIFICATION:

A. Barrier Beaches: Barrier beaches are narrow strips of land made of unconsolidated material extending roughly parallel to the general coastal trend and separated from the mainland by a relatively narrow body of fresh, brackish or saltwater or a wetland. (Maps defining areas subject to regulation as barrier beaches are on file with the Office of Secretary of State). Lateral limits of barrier beaches are defined as the point at which unconsolidated sand or cobble abut rock, glacial till or other sediments unrelated to deposits made by wind or waves. Beaches and coastal wetlands (see Sections 120.1 and 120.4) are found along the borders of the barrier beaches.
The Coastal Resources Management Council has found it necessary to assign all barrier beaches to one of two categories as follows:

1. Altered or Developed Barrier Beaches

- Atlantic Beach, Westerly
- Central Beach, Charlestown
- East Beach (west of Ninigret Conservation Area), Charlestown
- Charlestown Beach, Charlestown
- Green Hill Beach, South Kingstown
- East Matunuck-Jerusalem Beach, South Kingstown-Narragansett
- Roger Wheeler Beach (Sand Hill Cove), Narragansett
- Narragansett Beach, Narragansett

- Bonnet Shores Beach, Narragansett
- Mackerel Cove Beach, Jamestown
- Hazard's Beach, Newport
- Bailey's Beach, Newport
- First (Easton's) Beach, Newport
- Second (Sachuest) Beach, Middletown
- Third Beach, Middletown
- Tunipus (South Shore) Beach, Little Compton
- Crescent Beach, New Shoreham
- Coast Guard Beach, New Shoreham

2. Undeveloped Barrier Beaches

- Napatree Beach, Westerly
- Maschaug Beach, Westerly
- Quonochontaug Beach, Westerly-Charlestown
- East Beach (Ninigret Conservation Area to breachway), Charlestown
- Moonstone Beach, South Kingstown
- Browning Beach, South Kingstown
- Watchhouse Pond Beach, Little Compton
- Long Pond Beach, Little Compton
- Round Pond Beach, Little Compton
- Briggs Beach, Little Compton
- Ship Pond Cove, Little Compton
- Round Meadow Pond Beach, Little Compton
- Quicksand Beach, Little Compton
- Sandy Point, New Shoreham
- West Beach, New Shoreham

B. Sand Dune: A sand dune (dune field) is an elevated accumulation of sand formed by wind action and normally following the general coastal trend immediately inland of an unvegetated beach. The seaward limit of the dune is defined as: (1) the furthest seaward point where a noticeable sustained increase in general topographic slope begins, or (2) the furthest seaward extent of rooted vegetation in the immediate area, or (3) fifteen (15) feet seaward of the maximum elevated portion of the dune, whichever is further seaward. The inland limit of the dune shall be defined as: (1) the furthest inland point where a noticeable sustained increase in general topographic slope beings, or (2) fifty (50) feet inland of the maximum elevated portion of the dune, whichever is further inland.

Where a dune thus defined is interrupted by natural or man-made breaks, wash overs or blowouts, its seaward and inland limits shall be considered to follow lines extending between the furthest seaward and inland limits of the dune on one or both sides and following the general coastal trend.

All major dunes (dune fields) are on barrier beaches.

C. Barrier Wetland: Any coastal wetland, freshwater wetland, marsh, swamp or bog; or any combination thereof, provided same is part of a designated barrier beach.

120.2-1 FINDINGS:

A. Rhode Island's barrier beaches, their associated sand dunes, wetlands and salt ponds are a limited and valuable natural resource in need of protection and careful management.

- The barrier beach system is a very delicate one, yet in an undisturbed state is a public asset of the greatest value.

- Approximately 65 percent of Rhode Island's 27.3 miles of barrier beach are undeveloped. The recreational opportunities and uniquely beautiful open space they provide are of immediate and growing benefit in an increasingly developed region.

- The state's barrier beaches are more heavily used each year as residential development pressure increases.

B. Barrier beaches are complex and sensitive natural systems. Some uses cause detrimental effects far beyond the immediate site.

- The barriers are composed of unconsolidated materials and are dynamic features which are continually altered by the actions of wind and ocean.

- They are migrating gradually inland in response to a rising sea level.

- As the most seaward landform along much of the state's ocean shoreline barrier beaches are exposed to the full force of ocean storms and hurricanes.

C. Barrier beaches have proved particularly ill suited to human occupation.

- Twice in the recent past (1938 and 1954) Rhode Island's barrier beaches have been subjected to severe hurricane damage.

- Hundreds of lives have been lost and hundreds of millions of dollars in property damage has been sustained.

- Debris from wave shattered structures has been swept inland on flood waters to cause additional destruction to low-lying mainland areas, endangering more lives, increasing property damage and complicating cleanup efforts.

D. Barrier beaches serve as natural storm buffers which protect the lands and waters behind them.

- The barriers are most effective as storm buffers when their dunes are well developed and protected from wind erosion.

- The height and stability of dunes is maintained naturally by beachgrass which traps and anchors wind blown sand.

- Beachgrass is an extremely hardy plant, but is intolerant of trampling or disturbance.

- Where beachgrass has been destroyed unstabilized sand is exposed to wind erosion and the integrity of the barrier beach as a storm buffer is compromised.

- The consequence of dune erosion is increased inland flooding and wave damage during storms, the disruption of the salt pond and wetlands and/or the acceleration of the shoreward migration of the barrier.

120.3 CLIFFS, LEDGES AND BLUFFS

120.3-1 FINDINGS:

A. Bluffs, cliffs and ledges are erosional features.

- The principal erosional forces that have shaped and continue to modify coastal cliffs and bluffs are waves, tidal currents, the wind and surface runoff.

- Factors that affect the ability of a cliff or bluff to withstand erosion include its composition (rock or soil type), slope, stratigraphy, height, exposure, vegetative cover and the amount of human disturbance it must withstand. Since bluffs are composed of unconsolidated sediments, primarily glacial tills, they erode more rapidly than cliffs. Exposed bluffs have been known to recede as much as 30 feet in a single storm.

B. Bluffs and cliffs present severe constraints to human use.

- Structures on the face of a cliff or bluff, or close to a cliff of bluff top, may increase the feature's susceptibility to erosion through weight loading and alteration of runoff patterns.

- Activities such as climbing may significantly increase the erosion of bluffs and of cliffs composed of soft rock.

C. Cliffs, bluffs and ledges have significant values in the maintenance of coastal ecosystems.

- Eroding coastal bluffs may provide an important source of sand to nearby beaches.

- The rock pools associated with many ledges are unusual habitats of great beauty.

- The dense growth of seaweed found at the base of many cliffs and ledges may contribute significantly to the overall productivity of coastal waters.

- Because they are inaccessible to man and other predators, some cliffs and bluffs provide important nesting sites for several species of birds.

D. Cliffs and bluffs are frequently features of dramatic beauty.

- Many of the state's most popular scenic overlooks are associated with cliffs and bluffs. More than 300,000 people visit Newport's cliff walk each year

- Because of their scenic values and/or their historic importance, seven coastal cliffs and one bluff have been designated as coastal natural areas. These areas are: Bonnet Point, Beavertail Point, Fort Wetherill, Ocean Drive, Cliff Walk, Purgatory Chasm, Sakonnet Point and Mohegan Bluffs.

120.4 COASTAL WETLANDS

120.4-1 FINDINGS:

A. Salt marshes are flexible features that change in shape as sealevel rises; the salinity of the surface water primarily controls the plant species present. No set of maps can be entirely accurate since the borders of many coastal wetlands shift from year to year.

B. The biological values of coastal wetlands are well known.

- They provide food and shelter for an abundance of juvenile fish and are an important nursery for many fish and shellfish species.

- Coastal wetlands yield large crops of grasses that when they decay provide detritus that is an important food source both within the wetland and in coastal waters. The export of nutrients from coastal wetlands is significant in maintaining the high productivity of estuarine and coastal waters.

- The mud flats and creeks associated with many coastal wetlands are rich in shellfish, particularly soft shelled clams.

- Coastal wetlands also provide essential habitat for a wealth of shorebirds and waterfowl.

C. Coastal wetlands provide a buffer between open water and the shoreline and can be effective in retarding erosion along unconsolidated shorelines.

D. Coastal wetlands, and the wealth of wildlife they support, are important aesthetic assets.

E. Much of the original acreage of coastal wetlands in Rhode Island has been destroyed, and the pressures to fill coastal wetlands continue.

- Downtown Providence, much of Quonset and many other low lying coastal communities are built on what was once coastal wetland. We do not know how much coastal wetland has been destroyed by development but some 10 percent of our larger coastal wetlands (40 acres or more) were filled between 1955 and 1964.

- Since coastal wetlands are found in sheltered waters, they frequently coincide with attractive sites for marinas and waterfront homes. Most of the salt wetlands that remain are small, and when viewed in isolation, many appear to be of insignificant value. The pressures to fill in or otherwise alter coastal wetlands therefore remain.

F. The Council recognizes that in some instances it will be necessary to alter some coastal wetlands, and conversly that it may at times have the opportunity to offer additional protection to certain wetlands. The Council has, therefore, sponsored research to investigate the feasibility of rating the relative values of individual coastal wetlands. Data were collected over two years in ten Rhode Island coastal wetlands, varying widely in size and in various settings including dense urban developments and isolated wildlife preserves. Sampling included the standing crop of grasses, the density of grass shoots, seed production, fish population, and the abundance of grass shrimp, fiddler crabs, insects and birds. If all the variables are given equal weight the large variability in all parameters make it virtually impossible to separate coastal wetlands into different categories. The study also shows that there is little if any correlation between the perceived aesthetic value of a coastal wetland and its ecological characteristics. The Council finds, therefore, that all coastal wetlands must be considered to be of comparable value.

G. The Council recognizes that land uses and activities abutting coastal wetlands may have a strong impact upon the wetland itself. Nearby drainage patterns which affect siltation and the salinity of waters may easily be altered with detrimental effects. Wildlife must be protected from harassment. Bulkheading and filling along the inland perimeter of a marsh prevents further inland migration of wetland vegetation as sea level rises.

120.0-2 POLICIES AND REGULATIONS:

A. Definitions:

1. Shoreline Systems shall include the following categories of area or feature:
   a. Beaches and barrier beaches
   b. Cliffs, ledges and bluffs
   c. Coastal wetlands
   d. Sand dunes
   e. All directly associated areas contiguous to and necessary to preserve the integrity of such areas and features.

2. Directly associated and contiguous areas shall include all lands and waters contiguous to and extending at least two hundred (200) feet inland from the most inland border of any shoreline system, as cited in 1.a-d, above. See section 310.4.

3. Activities and land uses shall include for all Council permitting purposes any use and/or alteration of and/or activity in or involving any shoreline system.

B. The Council finds the preservation and protection of shoreline systems to be a high priority.

C. Alteration of shoreline systems; general permit requirements and regulations:

1. Any person, firm or governmental agency proposing to locate, construct, alter and/or operate any activity or land use on Rhode Island's shoreline natural systems and all directly associated areas contiguous thereto as defined above shall first obtain a Council permit.

   Applicants for such a permit shall demonstrate by a fair preponderance of evidence that the proposed activity or land use will not:

   a. Conflict with any Council Management plan or Program;
   b. Make any area unsuitable for any uses or activities to which it is allocated by a Council Management Plan or Program; or
   c. Significantly damage the environment of the coastal region.

2. It shall be further demonstrated by reliable and probative evidence that the coastal resources are capable of supporting the proposed activity including the impacts and/or effects upon:
   a. Circulation and flushing patterns;
   b. Sediment deposition patterns;
   c. Biological communities, including vegetation, shellfish and finfish resources and wildlife habitat;
   d. Aesthetic and/or recreational value;
   e. Water quality;
   f. Public access to and along the shore;
   g. Erosion and flood hazards;
   h. Runoff patterns.

3. Where required demonstrations as set forth under 1 and 2, above, cannot be or are not made, the Council shall require appropriate modifications to or shall deny the application in question.

D. Alteration of shoreline systems; specific permit requirements and regulations:

1. Sand dunes:

a. Pedestrian and vehicular traffic across sand dunes shall be prohibited except along marked and stabilized trails or across boardwalks or similar devices designed to prevent trampling of beachgrass. Such devices shall be required wherever access across sand dunes is provided.

This regulation shall not be construed as establishing any right of trespass on or across private property or where it is otherwise prohibited or restricted by public or private agencies.

b. Construction on or alteration of sand dunes shall require a Council permit pursuant to C.1, above, and shall further be subject to all regulations pertaining to construction in flood hazard, and erosion prone areas (see Sections 130 and 140).

c. Construction or alteration shall be prohibited except where associated with an approved restoration or stabilization project or where demonstrated necessary to promote or protect the public welfare, and then only where no significant damage to the coastal environment will result. In such cases, the Council may allow temporary alterations where adequate assurance is provided that the altered area will be returned, restored and stabilized to approximate its natural state as it existed prior to the alteration.

d. Permit applications for the temporary alteration of sand dunes under c, above, shall be subject to general permit requirements set forth under C 1 and 2 above.

e. With the exception of boardwalks, all existing structures on or alterations of sand dunes which are destroyed as a result of storm induced water, wave or wind damage, regardless of any insurance coverage carried, may not be reconstructed on or in a sand dune or dune field. For the purpose of this section, said structures shall be considered destroyed if their fair market value is reduced in excess of 50 percent as a result of said storm induced water, wave or wind damage.

2. Beaches and barrier beaches:

a. Construction on or alteration of beaches and/or barrier beaches shall require a Council permit pursuant to C.1, above, and shall further be subject to all regulations pertaining to construction in flood hazard and erosion prone areas (see Section 130 and 140).

b. Construction on or alteration of the beach face is prohibited except where associated with an approved restoration or stabilization project or where demonstrated necessary to promote or protect the public welfare, and then only when no significant damage to the coastal environment will result. In such cases, the Council may allow temporary alteration of the beach face when provided with adequate assurances that the altered area will be returned, restored and stabilized to approximate its natural state as it existed prior to the alteration.

c. Applicants for a Council permit to build on or alter a developed barrier beach shall be required to demonstrate by a fair preponderance of evidence that the proposed action(s) will not cause significant damage to the surrounding coastal environment as it exists in its altered or developed state.

d. Construction on and/or alteration of undeveloped barrier beaches shall be prohibited except where related to a Council approved beach or dune stabilization or restoration project, public access, sanitary or recreational facility or where a temporary alteration is demonstrated necessary to promote or protect the public welfare and then only when no significant damage to the coastal environment will result.

e. Restoration and stabilization projects; construction on or alteration of developed barrier beaches; construction of public access, sanitary or recreation facilities on undeveloped barrier beaches; and/or temporary alterations of beaches and barrier beaches as referenced under b., c. and d, above shall require a Council permit and shall be subject to general permit requirements set forth under C.1 and 2, above.

f. Traditional nonstructural uses of beaches and barrier beaches including the following shall be allowed :

(1) Wildlife management and observation
(2) Open space preservation
(3) Hunting
(4) Fishing
(5) Harvesting of seaweed

(6) Hiking
(7) Boating
(8) Driving
(9) Bathing
(10) Camping

g. Application Forms (Form #8, 1-74) sent in response to requests to alter a barrier beach or portion thereof shall be accompanied by a copy of these regulations. Where such building or alteration may subject the applicant's investment to storm inundation and/or wave damage, or be injurious to surrounding properties, public safety or public welfare, a notice to this effect shall also be included. Signing of the Application Form shall indicate acknowledgement of said regulations and notice and cognizance of warnings contained therein.

h. All persons in a designated barrier beach area shall be required to observe the following rules:
   (1) Destruction or removal of signs, snow fencing or other sand stabilization devices is prohibited.
   (2) Camping in tents, lean-tos or other temporary shelters is prohibited.
   (3) Open fires are prohibited.
   (4) Self-contained toilet and waste holding tank for vehicles with overnight accommodations are required.
   (5) Persons shall be at all times subject to town ordinances and all regulations restricting the use of private, state or federal properties, where applicable.

i. Vehicular use of beaches and barrier beaches where not otherwise prohibited or restricted by property owners, private or public management programs shall be permitted only under the following conditions:
   (1) Motorcycles, minibikes, snowmobiles, all-terrain motorized cycles and tricycles are prohibited except for authorized management related vehicles.
   (2) A Coastal Resources Management Council use permit shall be required for all other vehicles. Such permit shall be issued by the Division of Enforcement of the Department of Environmental Management subject to the following requirements and conditions; in the event these requirements and conditions are not met, the use permit shall be subject to revocation by the Council or their agents.
      (a) Vehicles shall have all documentation and registration as is necessary to operate a motor vehicle on the public highways of this state.
      (b) All permit applicants shall exhibit proof of current extraterritorial insurance coverage.
      (c) A $10.00 annual fee shall be charged for obtaining said permits.
      (d) Permits shall be renewable on a yearly basis.

(3) All persons operating vehicles on beaches shall be required to observe the following rules:
   (a) All persons operating said vehicles shall have valid operators' licenses as issued by a state or territory of these United States or its equivalent as required.
   (b) Maximum speed on all beaches shall not exceed 10 mph. Maximum speed on beaches shall not exceed 5 mph when approaching pedestrians.
   (c) Ruts or holes caused by vehicles shall be filled and debris removed.
   (d) Headlights shall be used by all vehicles moving between sunset and sunrise.
   (e) Riding on or driving from any position outside the vehicles shall be prohibited.
   (f) Vehicles shall not operate across protected (lifeguard)swimming beaches during the period they are protected and in operation.
   (g) Vehicles shall be at all times subject to town ordinances and all regulations restricting the use of private, state or federal properties.

(4) The Council strongly recommends for the operators safety and benefit that the following equipment be carried in good working order by all vehicles operated on a barrier beach area:
   (a) Shovel (heavy duty or military entrenching tool)
   (b) Tow rope or chain (15 feet, load strength of 1800 lbs., chain sixe 5/16")
   (c) Jack and support stand (minimum 18" x 18" x 5/8", plywood)
   (d) Street legal tires (4 ply tread, 2 ply sidewalls) (snow or mud are not recommended)
   (e) Spare tire
   (f) Low pressure tire gauge (0-20 lbs.)
   (g) First aid kit (Coast Guard approved)
   (h) Fire entinguisher (Coast Guard or Interstate Commerce Commission approved)
   (i) Road flares
   (j) Flashlight

3. Cliffs, ledges and bluffs:

   a. Construction on or alteration of coastal cliffs, ledges, bluffs and contiguous areas shall require a Council permit pursuant to C.1, above.

   b. Applicants for such a permit shall demonstrate by a fair preponderance of evidence that the proposed action will not have any significant adverse impact on the affected cliff, ledge or bluff.

c. In addition to the general permit requirements and regulations listed under C.2, above, it shall be further demonstrated by reliable and probative evidence that the coastal resources are capable of supporting the proposed activity including the impacts and/or effects upon:
   (1) Runoff patterns, weight loading and erosion rates;
   (2) Vegetation;
   (3) Water quality as a result of leaching from septic systems

d. The Council shall encourage the use of non-structural methods to correct erosional problems associated with cliffs and bluffs. In considering applications for permits for erosion control measures (See Section 140.0-2) the Council shall consider the impact of the structure upon the supply of sediments to nearby beaches and the aesthetic qualities of the cliff or bluff.

4. Coastal Wetlands:

a. Development or alteration of coastal wetlands or areas contiguous thereto shall require a Council permit pursuant to C.1, above. Such developments or alterations shall include but are not limited to depositing of mud, dirt, fill, refuse, effluents of any kind and/or excavation, ditching and/or dredging.

b. Applicants for such a permit shall be required to demonstrate by a fair prepondernace of evidence that such developments, activities, or alterations or any other developments, activities, or alterations related thereto will not significantly damage the biologic and/or hydrologic processes within or affecting the wetland.

c. It shall be further demonststrated by reliable and probative evidence that the coastal resources are capable of supporting the proposed activity including the impacts and/or effects upon:
   (1) Coastal wetland vegetation;
   (2) Water circulation, depth and tidal flow;
   (3) Marine life including larvae and juveniles of fish, shellfish and benthic organisms;
   (4) Birds and wildlife;
   (5) Erosion, runoff and siltation;
   (6) Scenic quality;
   (7) Water quality;
   (8) Flood water retention capacity.

d. The Council may permit disturbances to the biologic and/or hydrologic processes within or affecting a coastal wetland only where it is demonstrated by clear and convincing evidence that a bona fide benefit to the public welfare will result and that no reasonable alternative exists.

e. The Council finds that the following uses, if pursued in reasonable moderation, do not conflict with the proper management of coastal wetlands: low intensity recreation including bird watching, fishing, clamming, hunting, scientific research and educational uses.

130 FLOOD HAZARDS

130.0-1 FINDINGS:

A. Much of the state's shoreline is vulnerable to flooding during severe winter storms and hurricanes.

- In the past 350 years Rhode Island has been struck by 71 hurricanes, 13 of which caused severe flooding and 25 moderate floodings.

- Two major hurricanes in the last 40 years caused extensive damage and loss of life; 311 dead, $125 million in damages and 1,966 homes destroyed in 1938; 15 dead, $200 million in damages and 3,800 homes destroyed in 1954.

- The entire South Shore and portions of the Narragansett Bay shoreline have been designated coastal high hazard areas by the Dept. of Housing & Urban Development. These areas are subject to wind driven waves and surge (abnormally high water level) during coastal storms (Figure 1-3)

B. Considerable progress has been made in minimizing the state's vulnerability to coastal storm damage and flooding.

- Improved weather forecasting provides a minimum 12 hours notice of approaching storms.

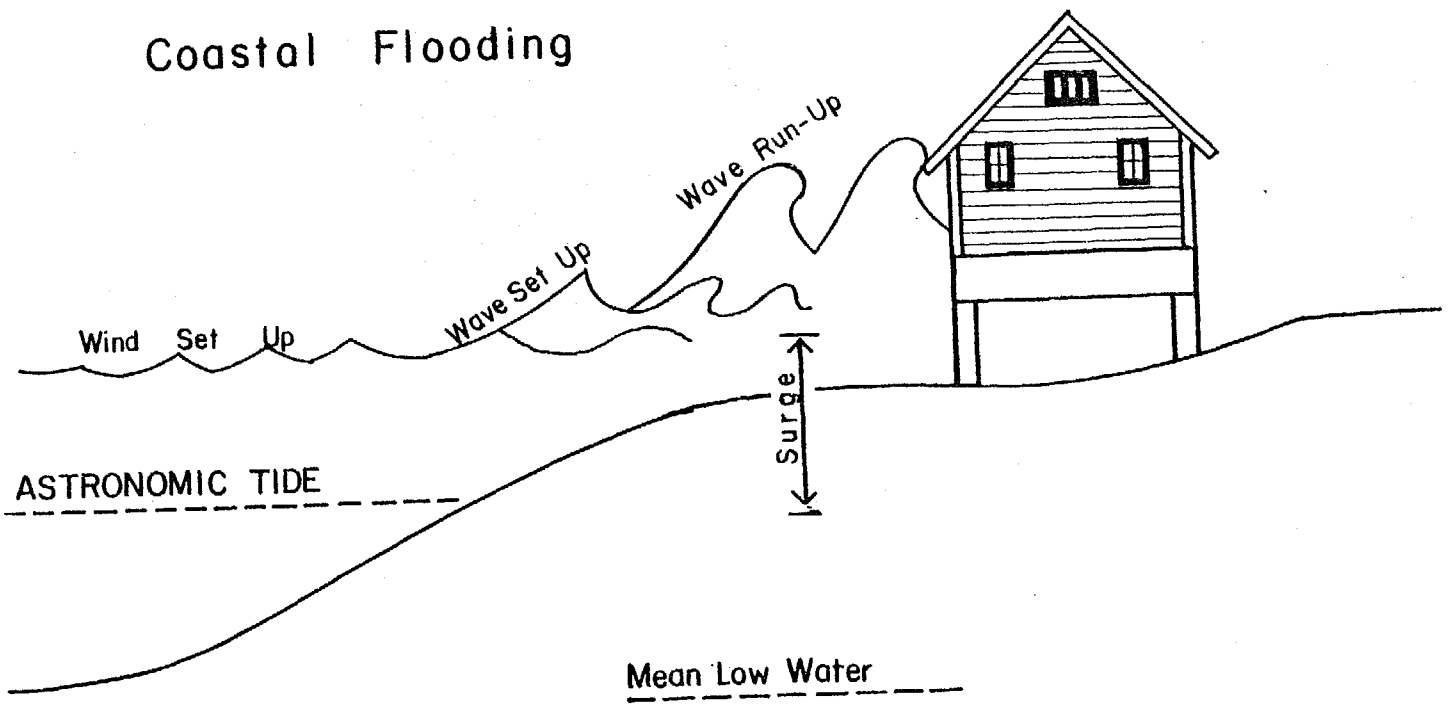
- Community evacuation plans have been formulated and police have been authorized to enforce them during emergencies.

- Emergency exit routes from isolated coastal areas have in many instances been built or improved.

- Over $17 million has been spent on coastal flood protection in the last twenty years. Projects include construction of hurricane barriers, breakwaters, beach and dune stabilization.

C. In the last ten years the federal government has become increasingly involved in flood damage prevention, first through the National Flood Insurance act of 1968 and then through the Flood Disaster Act of 1973.

Figure 1-2


Coastal Flooding
Wave Run-Up
Wave Set Up
Wind Set Up
Surge
ASTRONOMIC TIDE
Mean Low Water

- The objective of the Federal Flood Insurance Program is to guide development away from flood prone areas.

- This program makes federally subsidized flood insurance available to owners of flood prone property in communities participating in the program.

- Participation requires communities to implement regulatory controls over flood prone areas based on minimum federal standards.
  - Twenty-one of the state's 37 flood prone communities have entered the regular phase of the National Flood Insurance Program, while 16 remain in the emergency phase.

- Federal standards address new construction or substantial improvements to existing structures.
  - They require that the lowest floor of residential structures be elevated to above the 100 year still water flood level.
  - They require that non-residential structures be flood proofed to the 100 year level.
  - They require additional design features to minimize flood damage to or movement of structures and water and sewer systems.

D. The Federal Flood Insurance Program (NFIP) has had difficulty in establishing regulatory standards which accommodate the severe wave action and storm surge typical of the open ocean shoreline.

- Regulatory standards emphasize design rather than location.

- Design standards for coastal areas subject to high velocity wave action (the V-Zone on NFIP maps) do not account for wave height or runup (See Figure 1-2 which can account for an increase of as much as 50% over still water flood levels.

E. The availability of subsidized flood insurance has complicated state efforts to manage particularly vulnerable coastal areas such as low lying barrier beaches.

- Prior to introduction of the program in Rhode Island banks controlling the majority of mortgage business along the state's South Shore refused to grant mortgages seaward of the "wet wash line" (the line beyond which damage and destruction was heaviest as a result of the 1938 hurricane).

- The absence of ready financing severely limited development pressure in high flood hazard areas which has risen enormously since introduction of the program.

- The problem seems to be that subsidized actuarial rates do not reflect the real risk of building in coastal high hazard areas consequently provide an artificial stimulus to such building.

F. The Council finds a particular threat to lives and property as a result of development of low lying and flood prone coastal areas where the following conditions exist:

- Exposure to high velocity wave action, runup and surge;

- Vulnerability to storm-induced erosion, especially where such erosion threatens structures;

- Vulnerability of emergency evacuation routes to flooding or erosion.

130.0-2 POLICIES AND REGULATIONS:

A. The following developed coastal areas are found to be particularly hazardous because of their vulnerability to wave action, erosion and flooding:

Atlantic Beach, Westerly
Central Beach, Charlestown
East Beach, (west of Ninigret Conservation Area), Charlestown
Charlestown Beach, S. Kingstown
East Matunuck-Jerusalem Beach, S. Kingstown-Narragansett
Sand Hill Cove Beach, Narragansett
Narragansett Beach, Narragansett
Bonnet Shores Beach, Narragansett
Mackerel Cove Beach, Jamestown
Hazard's Beach, Newport
Bailey's Beach, Newport
First (Easton's) Beach, Newport
Second (Sachuest) Beach, Middletown
Third Beach, Middletown
Tunipus (South Shore)
Crescent Beach, New Shoreham
Coast Guard Beach, New Shoreham

Construction* within these developed flood hazard areas shall require a Council permit and shall be subject to the following rules and regulations:

1. Construction, restoration and/or substantial improvement of structures on the beach face or dunes shall be prohibited.

2. The lowest structural member of the lowest floor of any new, restored or substantially improved structure shall be elevated a minimum of 6 feet above the 100 year flood level as determined by the Dept. of Housing and Urban Development. Said member or members shall be adequately anchored to pilings with the space between the pilings free of obstructions.

B. The following essentially undeveloped coastal areas are also of concern to the Council because of their vulnerability to wave action erosion and flooding:

(1) Napatree Beach, Westerly
(2) Maschaug Beach, Westerly
(3) Quonochontaug Beach, Westerly-Charlestown
(4) East Beach (Ninigret Conservation Area to breachway) Charlestown
(5) Moonstone Beach, S. Kingstown
(6) Browning Beach, S. Kingstown
(7) Watchhouse Pond Beach, Little Compton
(8) Long Pond Beach, Little Compton
(9) Round Pond Beach, Little Compton
(10) Briggs Beach, Little Compton
(11) Ship Pond Cove, Little Compton
(12) Round Meadow Pond Beach, Little Compton
(13) Quicksand Beach, Little Compton
(14) Sandy Point, New Shoreham
(15) West Beach, New Shoreham

Construction within these undeveloped flood hazard areas shall require a Council permit and shall be reviewed as set forth under Section 140. See also Section 120.

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* For the purposes of these policies construction is defined as including new construction; restoration of structures reduced to 50% or less of market value by fire, flood or other such catastrophe; and substantial improvements such as additions or other structural modificatons to existing structures.

140 COASTAL EROSION

140.0-1 FINDINGS:

A. In 1972, as a result of a brief study of 340 miles of Rhode Island's 419 mile shoreline the U.S. Army Corps of Engineers found that 335 miles are eroding.

- Along 25 miles of the surveyed shoreline, erosion was judged by the Corps as critical, and structural measures of control may be justified. These areas include portions of the south shore barrier beaches, areas of Block Island and parts of the Newport Cliff Walk (Figure 1-3).

- The major erosional problems are found along the exposed south shore barrier beaches. According to the Corps, some 200 feet of shoreline eroded between 1909 and 1946, a rate of approximately 5 feet per year. Semi-monthly surveys conducted since 1961 by researchers at the University of Rhode Island confirm that the recession is continuing.

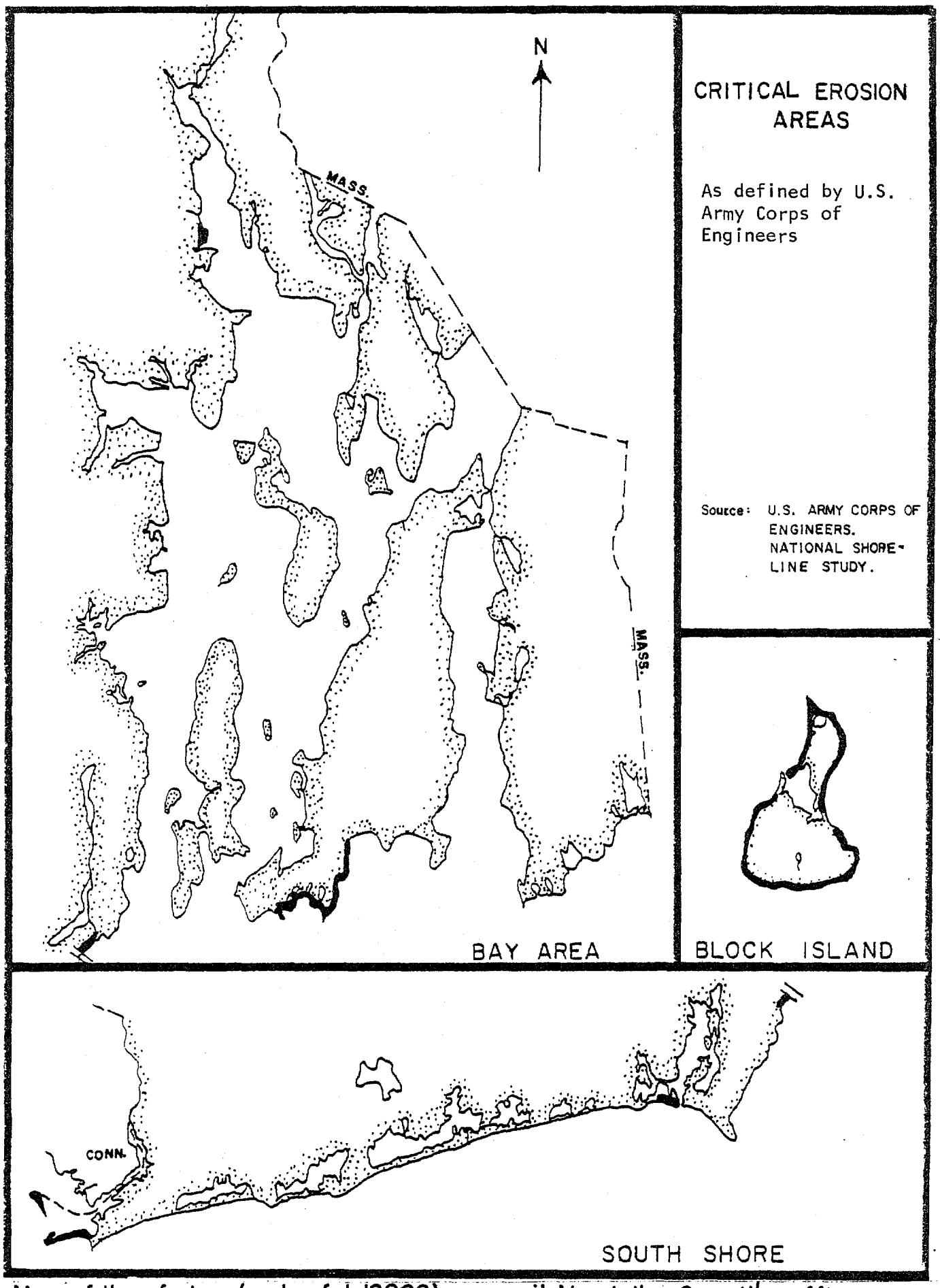
- The remaining 310 miles of eroding shoreline was considered by the Corps to be non-critical. In these areas land-use controls that prevent building close to the shore are considered the best solution.

B. A variety of factors influence erosion rates including the composition of the shoreline, the volumes of sediment (mud, sand, gravel) present, wind and wave conditions, vegetative cover and human activities which weaken the shoreline's capacity to withstand erosional forces.

C. The barrier beaches along the south shore are highly flexible. It is their flexibility which permits them to withstand marine erosional forces.

- In Rhode Island, sea level is rising at a rate of about one foot each century; this is a major reason for the recession of the barrier beaches. If they are not to be drowned, the barrier beaches must gradually move landward, a process that has been continuing for many thousands of years. The migration process takes the form of "rolling over" whereby sand is gradually eroded from the ocean beach and washed over the barrier into the pond behind. The peat sometimes seen along the present ocean shore of barrier beaches is dramatic evidence of the past existence of a marsh that once flourished behind an older, more seaward barrier.

Figure 1-3



CRITICAL EROSION AREAS

As defined by U.S. Army Corps of Engineers

Source: U.S. ARMY CORPS OF ENGINEERS. NATIONAL SHORELINE STUDY.

Maps of these features (scale of 1:12000) are available at the Council's offices

- The erosion rates of specific portions of barrier beaches is influenced by patterns of wave refraction. Nearshore topography determines the direction and frequency with which waves hit the shore; areas where wave action is concentrated are likely to erode more rapidly. Wave characteristics also influence long shore drift, the gradual flow of sediment along a shoreline.

- Man-made structures built perpendicular to the shore interrupt long shore drift and cause a build-up of sediment on the updrift side and erosion on the downdrift side.

- Erosion patterns also have seasonal and short term characteristics. Sandy beaches erode during rough weather when waves wash sand from the beach to form shallow water sand bars. A "winter beach" profile is therefore narrow and steep. During calm weather the sand washes back onto the beach creating a broad, flat "summer beach" profile. Over a period of years some beaches may erode, or build out, faster than others. Along all the Rhode Island south shore, however, the long term net movement is shoreward.

D. Other shoreline features have their own erosional characteristics.

- Sheltered "pocket beaches" in the Bay and small estuaries are not exposed to intense wave action. Although erosion in these areas is usually not severe, waves may become focused on small sections of a beach and cause significant, though highly localized, erosion.

- Bluffs are composed of highly erodable glacial till. The constant wearing away of these features often provides the sand necessary for the maintenance of nearby beaches. The erosion of bluffs may be hastened by increasing the flow of runoff water down the cliff face and by the removal of vegetation.

- Approximately 20 percent of Rhode Island's shoreline is rocky. Steep, rocky slopes are generally less prone to erosion than bluffs, though, the concentrated force of wave energy at the base of cliffs eventually leads to undercuttings and the collapse of the upper cliff face. Erosion is more rapid where a combination of rock types leads to differential weathering.

E. Land use controls are the most effective long term answer to shoreline erosion problems.

F. Non-structural methods of erosion control are less expensive than structural methods and in the long run they are frequently more effective.

- Sand may in some cases be pumped or trucked to eroding beaches at a relatively low cost.

- On barrier beaches the process of the landward migration of the barrier may be slowed down if the dunes are protected. Dunes may be built up by trapping sand with brush, snow fences and other semi-permeable materials, and then stabilized with vegetation. Beach grass is the most effective means of both trapping and stabilizing sand.

- Along sheltered shores salt marshes trap sediment and provide some protection against wave erosion. Salt marshes may be created with dredge spoils and transplanted marsh vegetation.

G. Where shoreline erosion is obvious and valuable property is threatened, people invariably consider structural solutions. It has been well documented, however, that small scale shoreline protection efforts frequently increase the rate of erosion on nearby properties and only delay the eventual erosion of the protected property.

- The riprapping of bluffs can cut off the source of sediment needed to maintain "down drift" beaches.

- Jetties and groins may cause severe erosion of shoreline on the down drift side.

- Where structural methods of erosion control are proposed, it is essential that impacts on adjacent shores be evaluated. Frequently, the entire feature will have to be protected if the project is to be effective and negative impacts mitigated.

H. Structural methods of erosion control fall into three principal categories.

- Breakwaters are structures, usually of stone, that are built in the sea parallel to the shore. They break the force of waves and provide quiet water. Breakwater construction is very expensive; hence they are seldom built merely for erosion control but rather to provide protection for harbors.

- Revetments, seawalls and bulkheads are built on the shore itself. Revetments blanket a feature, maintaining its natural shape, whereas seawalls and bulkheads are essentially vertical structures. These structures may protect cliffs and bluffs, but may accelerate erosion of adjacent beaches. Seawalls may accelerate erosion of a fronting beach by intensifying the downward force of water as it strikes the wall. The cost of adequately designed revetments and simple bulkheads ranges from $75 to $150 per shoreline foot. Seawalls, are more expensive, averaging between $200 and $500 per foot for a modest sturcture. Such structures may be economically justifiable for valuable cliff or bluff areas such as the Cliff Walk in Newport.

- Groins and jetties are constructed perpendicular to the shore, across a beach and into the water. Jetties are larger than groins and are generally built to protect inlets for navigational purposes. Both structures impound sand on the up drift side. Where there is sufficient sand flowing along a shoreline, groins can be built to trap sand and create beaches. Groins cost between $100 and $350 per foot of shore protected. Jetties are more costly.

I. Structural measures of erosion control are extremely expensive and federal funds are available only for the protection of public lands.

- The federal government can provide 100 percent funding for erosion control projects on federal properties. They can provide 70 percent funding of projects in public recreation areas and 50 percent funding in other publicly owned lands.

- Structural protection of private properties are eligible for federal funds only if the erosion was caused by a federally sponsored activity. The Corps will, however, provide free technical assistance.

140.0-2 POLICIES AND REGULATIONS:

A. The Council shall favor non-structural over structural measures to control or check erosion. The Council shall require that all applications for erosion control projects shall demonstrate that non-sturctural means have been fully evaluated as a solution to the problem.

B. Where non-structural methods of erosion control are considered unsuitable by the Council, the applicant shall be required to demonstrate by a fair preponderance of evidence that the proposed alteration:

1. has a reasonable probability of controlling erosion on the immediate site,
2. that it will not significantly increase erosion to nearby areas by interrupting or cutting off supplies of sand to adjacent beaches, and
3. will not have a significant adverse impact on the environmental quality of the areas.

C. Erosion-prone areas of particular concern to the Council

1. **Definition:** Erosion-prone areas of particular concern to the Council are characterized by any of the following:

a. They are flood hazard areas of particular concern to the Council and are found to be in a substantially altered or developed condition.

Descriptive characteristics:

- They are subject to high velocity wave action caused by coastal storms and hurricanes.

- They are prone to storm-induced erosion which increases the flood damage to adjacent areas by destroying the strom buffer.

- They lack safe egress; access roads are prone to flooding and washouts.

b. They are considered to be areas of critical erosion by the U.S. Army Corps of Engineers.

2. Identification

a. Beaches

Atlantic Beach, Westerly
Central Beach, Charlestown
East Beach, (west of Ninigret Conservation Area), Charlestown
Charlestown Beach, Charlestown
Green Hill Beach, S. Kingstown
East Matunuck-Jerusalem Beach, S. Kingstown-Narragansett
Sand Hill Cove Beach, Narragansett
Narragansett Beach, Narragansett
Bonnet Shores Beach, Narragansett
Mackerel Cove Beach, Jamestown
Hazard's Beach, Newport
Bailey's Beach, Newport
First (Easton's) Beach, Newport
Second (Sachuest) Beach, Middletown
Third Beach, Middletown
Tunipus (South Shore)
Crescent Beach, New Shoreham
Coast Guard Beach, New Shoreham

b. Cliffs and Bluffs

Cliff Walk, Newport
Mohegan Bluff, Block Island

3. A Council permit shall be required for any proposal to construct any form of shore-protection in the above areas. Applicants for such a permit shall be required to demonstrate by a fair preponderance of evidence that:

a. The proposed form of shore protection will not cause significant damage to adjacent areas.

b. In beach areas non-structural methods of shore protection (vegetation, fencing, sand bags, etc.) shall be used.

In the event the applicant demonstrates by probative evidence lack of available sediment for such non-structural methods the Council may consider structural methods of shore protection subject to B, above.

D. Erosion-prone areas of environmental concern to the Council.

1. Definition: All essentially undeveloped flood hazard areas identified under B; p. 51.

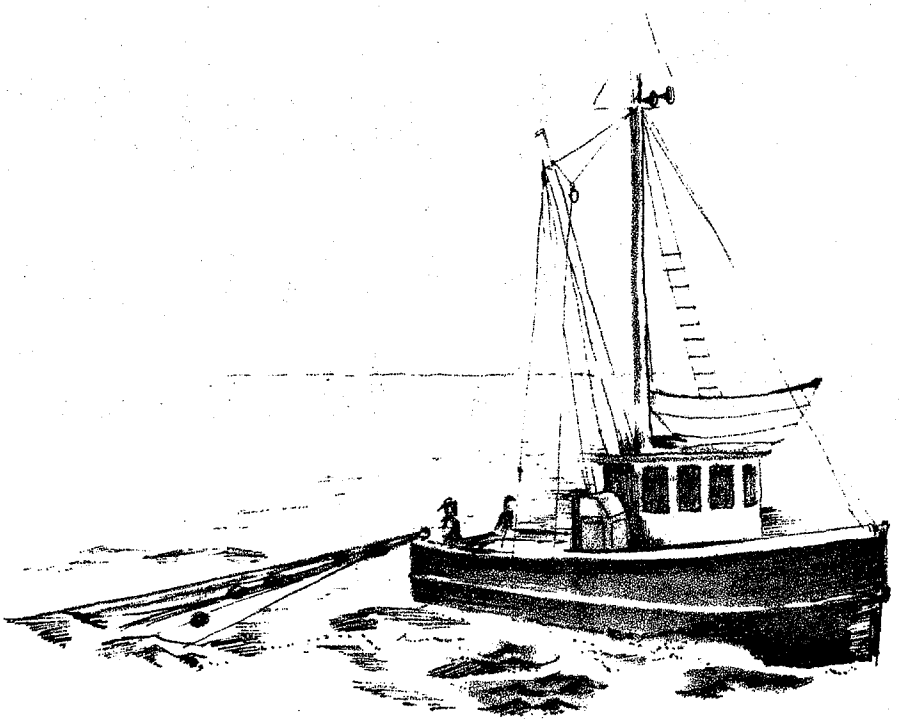
2. Identification of Erosion Prone Areas of Environmental Concern

Napatree Beach, Westerly
Maschaug Beach, Westerly
Quonochontaug Beach, Westerly-Charlestown
East Beach (Ninigret Conservation Area to breachway), Charlestown
Moonstone Beach, S. Kingstown
Browning Beach, S. Kingstown
Watchhouse Pond Beach, Little Compton
Long Pond Beach, Little Compton
Round Pond Beach, Little Compton
Briggs Beach, Little Compton
Ship Pond Cove, Little Compton
Round Meadow Pond Beach, Little Compton
Quicksand Beach, Little Compton
Sandy Point, New Shoreham
West Beach, New Shoreham

E. No structural form of shore protection will be permitted in the above areas.

F. Applicants for a Council permit for any proposed non-structural form of shore protection in the above areas shall be required to demonstrate by a fair preponderance of evidence that the proposal will not cause damage to adjacent areas or significantly damage the coastal environment.

Chapter 2
Exploitable Natural Resources



200 EXPLOITABLE NATURAL RESOURCES

200.0-1 GENERAL FINDINGS:

A. Although Rhode Island is smaller than the average United States county it is endowed with a wealth and variety of exploitable natural resources. These resources must be carefully managed for the benefit of future as well as present Rhode Islanders.

- The state's marine and estuarine waters and those of the outlying continental shelf are rich in fish and shellfish that support growing sport and commercial fisheries.

- The state has abundant fresh water supplies. Many of our known ground water reserves, fresh water ponds, rivers and streams are located in the coastal cities and towns.

- Aquaculture is of potential importance in Rhode Island. Some of the best remaining farm lands are being developed for residential and industrial uses. The state's woodlands, though much more abundant, are under similar pressures. Agricultural lands and forestry resources may become more economically important as the national energy situation changes.

- Sand and gravel deposits overlie much of Rhode Island and are of crucial importance to the construction industries. Land use conflicts are restricting the exploitation of these resources and this is likely to bring pressures to exploit marine deposits.

- Wildlife and freshwater fish are relatively abundant; they are a significant and a generally well managed resource.

- Native energy resources include coal, solar energy, and hydropower. None of these are a significant source of power at present but their potential for future importance is great.

210 MARINE FISH AND FISHERIES

210.0-1 FINDINGS:

A. Fishery resources support an industry with highly favorable economic characteristics and are a major source of recreation. Fishery resources are likely to play an increasingly important role in the lives of Rhode Islanders.

- The recently enacted 200 mile fishing limit holds the promise for effective management of New England's fishery resources. Commercial fisheries may grow dramatically if overfished stocks recover and if domestic fishermen claim

an increasingly large share of the total annual harvest. Sport fisheries also stand to benefit since stocks of many species important to recreational fishermen have been reduced by heavy fishing offshore.

- Growth of Rhode Island fishing industries should be fostered since they are based on a renewable native resource, are labor intensive and are not heavy users of energy.

B. Fishery resources have been severely depleted and damaged by heavy fishing and environmental degradation. There is some evidence that this long established trend is changing.

- The first European settlers found large intertidal populations of lobsters, clams and oysters. Smelt, alewives and some salmon were seasonally abundant in many streams and rivers. Marine fish such as flounder, cod and scup appeared inexhaustible.

- A series of advances in fishing technology and alterations to the coastal environment drastically reduced the abundance of most major fin and shellfish populations.
  - Early hook and seine fisheries were preempted by floating fish traps in the mid nineteenth century.
  - Use of more efficient gear, the beam and otter trawl, coincided with another reduction in the overall abundance of fish and replaced the floating trap fishery in the early twentieth century.
  - In recent years New England trawlers have suffered heavy competition from large offshore foreign fleets and fish stocks have again been drastically reduced.

- The damming and pollution of streams brought the demise of most Rhode Island anadromous fish populations.

- The pollution of estuarine waters and heavy fishing have reduced many shellfish populations and made others unfit for human consumption.
  - The once important oyster fishery went into a final decline in 1937 and large quahaug populations in the upper bay are now off limits to fishermen due to pollution.

- There are recent indications that at least some of the causes for declining fishery resources are being corrected. Sport fish have recently been taken in the upper Providence River. Bluecrabs and bay scallops that all but disappeared from Rhode Island estuaries in the 1960's appear to be making

a comeback and a vigorous effort to re-establish anadromous fish populations has had several notable successes.

C. Rhode Island commercial fisheries are flourishing and provide a solid base upon which future expansion of the industry may be built. Our commercial fisheries are highly diversified and Rhode Island fishermen recently have pioneered many innovative fisheries.

- Rhode Island's commercial fisheries are unique in the region since they have thrived at a time when other major commercial fisheries have seen drastic declines. Between 1950 and 1975 Rhode Island landings increased by 110 percent in tonnage and by 238 percent in value compared to the regional decrease in tonnage of 55 percent and an increase in value of only 74 percent.

- Rhode Island's success may be attributed to the diversification in fisheries at Point Judith and the re-emergence of Newport in the late 1960's as a major commercial port (see Section 520.2-1).

- Trawlers dominate Rhode Island fisheries but pot fisheries and shellfisheries are also very important.

- Foodfish are the most important species group landed in both tonnage and value. Increasing prices have permitted a rapid increase in the total value of foodfish and crustaceans despite only moderate increases or a decrease in landings by tonnage.

- In 1975 some 17 percent of the Point Judith and Newport landings by value were taken nearshore in the National Marine Fisheries Service (NMFS) statistical area 539 (Figure 2-1). The source of all fin and shellfish landed in Rhode Island in 1975 is shown in Table 2-1. The Point Judith fleet is more dependent on nearshore grounds than vessels landing in Newport. In 1975, for example, only 8 percent of the Point Judith landings came from the Georges Bank vicinity compared to 70 percent of the landings at Newport.

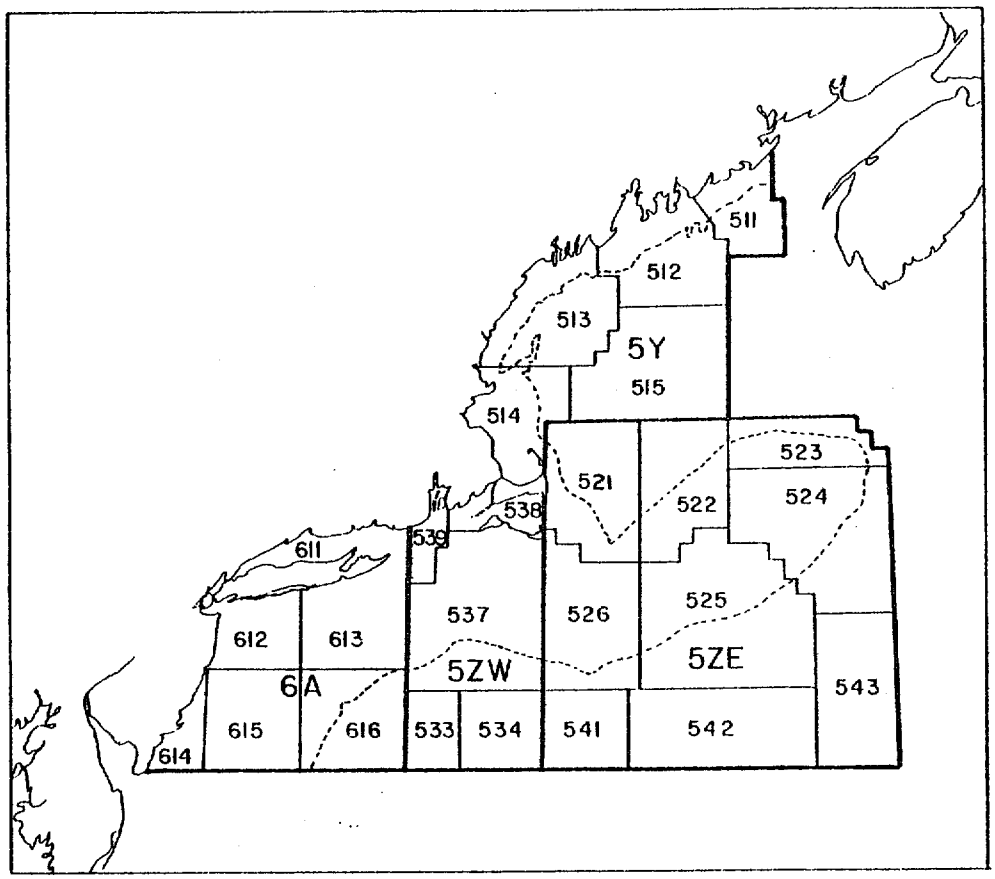
D. Commercial fisheries generate much greater economic benefits for the state than the "average" industry.

- In 1975 the 79.3 million pounds of fish and shellfish landed in Rhode Island had a dockside value of 18.8 million.

- If the economic impact of these landings is traced through handling, packing and processing, and the economic activity set off by support to the fishing catching process is included, it has been calculated that each $100 in fish landings stimulates $424 in economic activity in the state. The 1975 landings therefore, generated $79.7 million for the state's economy.

Figure 2-1

NMFS statistical areas 511 - 616 and ICNAF* Areas 5 and 6



Note: ICNAF areas are those large areas outlined with heavy lines.

SOURCE: OLSEN, AND STEVENSON, 1975.

* International Commission for Northwest Atlantic Fisheries

Table2-1 1975 Commercial Landings at Point Judith and Newport by NMFS Statistical Area

NMFS Area	thousands of pounds	thousands of dollars
350	94	106
443	141	166
453	77	80
454	25	29
463	29	10
464	70	61
465	20	4
514	181	8
521	248	78
522	549	196
523	598	312
524	4,790	2,042
525	3,238	1,319
526	3,746	2,716
537	20,604	5,009
538	1.487	303
539	28,946	1,540
611	2,064	205
612	43	23
613	4,023	524
616	687	290
622	1	1
632	3	---
TOTAL	71,514	15,002

Source: National Marine Fisheries Service, in Olsen and Stevenson, 1975.

- A detailed breakdown of the multiplier effects of segments of the fishing industry is shown in Table 2-2.

- The Rhode Island fish processing industry is presently small and is composed of 14 plants which provide an annual average employment of some 250 people.

- The data in Table 2-2 makes it clear that the state should foster landings by Rhode Island vessels and should encourage in-state packing and processing.

E. Although there are many uncertainties in the outcome of management efforts under the 200 mile fishing limit the potential for a major expansion in Rhode Island commercial fisheries is very great.

- The Rhode Island industry is healthy and has demonstrated that it is highly adaptable to gear innovations and is not tradition-bound.

- Commercial fisheries are attracting young men and the University of Rhode Island has proved to be effective in assisting the industry in developing new technologies.

- Recent dredging in the port of Point Judith will permit expansion of that fleet.

- Excessed Navy lands offer exciting possibilities for the development of new fleets and fishing port facilities.

- Recent studies investigating the potential expansion of New England fisheries under the 200 mile limit indicate that the potential for growth in both new and traditional fisheries are great (see Section 520.2-1).

F. Marine sport fishing activity is at an all-time high and is likely to increase. There are, however, many problems related to heavy fishing and conflicts with other user groups.

- A 1973-74 survey accounted for some 285,000 Rhode Island sportfishermen. Statistics for landings by Rhode Island sportfishermen are not available but sportfishermen in the northeast region as a whole are estimated to have taken 36 percent of the combined 1970 commercial and sport catch.

- Sportfishing is most active in the summer when bluefish and striped bass are abundant.
  . Other important sport species taken from the shore or along the coast include winter flounder and tautog. Several "head boats" operate from Galilee taking parties of sportfishermen to Cox Ledge where cod fishing is popular. Tuna and swordfish also support important deep water sport fisheries.

- Recreational shellfishing is very popular and results in rapid seasonal depletion of populations of soft shelled clams and shallow sets of quahaugs.

Table 2-2

TOTAL OUTPUT, AGGREGATE MULTIPLIERS AND HOUSEHOLD INCOME MULTIPLIERS-RHODE ISLAND, 1975

	Total Output	Aggregate Multiplier (per $100 of output)	Household Income Multiplier (per $100 of output)
Finfishing	$6,779,000	$253	$ 74
Lobstering	4,195,000	254	77
Mollusk catching	2,351,000	276	100
Non-R.I. vessels	5,472,000	109	3
	$18,797,000		
Handling packing and processing	31,264,000	268	52
R.I. "average" industry	not available	163	33

Source: Callaghan and Commerford, 1977.

. Enforcement of daily catch limits are made difficult by the lack of methods to readily differentiate among instate and out-of-state recreational fishermen and commercial fishermen. Goods set of softshelled clams are frequently exploited before the clams have grown to a suitable size.

- Sport fisheries for both shell and finfish are in some areas comprised by losses in the aesthetic qualities of the areas, inadequate access and crowding.

G. Marine sportfisheries make a substantial contribution to the state economy and have important social benefits.

- In 1974 an estimated 115,210 Rhode Island households contained at least one marine sport fisherman. They spent an estimated $7.2 million on food, lodging, transportation, licences, bait, tackle and boat rental fees.

H. The management of salt water fisheries within state waters is the responsibility of the Marine Fisheries Council and the Department of Environmental Management.

- The Marine Fisheries Council was created in 1976 upon recommendation of the Fisheries Task Force which was sponsored by Governor Noel and the Coastal Resources Management Council. The Fisheries Council may promulgate regulations governing fishing gear, seasons, size and catch limits, and the closure of fishing grounds.

- The Department of Environmental Management is responsible for enforcing all fisheries management regulations and monitoring the condition of fishery resources. The Department also conducts research and engages in stocking and transplant programs.

- The management of fisheries on a regional level is entrusted to the Regional Fisheries Council established in 1976 by the passage of the 200 mile fishing limit.

I. The Coastal Resources Management Council is concerned that the state's fisheries be managed in the most effective possible manner. The Council has been very active in planning for the future of the state's fisheries and in attempting to resolve use conflicts. The following issues are of particular concern:

- The pollution of upper Narragansett Bay has closed some of the state's most productive grounds for bay quahaugs. Highly valuable grounds in a conditional area north of Patience Island may be permanently closed if better data on pollutants are negative and more stringent water classification criteria are adopted by the Department of Health.

- As the level of activities increases in state and in nearshore waters important fishing grounds and habitats may be threatened by a diversity of activities and environmental alterations including increased boat and ship traffic, dredging and dredged materials disposal, the placement of cables and pipelines, the destruc-

tion of valuable habitats (particularly breeding areas) and access to shoreline fisheries.

- Recreational shellfishing is highly popular and enforcement officers from the Department of Environmental Management cannot always effectively enforce existing laws on catch limits. The intensity of shellfishing is such that many beds are heavily exploited before the shellfish have grown to an optimal size.

J. In recognizing the unique value of commercial fisheries the Council has sponsored research and taken a leading role in assisting the industry in a variety of ways:

- In 1976, the Council co-sponsored, with former Governor Philip Noel, the Fisheries Task Force, and endorsed its findings and recommendations. Two results of the Task Force's work are the creation of the Marine Fisheries Council and the exemption of commercial fishing vessels and gear from state sales and use taxes.

- The Council sponsored a study that documents the secondary economic benefits that accrue to the state from commercial fisheries.

- The Council was instrumental in having the port of Point Judith dredged and has worked with Newport fishermen to find a solution to the crowding problem in that port.

- The Council sponsored a management study of the Port of Galilee prepared by Gladstone Associates.

210.0-2 POLICIES AND REGULATIONS:

A. The Council designates commercial and sport fisheries as a high priority use of all waters classified by the Department of Health as SA.

B. 1. The Council shall work to preserve and where possible restore the marine fishery resources of this state by preserving important habitats (particularly breeding areas) and fishing grounds. The Council recognizes that some coastal areas are known to be particularly valuable for fishery resources and has therefore adopted policies to protect them from degradation; these areas include salt marshes and coastal ponds.

2. In implementing its permitting authorities regarding developments and operations within, above, or beneath the state's tidal waters including but not limited to dredging, dumping, ocean mining and cable and pipeline installation the Council shall be particularly concerned with adverse impacts on the productivity or commercial value of designated prime fishing grounds.

Where a reasonable probability exists that such impacts will result the Council shall require that the applicant:

a. Describe the fishing grounds, habitat, species or fishing activity likely to be affected.
b. Describe proposed efforts to mitigate adverse impacts on any and all of the above; or.
c. Demonstrate by a fair preponderance of evidence that no such impacts will result.

Where the Council finds a reasonable probability that the productive or commercial value of a designated commercial fishing ground will be threatened, it shall require appropriate modification to or shall deny the application in question.

3. The Council shall routinely notify and solicit the opinion of fishing interests regarding any application demonstrating a reasonable probability of affecting known fishing grounds.

C. The Council will continue in its effort to promote the best fishery management by sponsoring and participating in the Fisheries Task Force and by cooperating with all relevant Marine Fisheries Council and Department of Environmental Management programs and actions. The Council recognizes the Rhode Island Marine Fisheries Council's authority to promulgate regulations governing fishing gear, seasons, size and catch limits, and the closure of fishing grounds. The Coastal Resources Management Council's authorities relate to broader concerns including the preservation and restoration of fishery resources and fishing grounds. However, all actions by the Fisheries Council shall be consistent with the policies and regulations of the Coastal Management Council. The Council shall cooperate with neighboring states to protect and enhance fishery resources and improve fisheries.

D. See also Section 520.2-1

220 AQUACULTURE

220.0-1 FINDINGS:

A. The cultivated oyster industry was once one of the state's most important marine businesses. Recent attempts at aquaculture, using various techniques have been primarily on a small scale and of an experimental nature.

- The Rhode Island cultivated oyster industry peaked in 1910 when 15.3 million pounds of oysters were harvested primarily from some 21,000 acres of leased bottom in Narragansett Bay. The industry declined rapidly for a variety of reasons including a lack of seed oysters, labor problems, poaching and water pollution.

- Recent and on-going aquaculture efforts have met with varying success. Culture techniques include the culture of oysters in coastal ponds and embayments and raising salmonids in tanks on shore.

B. There are proven aquacultural techniques but the technology is for the most part in its infancy. It is unclear which of a variety of techniques might be best suited for Rhode Island.

- Few attempts have as yet been made to culture shellfish on or near the bottom in deep water where use conflicts are minimal.

- It is possible to raise fish in tanks on-shore and salmonid culture has been proved economically feasible. However, major problems stand in the way of commercial enterprise; major obstacles include difficulties in obtaining water discharge permits and disease control among the cultured organisms.

C. Rhode Island offers a great many sites that appear suitable for aquaculture. However, because the state is small and heavily populated, use conflicts are key problems for prospective aquaculturists. Potential conflicts involve a host of legal issues.

- Many of the most suitable sites for on-shore aquaculture or for the support of subtidal operations are prohibitively expensive, are zoned for residential use and abut high quality waters which have stringent requirements for discharges.

- Many shallow protected waters in coastal ponds, river estuaries and coves in the Bay are heavily utilized by recreational boaters, and some are highly valued as shellfishing areas. There are therefore few shallow protected areas where use conflicts should not be a major concern for an aquaculturist.

- Legal and institutional issues are a major deterrent to potential aquaculturists. These issues include:

  . Interference with traditional fishing rights
  . Interference with riparian rights
  . The costs of leasing an area and guarantees for the renewal of the lease
  . Problems involved in protecting organisms and gear from poaching and other damages if the organisms are cultured in the natural environment
  . The difficulty in obtaining financing and insurance for an aquaculture venture

D. With all of its potential problems, the concept of aquaculture as a viable manner to supplement increasing demands for marine fish and shellfish food products must be recognized.

- Federal interest in aquaculture has increased and could lead to grants to state, local and private agencies for undertaking site suitability studies and experimental aquaculture programs.

- Rhode Island's coastal waters, due to our abundant native shellfish stocks, appear to possess many of the biological and physical parameters necessary for successful aquaculture ventures.

- Present use conflicts may decline somewhat if food supply, energy and transportation costs continue to climb.

- The establishment of depuration and thermal processing techniques may reduce restraints on the utilization for aquaculture of waters classified below SA standards.

220.0-2 POLICIES AND REGULATIONS:

A. 1. Proposed aquaculture activities in Rhode Island's coastal region and/or in any waters subjected to the Council's jurisdiction shall require a Council permit.

2. Applicants for such a permit shall demonstrate by a fair preponderance of evidence that the proposed action will not:
   a. Conflict with any Council management plan or program.
   b. Make any area unsuitable for any uses or activities to which it is allocated by a Council management plan or program; or
   c. Significantly damage the environment of the coastal region.

3. Applications shall:
   a. Describe the location and size of the area proposed.
   b. Identify the species to be managed or cultivated within the permitted area and over which the applicant shall have exclusive right.
   c. Describe the method or manner of management or cultivation to be utilized.
   d. Provide such other information as may be necessary to determine
      - The compatibility of the proposal with other existing and potential uses of the affected area and areas contiguous to it.
      - The degree of exclusivity required for aquacultural uses of the proposed site.

4. The Council shall consult with the Department of Environmental Management and the Marine Fisheries Council to ensure that the proposed project is not in conflict with any fisheries management plan, program or regulation.

5. It shall be further demonstrated by reliable and probative evidence that the coastal resources are capable of supporting the proposed activity including the impacts and/or effects upon:
   a. The riparian rights of adjacent land owners
   b. Navigation
   c. Water quality
   d. Marine and coastal recreation
   e. Native coastal and marine life forms

6. A Council permit for a proposed aquacultural activity will be in the form of a lease. Such lease shall contain such conditions as the Council shall deem necessary.

B. Any person who maliciously and willfully destroys, vandalizes or otherwise disrupts aquacultural activities which are the subject of a valid Council permit shall be deemed in violation of an order of the Council and liable to all fines and penalties under law.

C. The Council shall continue to support study and evaluation to identify potential aquaculture sites, use conflicts, and the types of aquaculture programs which are most economically and environmentally consistent with overall Council policy.

230 MINERALS EXTRACTION

230.0-1 FINDINGS:

A. Commercial minerals extraction in Rhode Island is at present limited to land based sand and gravel mining and a few small bedrock quarries. Hard stone quarrying has been an important industry in Rhode Island. At present, however, only a few small operations are active and there is no quarrying along the immediate shoreline.

B. Rhode Island's abundant onshore sand and gravel resource is extensively exploited and is of critical importance to the construction industry.

- Although land deposits of sand and gravel are abundant, use conflicts will increasingly limit the areas in which extraction may take place. It is therefore likely that within the next 10 to 20 years marine deposits will be proposed as a major commercial source of sand and gravel.

- Sand and gravel deposits are abundant on the sea floor in Narragansett Bay and the Sounds.

C. Minerals extraction may have major and long lasting environmental impacts.

- On land quarrying of hand stone and sand and gravel drastically changes the appearance of the land. Topsoil and vegetation are destroyed and ground water may be affected. Noise, dust and traffic are secondary impacts that are of great concern to neighboring land owners.

- Quarrying along the shore can have dramatic impacts on the supplies of sand and gravel needed to maintain nearby beaches, on the vulnerability of the area to storm damage and on the aesthetic qualities of the area. Along Rhode Island's intensively utilized shoreline there is no area where shoreline mining will not result in a host of use conflicts.

- Ocean sands and gravels are a valuable natural resource in that they form the reservoirs of material from which natural processes replenish the state's irreplaceable sand beaches which have the highest recreational, aesthetic, and environmental value. In both near and offshore waters they support commercially and recreationally valuable populations of shell-

fish and finfish. In many areas they are crossed by transmission cables and pipelines. The waters over them are used extensively by commercial and recreational craft. Mining of ocean sands and gravel may have any of the following effects on the marine environment:

- Disruption of natural beach replenishment cycles;
- Destruction of bottom organisms and disruption of bottom communities;
- Adverse impacts on finfish;
- Interference with navigation and recreation.

D. Neither field nor laboratory research has as yet conclusively established the potential for marine aggregate mining to either harm or benefit the marine environment. Research sponsored by the Council suggests however, that some species of fish avoid turbid waters such as those produced during marine sand and gravel extraction,

- The beneficial or adverse effects of marine aggregate mining upon other established uses of public waters is unknown.
- Additional research on potential environmental impacts is necessary before marine sand and gravel mining can be properly and effectively managed.

E. Under Title 46, Chapter 23 of the General Laws the Council is charged to approve, modify, set conditions for, or reject the design, location construction, alteration and operation of any minerals extraction activity in the State of Rhode Island when this activity is related to an area under the Council's jurisdiction regardless of its actual location. The Council's authority over such activities shall extend to situations in which there is a reasonable probability of conflict with a plan or program for resources management or of damage to the coastal environment.

230.0-2 POLICIES AND REGULATIONS:

A. 1. After receiving all other applicable state and local permits, persons proposing to extract mineral resources for any purpose within the State of Rhode Island shall be required to notify the Council of their intent.

2. Notification shall be in writing and shall be submitted at least 120 days prior to initiation of the proposed action. Notification shall describe in words and maps the location, nature, size and duration of the action, proposed environmental safeguards and any other information the Council may subsequently request.

3. Where on the basis of information presented to it in the above notification or by any other source the Council finds a reasonable probability of impacts on adopted resource management plans or programs and/or of damage to the coastal environment it shall require a Council permit to be obtained.

4. Applicants for such a permit shall be required to demonstrate by a fair preponderance of evidence that the design, location, construction, alteration and/or operation of the proposed action will not:

a. Conflict with any Council management plan or program.
b. Make any area unsuitable for any uses or activities to which it is allocated by a Council management plan or program.
c. Significantly damage the environment of the coastal region,

5. It shall be further demonstrated by reliable and probative evidence that:
   a. The coastal resources are capable of supporting the proposed activity including most particularly impacts associated with transportation, noise, site devegetation, alteration of ground water levels and runoff patterns, contamination of surface and groundwater, erosion, destruction of wildlife habitat and similar occurrences;
   b. The proposed activity is compatible with existing or proposed use of the site or contiguous areas including most particularly impacts associated with noise, dust, traffic, or aesthetic quality;
   c. The proposed activity is compatible with applicable local, state and federal plans, regulations or ordinances and standards including most particularly zoning ordinances, municipal plans, the State Guide Plan and water and air quality standards set by the Department of Health.

6. Subsequent to approving any minerals extraction proposal before it, the Council shall require the applicant:
   a. to post a performance bond in a form and amount to be specified in the assent;
   b. to specify the duration, seasons, days and hours during which the proposed activity will be in operation, and
   c. to identify appropriate restoration and reuse proposals for the area which will be initiated upon deactivization of the minerals extraction activity.

B. The mining or quarrying of any material from cliffs, bluffs, wetlands or beaches abutting tidal waters is expressly prohibited.

C. 1. The mining and extraction of minerals, including but not limited to sand and gravel from the territorial waters of the state of Rhode Island whether by land-based or floating machinery, has been prohibited by the Council as of 1975 and shall be prohibited until such time as sufficient technical and research data is shown to this Council to prove under what condition said extracting and mining may be carried out without adversely altering the marine environment or conflicting with other use of tidal waters. Council sponsored research is in progress.

2. This prohibition shall not be deemed to include dredging of tidal waters for navigational purposes, channel maintenance or beach replenishment.

240 NATIVE ENERGY RESOURCES

240.0-1 FINDINGS:

A. A crucial factor in the future of the Northeast is the supply and cost of the energy needed to power industry, heat homes, and provide transportation.

- The Northeast is presently heavily dependent upon imported oil.

- The costs of energy are relatively high in the region compared to other parts of the country. This climate is such that energy consumption in industries is also somewhat higher than in many other states. These factors tend to discourage some energy intensive industries from locating in the region.

(See Section 540.0-1) Our dependence on foreign oil makes us particularly vulnerable to the uncertainties of world politics.

- Rhode Island at present makes no significant use of energy resources from within the state's boundaries. Native energy resources do exist, however, and may become of great significance in the future.

B. Indications of the existence of deeply buried low sulphur coal have recently been found in the Narragansett Basin.

- Figure 2-2 summarizes the results of preliminary research in Rhode Island. Some of the most promising sites are in Newport and Bristol Counties.

- Preliminary data suggests that the 60 square mile area with the highest potential might contain 90 million tons of mineable coal of which some 15 million tons may lie within Rhode Island.

C. Solar energy is presently regarded as a potentially important source of energy that could provide a significant proportion of our energy needs.

- The total solar energy received by the state each year is many times our total annual energy consumption. The problem is that solar energy is diffused and must be concentrated to be usable as an energy source.

- Studies suggest that the most practical uses of solar energy are presently home water heating (for domestic and commercial use) and space heating. These two energy uses presently account for some 40 percent of Rhode Island's total annual energy consumption.

- Current studies indicate that heating water with solar power is presently competitive with electrical water heating.

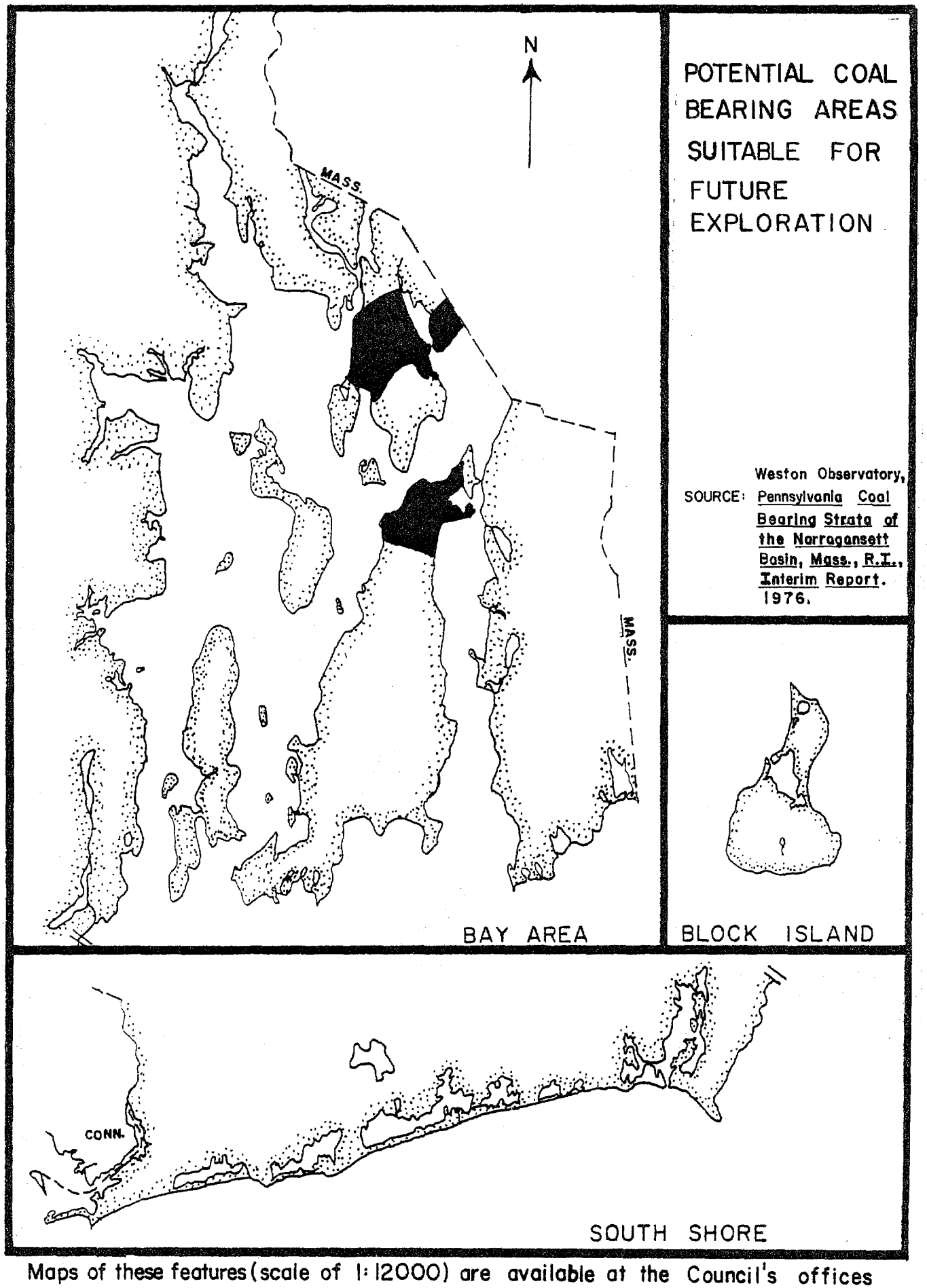
- The federal government has recently proposed a series of incentives which would encourage the installation of solar water heaters.

- Solar powered home heating by hot water or hot air has been proved feasible but the technology is not as readily available as that needed to provide hot water. The initial costs of installing such a system are high.

D. Wind power may prove to be a significant supplemental source of power in the future but many problems remain to be solved before wind power will be feasible as a significant energy source.

- No thorough analysis has been made of the possibility of utilizing wind power throughout Rhode Island. Providence, however, is one of the windiest cities in the U.S. with speeds averaging 10.7 mph over a year.

Figure 2-2



POTENTIAL COAL BEARING AREAS SUITABLE FOR FUTURE EXPLORATION

SOURCE: Weston Observatory, Pennsylvania Coal Bearing Strata of the Narragansett Basin, Mass., R.I., Interim Report. 1976.

Maps of these features (scale of 1:12000) are available at the Council's offices

- Large wind powered electricity generators could interfere with neighborhood television and radio reception, requiring special filters on the receivers or at the generating station.

- Wind power is probably most feasible as a supplemental energy source that could be used, for example, in conjunction with solar collectors and conventional power sources.

D. Water powered Rhode Island industries in the last century, but this energy source is presently almost entirely unutilized.

- There were 460 water wheels in operation in 1875 but only 4 in 1972.

- Water was used to power textile mills, saw mills, and grist mills. The Pawcatuck, Pawtuxet, Providence and Blackstone rivers were the sites for most water powered industries.

- Although the amount of power that can be produced in Rhode Island from water appears relatively small, water power could again be utilized to power some manufacturing plants and residential buildings.

- The total capacity of hydroelectric facilities is 10,000 kilowatts, enough to generate 1.5% of Rhode Island's electricity consumption.

E. Other native sources of energy include wood, solid waste and geothermal energy.

- As the cost of electricity, oil and gas spiral upwards more and more people are using wood stoves to help heat their homes. Highly efficient stoves are readily available and firewood is relatively inexpensive.

- The Rhode Island Solid Waste Management Corporation is planning to burn sewage sludge and solid waste in a power plant that is expected to produce 2 percent of the state's electricity needs by the early 1980's.

- Geothermal energy may prove to be a power source for centralized industries and institutions. The technology for using the resource in Rhode Island is still in the experimental phase. The concept is to drill approximately six kilometers down into the earth's crust and to circulate water to the bottom of the hole where it will become heated. The heated water or steam could be used for space heating or industrial process steam. It is unlikely to be developed in the next 10-20 years.

F. Energy conservation is in itself a major untapped energy resource.

- An alarming proportion of the energy consumed by industrial, commercial and residential users is wasted. A study by the New England Regional Commission projected that in 1990, only 40 percent of the energy consumed in Rhode Island will be used for the intended purpose. Sixty percent will be lost or made unavailable due to inefficiency in residential, commercial,

industrial, and transportation energy use. Losses due to the conversion of fuel to electricity, and inefficiency in the transportation sector were the two most important contributors to energy loss.

- Conservation of energy through more efficient space heating, appliances and building insulation will become an increasingly important element in the state's energy policy.

- Conservation options and potential must be evaluated as carefully and extensively as development of any other native energy resource.

- The recently adopted State Energy Conservation Plan shall assist Rhode Islanders in decreasing energy consumption through conservation practices.

240.0-2 POLICIES AND REGULATIONS:

A. The Council shall continue existing cooperative efforts with other state agencies and the Governor's Office in undertaking energy planning and formulating state energy policies.

B. Council Policies and Regulations regarding Ports, Commercial/Industrial and Energy Facility Siting recognize and accommodate state energy needs.

250 TERRESTRIAL SYSTEMS

250.1 Agriculture

250.1-1 FINDINGS:

A. New England agriculture has been declining for nearly a century. In Rhode Island land committed to agriculture has been reduced from some one half million acres in 1880 to only 46,800 acres in 1976.

- Many of the factors involved in this trend are beyond the capabilities of state government to redress. These include:
  - Competition from such other more productive farming regions as Florida, California and the Midwest;
  - Competition for labor from higher paying vocations in commerce and industry;
  - Drastic increases in labor, equipment and general production costs;
  - Increased productivity per acre for prime lands which discourages the continued working of marginal areas.

- Some factors are, however, responsive to management efforts. These include:
  - . Tax policies which influence residential or conversion of farm lands;
  - . Planning policies and siting criteria for residential and commercial-industrial development.

- It is possible that demands for less energy intensive farming, rising transportation costs, and increasing needs for food will gradually restore intra-regional competitiveness to New England and Rhode Island agriculture.

B. Agricultural lands have a significance which frequently exceeds their direct economic value:

- They are often ground water recharge areas.

- They provide scenic diversity and help maintain a rural environment.

- Cropland borders provide valuable wildlife habitat.

- They are valuable recreational lands following the growing season.

- Prime agricultural land as defined by the U.S. Department of Agriculture does occur in Rhode Island's coastal region.

C. Preservation of agricultural lands is an issue of statewide and not purely coastal significance. Management of agricultural lands must accomodate the statewide nature of the problems and issues involved if it is to properly and effectively address them.

- Agriculture is not a primary land use in the Rhode Island coastal region.

- Coastal agricultural policies cannot be formulated in isolation .

- Council Management Policies and Regulations must be formulated in the context of statewide initiatives.

250.1-2 POLICIES AND REGULATIONS:

A. The Council recognizes that local government has the principal responsibility to plan for and manage land use and development, much of which is of local concern only. It, however, encourages and shall endeavor to support local efforts to adopt plans, zoning ordinances and taxation policies that:

1. Recognize the social, environmental and economic values of prime agricultural lands.
2. Make a distinction in planning, zoning and taxation policies between urban areas (higher and medium intensity development in the coastal region plan) and rural areas (agricultural and rural/resource land in the plan), based on land capability and availability of public services.

3. Channel development away from agricultural land.
4. Make maximum utilization of the enabling provisions of the Forest, Farm and Open Space Tax Law (44-27-1, G.L.R.I.) to preferentially tax lands committed to long term agricultural uses.

B. The Council recognizes continued undirected low-density residential development as a major factor in the conversion of prime agricultural lands to other uses.

It finds so called "sprawl " a problem of statewide magnitude and concern, neither unique or indigenous to the coastal region. The Council consequently supports and urges passage of Bill 77H-6299, An act Establishing A State-Local Land Management Program. It finds the Act's purpose, to wit:

1. Relating development to physical capabilities of land.
2. Relating intensity of development to availability of public service.
3. Recognizing the areawide impact of some development decisions.
4. Protecting valuable natural resources and areas.
5. Reserving suitable sites for needed economic development.
6. Providing adequate housing for all residents.
7. Improving the visual quality of development.

fully consistent with and supportive of its own planning and management objectives relative to utilization of the state's coastal resources.

C. Pending passage of comprehensive statewide land management legislation, however, the Council finds there is much that it can do on its own authority to protect prime agricultural land from excessive development pressure.

Specifically, through its planning and management responsibilities regarding sewage treatment and disposal related activities and developments within or affecting the coastal region and its resources the Council has adopted siting policies and criteria for commercial and industrial developments.

250.2 Forests and Forest Transition Lands

250.2-1 FINDINGS:

A. Forests are a major land resource that presently occupy approximately 59 percent (395,000 acres) of Rhode Island's total land area.

- However, only 28% of the state's woodlands are located in the coastal cities and towns.

- Natural reforestation of abandoned fields has resulted in large increases in total forest acreage since the agricultural decline began in late 1800's. However, recent USDA

statistics show that total forest acreage has fallen by 8 percent since 1953. At the same time, the total volume of growing stock has doubled. Our forests are thus maturing but decreasing in acreage.

- Wood products from Rhode Island forests include pulp, veneer, firewood, and low grade construction lumber. Careful management can increase the economic value of our forest products, especially in light of rising energy needs and dwindling national supplies.

B. Forests provide important environmental and recreational amenities.

- Hiking trails, state and private camping facilities, sports clubs, hunting areas, etc. are usually situated within forested regions.

- Large forest tracts effectively moderate temperature and winds, and can help reduce air and noise pollution. Forest lands contribute to groundwater retention and check or prevent soil erosion.

- Some species of wildlife are highly dependent on forest ecosystems for breeding and feeding habitat.

- Forests are increasingly needed to provide recreational alternatives to crowded shoreline areas.

C. Abandoned fields and pastures are lands which are in varying stages of transition to a forest community.

- Such undeveloped open lands account for 25,000 acres or 4% of the state's total land area. Nearly 70% of these lands lie in coastal communities.

- Because their cover and vegetative characteristics differ from forest areas, transitional lands provide significant wildlife habitat. They are a land use type which is decreasing as natural plant succession proceeds.

D. Forest preservation and management is not a significant problem in the Rhode Island coastal region. However, the following state controls and programs contribute to preservation and restoration of this resource:

- The Department of Environmental Management regulates burning in forests and open lands.

- Swampland forests are protected and regulated under the provisions of the Freshwater Wetlands Act of 1971 (as amended).

- The Farm, Forest and Open Space Tax Law of 1968 provides for preferential taxation of lands committed to long term forest or open space use.

- Council management policies relating to forest preservation in the Rhode Island coastal region include:
  - Policies for the protection and aquisition of recreation areas. (Section 420.0-2).
  - Policies for the protection and aquisition of conservation and wildlife management areas. (Section 430.0-2).
  - Policies regarding residential development. (Section 510.0-2).
  - Policies for the siting of major facilities. (Section 540.0-2, 550.0-2, Chapter 6),

- The Agricultural Stabilization and Conservation Service within the U.S. Department of Agriculture administers programs which promote the preservation and management of R.I. woodlands.

- The Council does not at this time find a need to promulgate plans or policies in addition to those referenced above to ensure preservation and restoration of forests and/or forest transition lands.

250.3 Freshwater Wetlands

250.3-1 FINDINGS:

A. Freshwater wetlands are among the most valuable of all natural systems in Rhode Island.

- Approximately 60,000 acres of land in Rhode Island are classified as freshwater wetlands. A great majority of these are forested swamps. Washington County contains the greatest percentage of freshwater wetlands in Rhode Island.

- Freshwater wetlands are among the most biologically productive ecosystems, comparing favorably with intensively managed agricultural land.

- In addition to their well recognized fish and wildlife values, freshwater wetlands are important in water storage and frequently reduce flooding in low lying areas.

- They frequently have high aesthetic appeal and as undisturbed natural areas enhance outdoor educational and recreational opportunities.

B. Freshwater wetlands can significantly influence coastal waters.

- Negative impacts on coastal waters may result if drainage from wetland areas include toxic materials, organic nutrients, or heavy sediment loads.

- In general, the more inland a freshwater wetland is situated, the greater its chances of assimilating foreign substances or settling suspended sediments before impacting tidal areas.

C. Rhode Island's freshwater wetlands are protected and managed by legislative mandate. Principal state controls included the Freshwater Wetlands Act of 1971 (20-1-18 to 25, G.L.R.I.) and Department of Health water quality controls (46-12, G.L.R.I).

- The Freshwater Wetlands Act establishes as public policy the preservation of the purity and integrity of freshwater ponds, streams, rivers, swamps, marshes and bogs.

- The Freshwater Wetlands Act requires a Department of Environmental Management permit for any alteration to the character of a freshwater wetland and sets forth standards for unacceptable alteration:
  - . Reduction of flood retention and mitigation ability
  - . Reduction of groundwater recharge capacity
  - . Reduction of water quality
  - . Reduction of wildlife habitat or recreational value

- The Department of Health is the state's legislatively designated water pollution control agency. The Department is authorized and charged to:
  - . Prevent, control and abate pollution of the state's waters through appropriate rules and regulations
  - . Adopt and modify as necessary water quality standards
  - . Regulate discharge of sewage into state waters

- The Department of Environmental Management also undertakes the following management programs relative to freshwater wetlands:
  - . Fish and wildlife stocking
  - . Marsh construction
  - . Waterfowl inventorying
  - . Acquisition of wildlife habitat

D. The Council finds that its legislatively mandated responsibility to ensure "that preservation and restoration of ecological systems shall be the primary guiding principle upon which environmental alteration of coastal resources will be measured, judged and regulated" is best discharged through effective implementation of the above described state laws, regulations and programs.

250.3-2 POLICIES AND REGULATIONS:

A. It shall be the Council's policy to cooperate through its own planning, regulatory and permitting actions with the Department of Environmental Management and the Department of Health in implementing, respectively, the provisions of Title 20, Chapter 18 and Title 46, Chapter 12 of the General Laws as expressed by applicable rules and regulations promulgated pursuant thereto.

B. Council Policies and Regulations regarding recreation areas, conservation and wildlife management areas, residental development and major facility siting will be implemented with particular concern for their impact on the preservation and restoration of the state's freshwater wetlands.

250.4 Wildlife

250.4-1 FINDINGS:

A. Rhode Island's wildlife resources are abundant and provide important recreational and economic benefits long recognized by the Council and other state and private agencies.

- Wildlife, especially waterfowl, deer and rabbits support recreational hunting which supplies considerable revenues to the state in the form of licenses, ammunition and arms sales.
  - . Since 1938, portions of federal excise tax revenues on arms and ammunition have been returned to Rhode Island for the acquisition and management of wildlife lands. Approximately 8,000 acres of land have been acquired in this manner. They have also paid for fish and wildlife management activities on over 32,000 acres.

- An abundant wildlife resource helps maintain the attractiveness of the coastal region and is dependent upon adequate environmental diversity and quality.

- Non-game species are the most abundant of our wildlife resource. Songbirds and small mammals are particularly plentiful. Census counts and birdwatching are significant recreational and scientific activities. Rhode Island is more significant to migratory than to breeding waterfowl.

B. Department of Environmental Management wildlife management programs are designed to maintain healthy populations and to assure that adequate habitats are provided.

- Rhode Island's deer herd is estimated to be between 1200 and 2400 animals and is considered one of the healthiest herds in New England. Washington County and Prudence Island have the highest deer populations in the coastal region.

- Waterfowl hunting is well regulated. Waterfowl management includes programs in waterfowl banding and censuses, wildlife marsh construction, wood duck box and food plot establishment.

C. Residential and other developments are usurping many acres of wildlife habitat.

- Many wildlife populations are being forced into fewer and smaller areas. This is also causing increased restrictions on traditional hunting practices and recreational pursuits in general.

- While wetlands habitat destruction has slowed, changing land uses in upland regions place increasing pressures on wildlife.

- Species showing the greatest population gains in recent years are those which have readily adapted to suburban and other heavily altered landscape types.

D. The Council finds that the preservation and restoration of the wildlife resources of the coastal region is adequately provided for under existing state programs. These include:

- Department of Environmental Management wildlife management programs including regulation of hunting, seasonal closures, licensing, game breeding and stocking.

- Council Policies and Regulations regarding recreation areas, conservation and wildlife management areas, residential development and major facility siting.

- The Council does not at this time find a need to promulgate plans or policies in addition to those referenced above to ensure preservation and restoration of wildlife.

250.5 Public Water Supplies

250.5-1 FINDINGS:

A. Rhode Island is endowed with abundant freshwater resources. These include both surface water in the form of lakes, streams and reservoirs and groundwater supplies that may be exploited by drilling wells. Sources that are now developed for public water systems meet present needs.

- Approximately 130 million gallons of water a day is supplied by developed sources. These sources supply some 65 percent of the state's population.

- Major groundwater reserves in the coastal region are found in the upper Pawcatuck River area and along the west Bay. No major groundwater reserves with potential as public water supplies have been found on the Bay islands or on the east side of the Bay.

- Much remains to be learned about the size and characteristics of developable groundwater reserves before a full assessment can be made of the volumes and quality of water they could produce on a sustained basis. Investigations on this topic are in progress through the R.I. Water Resources Board. Cooperative programs exist between the State of Rhode Island and the Water Resources Division of the U.S. Geological Survey regarding the collection and analysis of freshwater data.

B. As far back as 1969 a report prepared by the Statewide Planning Program on public water systems stated that a growing population and a steadily increasing per capita rate of water consumption will require the development of new public water supplies.

- The report states that the per capita rate of water consumption will increase by 1.5 gallons a day each year.

- The report also forecasts continued increases in population and a heavier reliance on public, rather than individual water systems.

- Projections are that by 1990 public water supplies should be capable of providing an additional 67 million gallons per day.

- The 1969 report is now outdated since the rate of population growth has declined and all long range need projections have changed in light of new economic realities.

C. The development of major new water supplies involves a host of environmental and social issues.

- The State Water Resources Board was created by the legislature in 1967 and was charged to develop a comprehensive state water resources program. The Board is empowered to acquire property, construct facilities and approve or disapprove municipal water plans.

- The state Department of Health is responsible for water quality and must approve all public water supply sources and treatment plants.

- Present plans developed by the Water Resources Board include the construction of large inland reservoirs. This involves large tracts of land, relocating the population and flooding the land.

- The realization of large scale plans require a large measure of cooperation among effected towns and large sums of money. Both requirements have to date caused considerable debate and conflict.

D. None of the new reservoirs proposed by the Water Resources Board are in the coastal region. However, the Council recognizes that water supply is an issue of potentially great future significance.

- It will be necessary to reevaluate both population projections and consumption patterns to obtain an accurate picture of long term public water supply requirements.

- Conservation practices such as recycling and rate manipulation should all be considered for their impact on consumption rates and patterns.

- Provisions should be made to treat increased levels of waste water resulting from the utilization of greater amounts of source water by municipal and industrial facilities.

- Salt water intrusion into coastal freshwater wells may become a problem in the future. This issue should be evaluated.

250.5-2 POLICIES AND REGULATIONS:

A. It shall be the Council's policy to cooperate in any manner possible with the Water Resources Board and other state and municipal bodies involved in public water supply planning as that planning affects or involves the water resources of the coastal region.

B. Where the Council finds a relationship between water resources plans and programs and the resources of the coastal region it shall ensure that such plans and programs are consistent with the Coastal Resources Management Program.

Chapter 3
Pollution

310 COASTAL WATER QUALITY

310.0-1 GENERAL FINDINGS:

Pollution may be considered as any action that overtaxes the capacity of the environment to assimilate wastes. This section concentrates upon the pollution of coastal waters. The major sources of coastal pollution are municipal sewage plants, industrial discharges, urban and rural runoff, solid waste disposal, and leachate from individual septic systems. Other pollution sources discussed elsewhere in this document include recreational boating/marinas (Section 440), shipping (Section 520) oil spills (Section 630 & 640) and dredging (Section 530). The major consequences of the pollution of coastal waters are:

- the alteration of chemical or physical properties of marine waters so that they no longer provide a suitable habitat for natural biological communities (e.g., pH, temperature, salinity)
- the accumulation of toxins, carcinogens or pathogens which threaten the welfare of man or aquatic organisms (e.g., heavy metals, hydrocarbons, bacteria and viruses carried in sewage)
- disruption of ecological balances in marine waters upon which natural biological communities depend (e.g., excessive oxygen consumption or nutrient input)
- the addition of man-made substances foreign to the marine environment whose impacts are largely unknown (e.g., polychlorinated biphenyls (PCBs), kepone)
- the disruption or burial of bottom communities due to increased sedimentation.

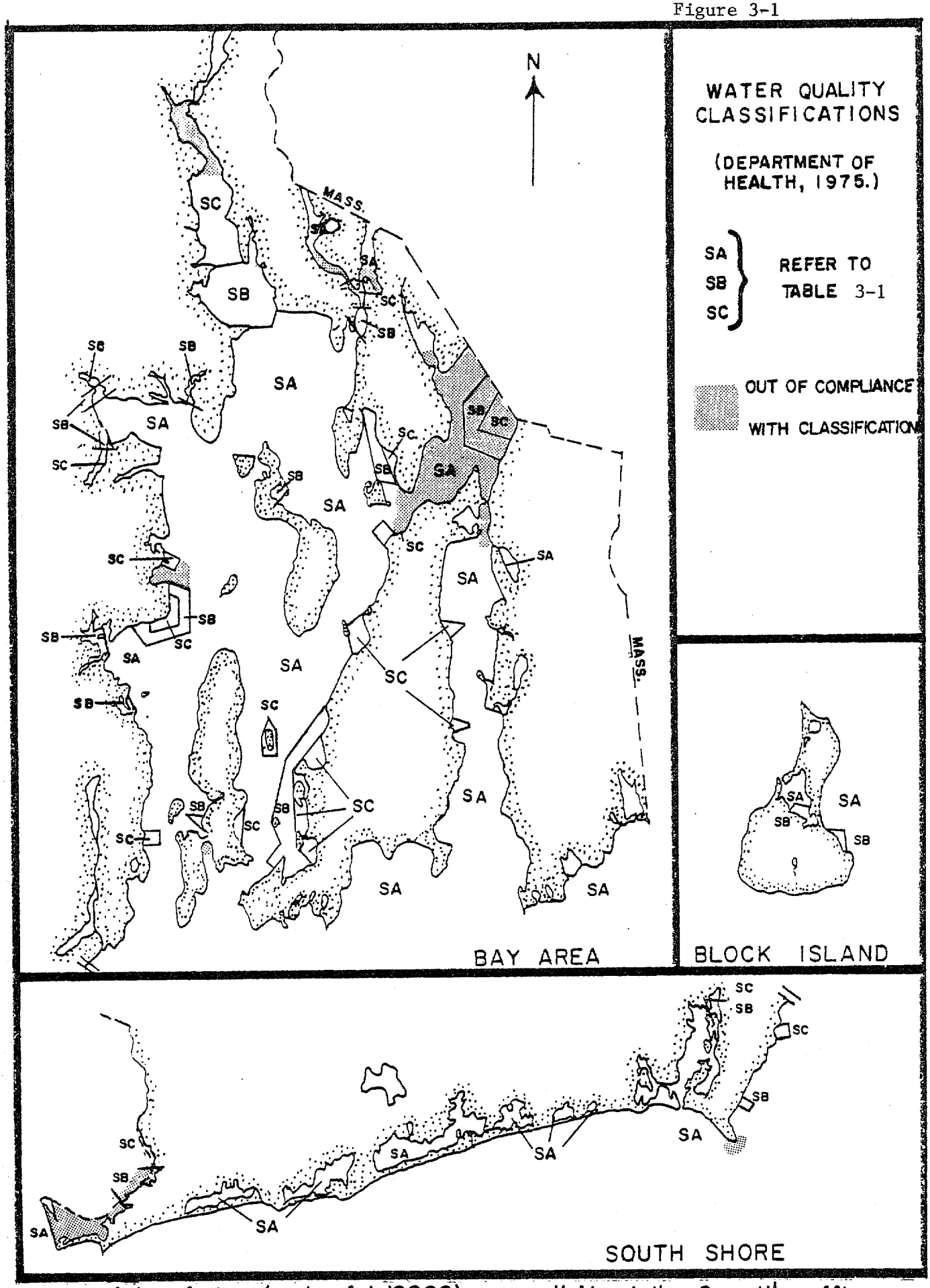
310.1 An Assessment

310.1-1 FINDINGS:

A. Water quality in Rhode Island's coastal waters is generally good and is improving.

- A map showing the classification of coastal waters and those areas which are out of compliance is presented in Figure 3-1. The classification criteria and allowable uses are shown in Table 3-1. (The classifications of the state's waters are currently being revised).
- 92% of Narragansett Bay and its major tributaries are presently meeting class SA or SB standards. This percentage is expected to increase to 96% by 1983.

Figure 3-1



Maps of these features (scale of 1:12000) are available at the Council's offices

TABLE 3-1

STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS DEPARTMENT OF HEALTH DIVISION OF WATER POLLUTION CONTROL WATER QUALITY CRITERIA FOR CLASSIFICATION OF WATERS OF THE STATE ADOPTED 1967, revised 1973, 1975, 1977

GENERAL POLICY

The following are the criteria of water quality adopted for use in the classification of the waters of the state. In classification of the waters, consideration is given to all factors involved, including public health, public enjoyment, propagation and protection of fish and wildlife, and economic and social development. Classifications are not intended to permit indiscriminate waste disposal or to allow minimum efforts of waste treatment under any circumstances.

In the discharge of waste treatment plant effluents to the receiving waters, cognizance shall be given both in time and distance to allow for mixing of effluent and stream. Such distances required for complete mixing shall not affect the water usage Class adopted but shall be defined and controlled by the regulatory authority.

ANTIDEGRADATION

I. No new discharges permitted into Class A, SA, B, or SB waters. This prohibition shall not apply where it is demonstrated by the applicant to the state that the discharge under most adverse conditions will not impair any usages specifically assigned to the class and the waters will not be degraded below existing classification. Most adverse conditions shall include but not limited to minimum dilution predictable and complete disruption in operation at any treatment system. This prohibition shall not apply to normal stormwater drainage.

II. Waters whose existing quality is better than the established standards as of the date on which such standards become effective will be maintained at such high quality unless it has been affirmatively demonstrated to the Director and after a public hearing that a change is justifiable as a result of necessary economic or social development and will not result in a significant loss of a use presently possible in such waters. Any industrial, public, or private project or development which would constitute a new source of pollution or an increased source of pollution to high quality waters will be required to provide the highest and best practicable means of waste treatment to maintain high water quality. In implementing this policy, the Administrator of the Federal Environmental Protection Agency will be kept advised and will be provided with such information as he will need to discharge his responsibilities under the Federal Water Pollution Control Act, as amended.

In the review of EPA NPDES[1] permits, no approval will be given unless or until the Director has information on existing water quality for the substances to be discharged.

[1] National Pollutant Discharge Elimination System

TABLE 3-1 (continued)

STATE OF RHODE ISLAND
DEPARTMENT OF HEALTH
DIVISION OF WATER POLLUTION CONTROL

WATER QUALITY CRITERIA FOR FRESH WATERS

Item	Class A	Class B	Class C	Class D
	Suitable for water supply and all other water uses; character uniformly excellent.	Suitable for bathing, other recreational purposes, agricultural uses, industrial processes and cooling; excellent fish and wild life habitat; good aesthetic value; acceptable for public water supply with appropriate treatment.	Suitable for fish and wild life habitat, recreational boating, and industrial processes and cooling; good aesthetic value.	Suitable for navigation, power, certain industrial processes and cooling, and migration of fish; good aesthetic value.
1. Dissolved oxygen	75% saturation, 16 hours/day, but not less than 5 mg/l at any time.	75% saturation, 16 hours/day, but not less than 5 mg/l at any time.	Minimum 5 mg/l any time. Normal seasonal and diurnal variations above 5 mg/l will be maintained. For sluggish eutrophic waters, not less than 4 mg/l at any time. Normal seasonal and diurnal variations above 4 mg/l will be maintained.	A minimum of 2 mg/l at any time.
2. Sludge deposits-solid refuse-floating solids-oils-grease-scum	None allowable	None allowable	None (See Note 7)	None (See Note 7)
3. Color and turbidity	None other than of natural origin. Not to exceed 5 Jackson Units (5 JU).	None in such concentrations that would impair any usages specifically assigned to this Class. Not to exceed 10 JU.	None in such concentrations that would impair any usages specifically assigned to this Class. Not to exceed 15 JU.	None in such concentrations that would impair any usages specifically assigned to this Class

TABLE 3-1 (continued)

FRESH WATER (Continued)

Item	Class A	Class B	Class C	Class D
4. Coliform bacteria	Not to exceed a median of 100 per 100 ml nor more than 500 in more than 10% of samples collected	Not to exceed a median of 1,000 per 100 ml nor more than 2,400 in more than 20% of samples collected	None in such concentrations that would impair any usages specifically assigned to this Class	None in such concentrations that would impair any usages specifically assigned to this Class
5. Fecal coliform bacteria/100 ml	(See Note 12)	(See Note 12)		
6. Taste and odor	None other than of natural origin	None in such concentrations that would impair any usages specifically assigned to this Class nor cause taste and odor in edible portions of fish	None in such concentrations that would impair any usages specifically assigned to this Class nor cause taste and odor in edible fish	None in such concentrations that would impair any usages specifically assigned to this Class
7. pH	As naturally occurs	6.5 - 8.0, or as naturally occurs.	6.0 - 8.5	6.0 - 9.0
8. Allowable temperature increase	None other than of natural origin	Only such increases that will not impair any usages specifically assigned to this Class (See Note 6)	Only such increases that will not impair any usages specifically assigned to this Class or causes the growth of unfavorable species of biota.	None except where the increase will not excee the recommended limits on the most sensitive water use and in no case exceed 90°F.
9. Chemical constituents	(See Note 5)	(See Note 5)	(See Note 5)	(See Note 5)

TABLE 3-1 (continued)

NOTES: FRESH WATER

1. These Standards do not apply to conditions brought about by natural causes.

2. Class D waters will be assigned only where a higher water use Class cannot be attained after all appropriate waste treatment methods are utilized. Appropriate waste treatment shall be secondary treatment with disinfection or the equivalent.

3. All sewage treatment plant effluents shall receive disinfection before discharge into a watercourse.

4. Any water falling below the standards of quality for a given Class shall be considered unsatisfactory for the uses indicated for that Class. Waters falling below the standards of quality for Class D shall be Class E and considered to be in a nuisance condition.

5. Chemical Constituents

   a. Waters shall be free from chemical constituents and radio-active materials in concentrations or combinations which would be harmful to human, animal, or aquatic life for the appropriate most sensitive and governing water class use or unfavorably alter the biota.

   b. In areas where fisheries are the governing considerations and approved limits have not been established, bioassays shall be performed as required by the appropriate agencies. The latest edition of the federal publication Water Quality Criteria will be considered in the interpretation and application of bioassay results. Bioassays shall be performed according to the latest edition of Standard Methods for the Examination of Water and Wastewater (APHA).

   c. Phosphorus Concentration - none in such concentration that would impair any usages specifically assigned to said Class. New discharges of wastes containing phosphates will not be permitted into or immediately upstream of lakes or ponds. Phosphates shall be removed from existing discharges to the extent that such removal is or may become technically and reasonably feasible.

   d. For public drinking water supplies, the limit prescribed by the United States Environmental Protection Agency will be used where not superseded by more stringent state requirements.

   e. The latest edition of Environmental Protection Agency Quality Criteria for Water, the latest edition of Water Quality Criteria State of California, and other scientifically acceptable criteria will be used as guidelines in assessing impacts of chemical constituents in the issuance of permits and implementing other water quality improvement programs.

TABLE 3-1 (continued)

6. The temperature increase shall not raise the temperature of the receiving waters above the recommended limit on the most sensitive receiving water use and in no case exceed 83°F. In no case shall the temperature of the receiving water be raised more than 4°F. Heated discharges into designated trout habitats shall not raise the temperature above 50°F during October to 15 June nor greater than 54°F, 15 June through September.

7. Sludge deposits, floating solids, oils, grease and scum shall not be allowed except for such small amounts that may result from the discharge of appropriately treated sewage or industrial waste effluents.

8. The minimum average daily flow for seven consecutive days that can be expected to occur once in ten years shall be the minimum flow to which the standards apply.

9. Class B and C waters shall be substantially free of pollutants that:

   a. Undesirably affect the composition of bottom aquatic life,

   b. Undesirably affect the physical or chemical nature of the bottom,

   c. Interfere with the propagation of desirable aquatic life.

10. Class A waters in use for drinking water supply may be subject to restricted use by State and local authorities.

11. The latest edition of Standard Methods for Examiniation of Water and Wastewater, APHA, will be followed in the collection, preservation, and analysis of samples. Where a method is not given, the latest procedures of the American Society for Testing Material (ASTM) will be followed. Other methods recommended by the Environmental Protection Agency (EPA) can be used, if legally acceptable.

12. As a guideline, pending further research, a fecal coliform criteria for Class A waters of a median of 20 per 100 ml, not more than 200 per 100 ml in more than 10% of the samples collected, and for Class B waters a median value of 200 per 100 ml, not more than 500 per 100 ml in more than 20% of the samples collected, will be used.

13. In the case of thermal discharges, where mixing zones are allowed, the mixing zone will be limited to no more than 1/4 of the cross sectional area and/or volume of flow of stream or estuary, leaving at least 3/4 free as a zone of passage.

14. All small streams tributary to Class A waters shall be Class A. All other small streams where the classification is not indicated shall be Class B.

TABLE 3-1 (continued)

NOTES: SEA WATER

S - 1 Sea waters are those waters subject to the rise and fall of the tide.

S - 2 All sewage treatment plant effluents shall receive disinfection before discharge to sea waters.

S - 3 The water quality standards do not apply to conditions brought about by natural causes.

S - 4 The waters shall be substantially free of pollutants that will:

a. Unduly affect the composition of bottom fauna,
b. Unduly affect the physical or chemical nature of the bottom,
c. Interfere with the propagation of fish and shellfish,
d. Undesirably alter the qualitative and quantitative character of the biota.
e. The latest edition of Environmental Protection Agency Water Quality Criteria for Water, the latest edition of Water Quality Criteria State of California, and other scientifically acceptable criteria will be used as guidelines in assessing impacts of chemical constituents in the issuance of permits and implementing other water quality improvement programs.

S - 5 Bacteriological surveys of sea waters should include sampling during periods when the most unfavorable hydrographic and pollution conditions prevail.

S - 6 Any water falling below the standards of quality for a given Class shall be considered unsuitable for the uses indicated for that Class. Waters falling below the standards of quality for Class SD shall be Class SE and considered to be in a nuisance condition.

S - 7 The level of radioactive materials in all waters shall not be in concentrations or combinations which would be harmful to human, animal or aquatic life, or result in concentration in organisms producing undesirable conditions.

S - 8 In the case of thermal discharges into tidal rivers or estuaries, where mixing zones are allowed, the mixing zone will be limited to no more than 1/4 of the cross sectional area and/or volume of flow of stream or estuary, leaving at least 3/4 free as a zone of passage. In wide estuaries and oceans, the limits of mixing zones will be established by the Director.

S - 9 As a guide, pending further research, for Class SA waters a fecal coliform criteria of a median value of 15 per 100 ml not more than 10 percent of the samples exceeding 50 per 100 ml and for Class SB waters and a fecal coliform criteria of a median value of 50 per 100 ml and not more than 500 per 100 ml in 10 percent of the samples collected, will be used.

TABLE 3-1 (continued)

S - 10 Temperature increase: None except where the increase will not exceed the recommended limit on the most sensitive receiving water use and in no case exceed 83°F or in any case raise the normal temperature more than 1.5°F, 15 June through September and not more than 4°F from October through 15 June at the boundary of such mixing zones as is found to be reasonable by the Director.

S - 11 The latest edition of the federal publication Water Quality Criteria will be considered in the interpretation and application of bioassay results. Bioassays will be performed according to the latest edition of Standard Methods for the Examination of Water and Wastewater (APHA).

S - 12 The latest edition of Standard Methods for Examination of Water and Wastewater, APHA, will be followed in the collection, preservation, and analysis of samples. Where a method is not given, the latest procedures of the American Society for Testing Materials (ASTM) will be followed. Other methods recommended by the Environmental Protection Agency (EPA) can be used, if legally acceptable.

* SD and SE classifications have been eliminated as water quality goals. Descriptions of these classes are as follows:
  SD - Suitable for navigation, industrial cooling, and migration of fish; good aesthetic value
  SE - Nuisance, unsuitable for most uses.

TABLE 3-1 (continued)

STATE OF RHODE ISLAND
DEPARTMENT OF HEALTH
DIVISION OF WATER POLLUTION CONTROL

WATER QUALITY CRITERIA FOR SEA WATER *

Item	Class SA	Class SB	Class SC
	Suitable for all sea water uses including shellfish harvesting for direct human consumption (approved shellfish areas), bathing and other water contact sports.	Suitable for bathing, other recreational purposes, industrial cooling and shellfish harvesting for human consumption after depuration (restricted shellfish area); excellent fish and wild life habitat; good aesthetic value.	Suitable fish, shellfish and wild life habitat; suitable for recreational boating, and industrial cooling; good aesthetic value.
1. Dissolved oxygen	Not less than 6.0 mg/l at any time	Not less than 5.0 mg/l at any time	Not less than 5 mg/l during at least 16 hours of any 24-hour period nor less than 4 mg/l at any time
2. Sludge deposits-solid refuse-floating solids-oils-grease-scum	None allowable	None allowable	None except that amount that may result from the discharge from a waste treatment facility providing appropriate treatment
3. Color and turbidity	None in such concentrations that will impair any usages specifically assigned to this Class	None in such concentrations that would impair any usages specifically assigned to this Class	None in such concentrations that would impair any usages specifically assigned to this Class
4. Coliform bacteria per 100 ml	Not to exceed a median MPN of 70 and not more than 10% of the samples shall ordinarily exceed an MPN of 230 for a 5-tube decimal dilution or 330 for a 3-tube decimal dilution	Not to exceed a median value of 700 and not more than 2300 in more than 10% of the samples	None in such concentrations that would impair any usages specifically assigned to this Class

TABLE 3-1 (continued)

SEA WATER (Continued)

	Item	Class SA	Class SB	Class SC
5.	Fecal coliform bacteria/100 ml	(See Note S.9)	(See Note S.9)	
6.	Taste and odor	None allowable	None in such concentrations that would impair any usages specifically assigned to this Class and none that would cause taste and odor in edible fish or shellfish	None in such concentrations that would impair any usages specifically assigned to this Class and none that would cause taste and odor in edible fish or shellfish
7.	pH	6.8 - 8.5	6.8 - 8.5	6.5 - 8.5
8.	Allowable temperature increase	(See Note S.10)	(See Note S.10)	(See Note S.10)
9.	Chemical constituents (See Note S.4)	None in concentrations or combinations which would be harmful to human, animal or aquatic life or which would make the waters unsafe or unsuitable for fish or shellfish or their propagation, impair the palatability of same, or impair the waters for any other uses	None in concentrations or combinations which would be harmful to human, animal or aquatic life or which would make the waters unsafe or unsuitable for fish or shellfish or their propagation, or impair the water for any other usage assigned to this Class	None in concentrations or combinations which would be harmful to human, animal or aquati life or which would mak the waters unsafe or unsuitable for fish or shellfish or their prop agation, or impair the water for any other usa assigned to this Class
10.	Radioactivity	(See Note S.7)	(See Note S.7)	(See Note S.7)

- Since 1967, water quality improvements have eliminated the SE category for existing conditions and the SD category as a water quality goal. Major improvement has occurred in the Seekonk River (from SE to SC).

- 74% of the total possible shellfishing areas of the state are open (class SA) and an additional 8% are conditional waters open except after periods of heavy runoff. (data from Jan. 1975, Dept. of Health).

- Some fishery resources whose previous decline has been at least in part attributed to pollution, appear to be recovering.
  - Sport fish have recently been taken in the upper Providence River.
  - Blue crabs and bay scallops that all but disappeared in the 1960's appear to be returning to some estuarine waters.

B. Pollution in the Providence River and in Upper Narragansett Bay caused by discharges from the sewage collection and treatment systems of the cities of Providence, Central Falls, and Pawtucket, is by far the most severe water quality problem in Rhode Island's coastal waters.

- The Providence sewage treatment plant at Field's Point is grossly under-equipped to handle the sewage it receives:
  - Antiquated and failing equipment cannot provide the level of treatment necessary to meet EPA's minimum requirements for 85% BOD (biochemical oxygen demand) removal.
  - Dry weather flows to the plant presently exceed the design capacity.
  - The treatment provided does not remove pollutants contained in the industrial sewage received by the plant.
  - The cost of the repairs necessary to make the plant meet Environmental Protection Agency requirements are estimated at $8.5 million.

- The very extensive network of combined sewer systems of Providence, Pawtucket, and Central Falls deliver an unmeasured amount of untreated stormwater mixed with raw sewage to the Providence River during rainy weather.
  - The cost of totally separating the sewers from the storm drains in the Providence system alone is estimated at $250 million.
  - Alternative abatement strategies are now being studied. However, planning and implementation have been projected to take as long as 10 years.

- Existing water quality in the Providence River is rated SD.
  - Severe oxygen depletion occurs during summer months in some segments making the waters uninhabitable for most aquatic life.

- Harvesting of one of the richest shellfishing areas of Narragansett Bay is severely curtailed by pollution from the Providence area.
  - The northernmost part of Narragansett Bay is classified SB and thus is permanently closed to harvesting of shellfish for direct consumption.
  - A larger area of the Upper Bay is classified SA but is only conditionally opened to shellfishing. Overflows from the combined sewer systems make it necessary to close the area after half an inch or more of precipitation.
  - The conditional area was closed for 185 days in 1976.
  - The percentage of time the area has been closed increased in 1977 largely because of equipment failures at the Fields' Point sewage treatment plant.

- The Providence River is the major source of heavy metals and hydrocarbons entering Narragansett Bay.

C. Inflow from polluted freshwater systems or from tidal waters outside of our state boundaries contributes to the degradation of Rhode Island's coastal waters.

- The lower reaches of the Pawtuxet River is out of compliance with its C classification.
  - Existing quality is rated D and E. The latter is considered a nuisance condition.
  - As a result pollution problems are aggravated in the Providence River which receives the waters of the Pawtuxet.

- Water quality in areas of Mt. Hope Bay in RI is out of compliance with its SB and SC classification due to upstream discharges from the city of Fall River, Massachusetts.
  - The Fall River sewage treatment plant provides only primary treatment.
  - Fall River has a combined sewer system which discharges untreated storm water and raw sewage through 11 overflows.
  - Interstate cooperation with Massachusetts is essential if the planning and implementation of a pollution abatement strategy is to succeed in Mt. Hope Bay.

D. Rhode Island's SA waters are a valuable resource which deserve particular attention and protection; in spite of a high water quality classification, some of these areas appear to be threatened by eutrophication (a process in which high nutrient input causes excessive plant growth whose decomposition may result in oxygen depletion).

- SA waters need protection because:
  - these areas provide opportunities for recreational and commercial shellfishing;
  - their aesthetic quality makes them desirable areas for boating;
  - high water quality ensures habitat suitability for aquatic life.

- There is a need to monitor areas where eutrophication may be a growing problem. Examples of areas of concern include the Pettaquamscutt River, Greenwich Bay, and Bullock's Cove.
  - Estuarine waters most susceptible to eutrophication include those where flushing rates are low, (some coastal ponds and sheltered embayments) and where there is a plentiful supply of nutrients from sources such as septic system leachate,runoff or sewage from boats.
  - Eutrophication results from an imbalance in complex ecological relationships. Thus, determining when the potential for eutrophication exists is difficult.
  - Present monitoring techniques, which rely heavily on dissolved oxygen measurements, only identify eutrophication problems after oxygen depletion, and thus ecological stress, has occurred.

E. The presence and accumulation of toxins, particularly metals and hydrocarbons, in Rhode Island's marine ecosystems poses a potential hazard to the viability and productivity of biological communities, including valuable fish and shellfish resources.

- Numerical criteria for allowable concentrations of these substances in the water column or in fish or shellfish intended for human consumption have not been established (with the exception of mercury concentrations in food items involved in interstate commerce).
  - The EPA has published guidelines for allowable levels of many substances in Quality Criteria for Water (1976).
  - The Department of Health uses "alert levels" established by the Federal Food and Drug Administration to determine when metal concentrations in shellfish exceed those which could result from incorporation at natural background levels. Such information is used to identify new or increasing metal discharges.

  - Metal concentrations in shellfish have also been used to restrict areas to which shellfish may be transplanted for depuration.
  - While lethal concentrations of these toxins have been determined for many organisms, synergistic effects with other pollutants, and sub-lethal disruptions of physiological processes and behavior patterns are not as well understood. Transport and accumulation in the environment and through the food chain are under investigation.

- The lack of criteria, and the absence or expense of accurate methods of measurements have limited monitoring efforts.
  - The Department of Health, however, is increasing its monitoring of metals in known discharges.

- Summaries of the available information on the distribution and concentrations of metals, hydrocarbons, and PCB's in the waters, sediments, and organisms of Rhode Island's coastal ecosystems gathered during investigations conducted by URI researchers, EPA, and the Department of Health have been prepared as part of the Rhode Island Coastal Ecosystem Inventory .

- The available data indicate that concentration gradients of all three substances increase toward the upper Bay and the Providence River.
  - It has been estimated that 30-60% of the suspended hydrocarbons entering Narragansett Bay from the Providence River are discharged from the Field's Point sewage treatment plant. (Van Vleet and Quinn, in press, 1977).
  - The major input of metals to the Bay is attributed to discharges into municipal sewage systems from the jewelry and metal working industries in the Providence Area.
  - PCB concentrations are also highest in the sediments near the outfall from the Field's Point plant. Concentrations are not at hazardous levels at this time. Prohibitions on PCB discharges will prevent further accumulation, although minor inputs could occur from atmospheric input, sewage discharges, and drainage from landfills.

- Metals, hydrocarbons, and PCB's accumulate in sediments; pollution will therefore continue to be a problem even after discharges have been eliminated.

- More information is needed on:
  - the impacts of both metals and hydrocarbons on fish and shellfish resources;
  - possible human health hazards associated with consumption of contaminated fish and shellfish (it should be noted that depuration may not remove metal or hydrocarbon contamination);

. the distribution of metals and hydrocarbons in areas which have not previously been sampled;
. the relative importance of different sources of these pollutants.

F. Non-point sources of pollution are a great threat to coastal waters which are presently of high quality.

- Non-point sources of pollution include runoff, leachate from septic systems and landfills, marinas and dredging and spoil disposal.
  . Runoff and leachate from septic systems pose the greatest potential hazard as development spreads to shoreline areas bordering waters of high quality. (Additional information on the impacts and present regulations relating to these discharges is presented in the discussions of pollution sources).

- Non-point sources are often difficult to control and regulate.
  . There are few regulations governing runoff.
  . Existing regulations for septic systems do not adequately prevent nutrients from entering adjacent waterways, and cannot prevent pollution from older, poorly designed systems.
  . Enforcement of pollution regulations applicable to recreational boats is difficult.

- The "208" Areawide Water Quality Management Program is assessing the impact of non-point sources and will develop a management plan for abatement. The study will be completed in 1978.

310.2 Municipal Wastewater Treatment Facilities

310.2-1 FINDINGS:

A. Municipal wastewater treatment and disposal facilities are the major generators of pollution where severe water quality degradation has occurred in Rhode Island waters, including areas such as the Providence River, Mt. Hope Bay, and the Pawtuxet and Blackstone Rivers.

- These facilities discharge tremendous quantities of suspended solids, nutrients, organic material, micro-organisms, hydrocarbons, and other potentially toxic substances.

- Impacts of these discharges on the receiving waters include increased oxygen consumption, accelerated eut rophication, the presence of pathogenic organisms, the accumulation of toxic substances in sediments and organisms, increased turbidity, and alteration of sediment characteristics.

- As new facilities are built and existing systems are expanded to meet the goals of the Federal Water Pollution Control Act Amendments of 1972, (FWPCA), the volume of and number of sites affected by these discharges is increasing. However, more stringent requirements on the level of treatment provided will reduce the total quantity of pollutants introduced to receiving waters.

- The volume of sewage sludge being generated is increasing and poses a difficult disposal problem. (The Areawide Water Quality Management Program includes a sludge management study).

- The problems associated with combined sewer systems and industrial discharges into municipal facilities are discussed in the sections on Runoff (310.5-1) and Industrial Effluents (310.3-1) respectively.

B. 23 of the 39 cities and towns in Rhode Island are serviced by 15 existing publicly owned wastewater treatment and/or disposal facilities. (See Figure 3-2 and Table 3-2).

- 1 system (Jamestown) provides no treatment.
- 7 of the facilities presently provide only primary treatment (See Table 3-3).
- These 8 facilities will not meet the Environmental Protection Agency July 1, 1977 deadline for compliance with secondary treatment requirements. Target compliance dates are shown in Table 3-3.
- 2 of the existing facilities have average daily flows which exceed the designed capacity of the plant (See Table 3-3).
- 4 communities (Providence, Pawtucket, Central Falls, and Newport) have combined sewer systems.
- Facilities in the construction and planning stages are shown in Figure 3-2 and Table 3-2.

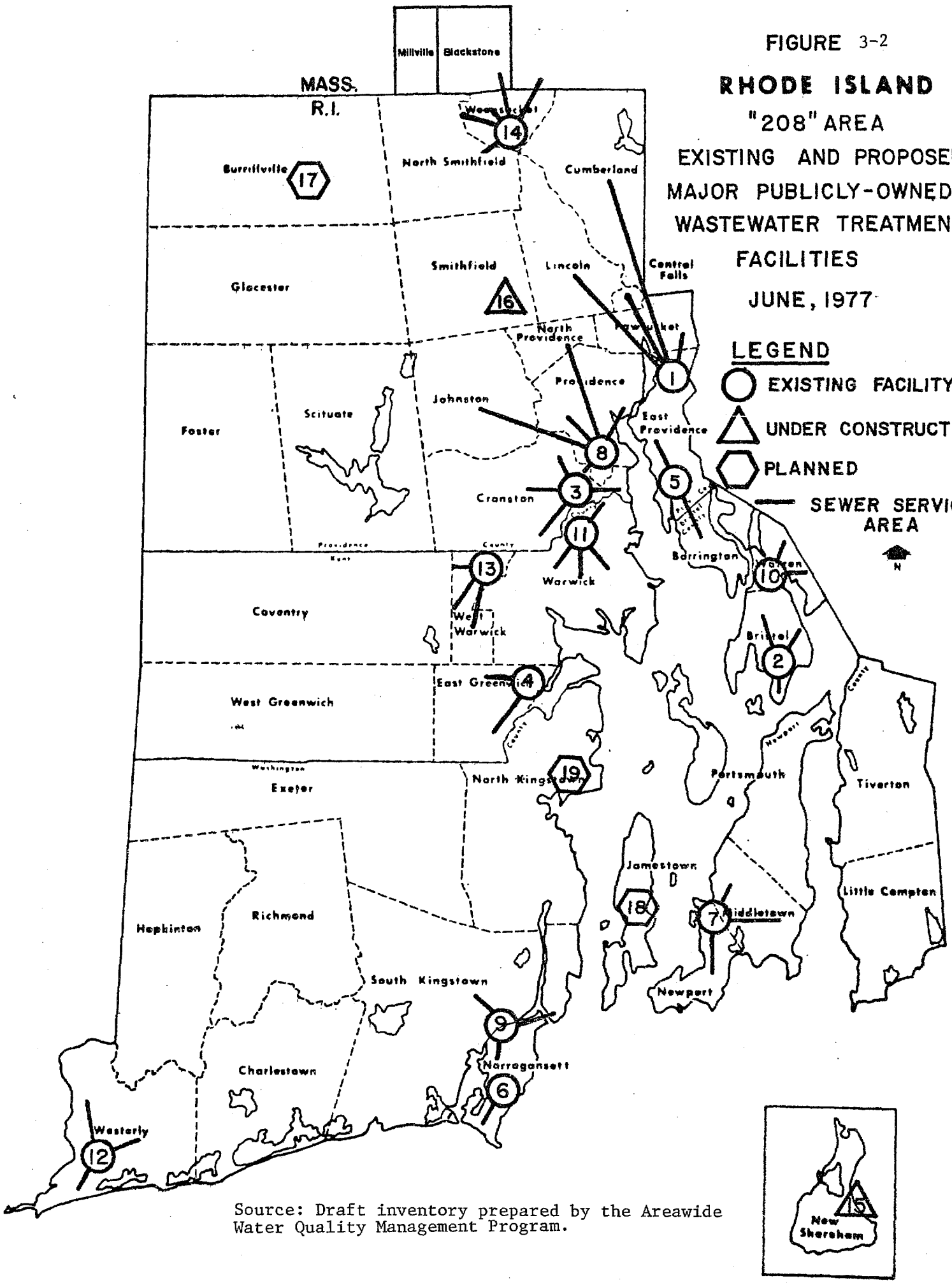


FIGURE 3-2

RHODE ISLAND

"208" AREA

EXISTING AND PROPOSED MAJOR PUBLICLY-OWNED WASTEWATER TREATMENT FACILITIES

JUNE, 1977

Source: Draft inventory prepared by the Areawide Water Quality Management Program.

TABLE 3-2

EXISTING AND PROPOSED PUBLICLY OWNED
WASTEWATER TREATMENT FACILITIES

(Key to Figure 3-2)

EXISTING (level of treatment)

1. BVDC (secondary)
2. Bristol (primary)
3. Cranston (secondary)
4. East Greenwich (secondary/tertiary)
5. East Providence (secondary)
6. Narragansett-Scarborough (primary)
7. Newport (primary)
8. Providence (secondary)
9. South Kingstown-Narragansett (secondary)
10. Warren (primary)
11. Warwick (secondary)
12. Westerly (primary)
13. West Warwick (secondary)
14. Woonsocket (secondary facilities operational by August, 1977)

19. Quonset (existing primary plant to be abandoned, new secondary facility planned at different location at Quonset)

UNDER CONSTRUCTION (level of treatment)

15. New Shoreham (advanced using microstrainers)
16. Smithfield (advanced using microstrainers)

PLANNED (level of treatment)

17. Burrillville (secondary + phosphorus removal)
18. Jamestown (secondary)
19. Quonset-North Kingstown (secondary)

Source: Draft inventory prepared by the Areawide Water Quality Management Program

Table 3-3

SUMMARY OF SELECTED DATA
ON MUNICIPAL WASTEWATER TREATMENT FACILITIES

TREATMENT FACILITY		POPULATION 1975 EST.	APPROX. % POPULATION SERVED	DESIGN FLOW, MGD	AVG.DAILY FLOW, 1976, MGD	RECEIVING WATER	WATER QUALITY EXISTING	WATER QUALITY CLASS.	LEVEL OF TREATMENT PRESENT	LEVEL OF TREATMENT PROPOSED	TARGET DATE
BLACKSTONE VALLEY DISTRICT COMM.	(1)			31.0	20.46	Seekonk River	SC	SC	Secondary-Activ.Sludge	Modifications to existing system to meet effluent standards and operate at design capacity	1981
-Central Falls		17,900	100%		2.29						
-Cumberland		27,900	29%		0.76						
-E.Providence (Rumford)		11,700	55%		2.28						
- Lincoln		17,700	16%		2.23						
- Pawtucket		74,000	98%		12.90						
BRISTOL	(2)	18,700	78%	3.0	1.97	Bristol Harbor	SC	SC	Primary	Secondary	1981
CRANSTON	(3)	78,000	91%	11.4	10.90	Pawtuxet River	D	C	Secondary-Activ.Sludge	Secondary-nitrogen removal in summer	1982
EAST GREENWICH	(4)	10,600	35%	0.512	0.499	Greenwich Cove	SC	SC	Secondary - trickling filters - sand filters in summer	Study pending	--
EAST PROVIDENCE (excl. Rumford)	(5)	39,100	97%	10.4	5.70	Providence River	SC	SC	Secondary - trickling filters	Secondary - Activ.Sludge	1977 (in operation)
JAMESTOWN	(18)	3,600	48%	--	--	Narragansett Bay	*	**	None	Secondary - Activ. Sludge	1979
NARRAGANSETT (Scarborough)	(6)	3,150 (1970)	80%	0.288	0.252	Narragansett Bay	SB	SB	Primary	Secondary	1980

Source: Draft inventory prepared by the Areawide Water Quality Management Program

TABLE 3-3 (continued)

SUMMARY OF SELECTED DATA

ON MUNICIPAL WASTEWATER TREATMENT FACILITIES

TREATMENT FACILITY		POPULATION 1975 EST.	APPROX. % POPULATION SERVED	DESIGN FLOW, MGD	AVG.DAILY FLOW, 1976, MGD	RECEIVING WATER	WATER QUALITY EXISTING	WATER QUALITY CLASS.	LEVEL OF TREATMENT PRESENT	LEVEL OF TREATMENT PROPOSED	TARGET DATE
NEWPORT	(7)			7.60	8.02	Narragansett Bay	SC	SC	Primary	Secondary	1981
-Newport		30,000	90%		5.35						
-Middletown		15,600	77%		1.04						
-U.S. Navy		Unknown	Unknown		1.63						
PROVIDENCE	(8)			60.00	62.17	Providence River	SD	SC	Secondary - Activ.Sludge	Facilities Plan to be completed in 1978	1983(?)
-Cranston (industry)		--	--		0.53						
-Johnston		23,800	51%		2.03						
-N.Providence		26,800	90%		9.39						
-Providence		168,100	100%		50.22						
QUONSET	(19)	6,000	--	2.35	0.59	Narragansett Bay	SC	SC	Primary	Existing plant to be abandoned; New secondary facility planned at different location	1982
SOUTH KINGSTOWN-NARRAGANSETT	(9)	--	--	4.13	--	Rhode Island Sound	SC	SC	Secondary		Started operation in May,1977
WARREN	(10)	10,600	82%	3.2	1.34	Warren River	SC	SC	Primary	Secondary - Activ.Sludge	1980
WARWICK	(11)	88,700	11%	5.2	0.97	Pawtuxet River	D	C	Secondary	Secondary - nitrogen removal in summer	Fac.Plan sched. for FY 77 ***
WESTERLY	(11)	18,200	64%	2.16	0.84	Pawcatuck River	SC	SC	Primary	Secondary - Activ. Sludge	5/78

TABLE 3-3 (continued)
SUMMARY OF SELECTED DATA
ON MUNICIPAL WASTEWATER TREATMENT FACILITIES

TREATMENT FACILITY		POPULATION 1975 EST.	APPROX. % POPULATION SERVED	DESIGN FLOW, MGD	AVG.DAILY FLOW, 1976, MGD	RECEIVING WATER	WATER QUALITY EXISTING	WATER QUALITY CLASS.	LEVEL OF TREATMENT PRESENT	LEVEL OF TREATMENT PROPOSED	TARGET DATE
WEST WARWICK	(13)	26,000	83%	5.0	2.55	Pawtuxet River	C	C	Secondary	Secondary - nitrogen removal in summer	***
WOONSOCKET	(14)	48,500	96%	11.0	6.67	Blackstone River	D	C	Primary	Secondary - Activ. Sludge	8/77

NOTES TO TABLE 3-3:

* Existing raw sewage discharges are now into Class SC waters
Proposed location for treatment facility discharge is now SA

** Proposed facility will upgrade areas classified SC to SB and an area classified SB to SA

*** Compliance date is dependent upon establishment of treatment facility effluent limitations by RI Division of Water Pollution Control

( ) Number in parentheses refers to listings in Table 3-2 and on Figure 3-2

Population Estimates from R.I. Statewide Planning Program, Technical Report Number 25, R.I. Population Projections
All other data compiled from engineering reports, 201 facilities plans, 303(e) Water Quality Management Plans, and Dept. of Health reports and files.

C. While state and federal regulations exist to reduce water quality degradation from municipal wastewater facilities, implementation is slowed by lengthy planning studies, bureaucratic delays and economic obstacles.

- Programs initiated under FWPCA to control these discharges include:
  - . effluent limitations imposed through National Pollutant Discharge Elimination System (NPDES) permits
  - . federal funding for planning and construction projects for new and existing facilities.
  - . planning efforts under sections 201, 208 and 303 to assess needs and priorities for abatement programs (See Section 310.7-1).

- Increased public awareness of the need for improvements and the costs involved is essential to generate public support of local funding contributions.

- Solutions to the massive problems in the Providence area will require funding beyond what is affordable by the City of Providence.

310.3 Industrial Effluents

310.3-1 FINDINGS:

A. Industrial facilities are an essential cornerstone of the Rhode Island economy, providing about one third of the state's total employment (see Section 540).

- Most of Rhode Island's industries are clustered in the urbanized part of the state, at the head of Narragansett Bay.

- Rhode Island's major industries produce jewelry, primary metal and machinery products, fabricated metals, rubber products and textiles.
  . Many of the state's manufacturing industries are small operations with an average of only 43 employees per establishment.

B. Industrial effluents are a major source of pollution to Rhode Island's coastal waters.

- The effluents from some 93% of the state's industries eventually enter Narragansett Bay.

- Over half of the point source discharges to the Narragansett Bay and Pawcatuck Basins are from industrial sources.
  . Industrial effluents from 8 sources are included in the 20 most severe discharges to the Narragansett Bay basin.

C. Industrial effluents may contain a host of toxic substances such as oil and grease, heavy metals and synthetic chemicals; they may have high nutrient concentrations and Biochemical Oxygen Demand (BOD); and/or be discharged at elevated temperatures.

- The environmental impacts on water quality, marine organisms and the long-term productivity of marine systems are not understood in detail, but numerous adverse impacts have been demonstrated; these are discussed in Quality Criteria for Water published by EPA (1976).

- Adverse impacts resulting from industrial effluent discharges can occur at sites remote from the discharge.
  . When industrial effluents discharged into rivers are carried into coastal waters, sediments and pollutants adhering to them are often deposited where fresh and salt water mix.

. Industrial effluents which discharge into the Ten Mile and Pawtuxet Rivers are major sources of pollution to Narragansett Bay.

D. About 60% of the industries in Rhode Island discharge their effluents into municipal treatment plants, primarily the Providence Sewage Treatment Plant and the Blackstone Valley District Commission Treatment Plant.

- Municipal treatment plants usually cannot adequately treat industrial effluents.
  . Toxins, such as heavy metals and hydrocarbons are only partially removed in sewage treatment plants and in some cases can interfere with the proper functioning of the plant.

E. Thus pretreatment of industrial wastes prior to discharge to a municipal treatment plant is often essential; however construction of pretreatment facilities is expensive and may require physical expansion of an industrial facility.

- Small firms, often do not have the capital to install pretreatment facilities.

- **Additional land may be required to construct pretreatment facilities.**
  . Land for expansion is in short supply and is often prohibitively expensive in the state's older urban areas where most industry is located.
  . Small industries may be forced out of business if pretreatment standards do not consider their special problems.

F. Pollution caused by industrial effluent discharges will decrease in the future. State and federal regulatory programs already in place or slated for adoption will go far towards abating this presently severe pollution problem.

- Industrial effluents directly discharged into water bodies are controlled by existing federal and state regulations.
  . The NPDES (National Pollutant Discharge Elimination System) permits program, implemented by the EPA, is a primary mechanism through which the goals of the Water Pollution Control Act Amendments of 1972, (FWPCA), Section 402 will be achieved. There are 151 discharges in Rhode Island that are regulated by NPDES permits.
  . The anti-degradation clause of the state's water quality criteria restricts new discharges into class A,B,SA, and SB waters.

- EPA is presently developing pretreatment standards for 21 categories of industry known to produce highly polluted effluents.
  - Standards for the metal plating industry were scheduled for adoption this summer, but they will probably be delayed until late 1977.
  - Adoption of such standards will have a large impact on the metal plating industry in Rhode Island for the reasons cited in Finding E.

- Simultaneously EPA is developing a nationwide pretreatment program establishing effluent limitations for all industries discharging into municipal sewage treatment plants.
  - Policies are slated for adoption in late 1977 and could require compliance by 159 discharges in Rhode Island.
  - EPA has proposed four options for this pretreatment program that suggest alternatives for how and by whom the regulations will be enforced; all options consider the following factors for the development of standards:
    1) available technology and economic feasibility.
    2) the level of pretreatment required to prevent interference with sewage treatment plant operations.
    3) the degree of treatment provided by municipal plants.

G. Considerable planning is taking place at the state level to meet the goals of the FWPCA amendments of 1972.

- The River Basin Plans prepared by the Statewide Planning Program under the direction of the Department of Health set forth priorities, strategies and timetables for controlling direct discharges of industrial pollutants to the state's waters.
- The Areawide Water Quality Management Program ("208") is planning for pretreatment program implementation by working closely with industry to develop economically feasible pollution abatement programs and with municipalities to modify sewer ordinances to comply with pretreatment regulations.

310.4 Septic Systems

310.4-1 FINDINGS:

A. Leachate from individual septic systems is an important source of pollution in many unsewered coastal residential areas.

- Leachate rich in nutrients such as nitrate can seep into coastal waters. These nutrients may cause an increase in the abundance of phytoplankton and macroalgae and result in eutrophication. A severe nuisance is created if the algae decompose at the surface or along the shore. Such conditions occur regularly in some salt ponds and areas of Narragansett Bay.

- Nitrates released into the ground below the root zone have been found to travel more than 200' through the soil.
  . Nitrates are one of the major nutrients limiting phytoplankton growth in Narragansett Bay.
  . A family of 4 releases approximately 72 pounds of nitrogen per year to a septic system. Natural inputs of nitrogen from the atmosphere and decomposition are approximately 12 pounds per acre. Thus, houses on half-acre lots may introduce 12 times the natural nitrogen levels through septic systems.

- The existing 50' setback for all septic systems from open bodies of water required by the Department of Health is insufficient in many soil types to prevent the release of nutrients.

- Septic systems that meet all state standards and that are in good working condition can therefore release nutrients into coastal waters.

- Failing septic systems pose an additional hazard due to the release of pathogens as well as nutrients.
  . There are many older homes where inadequate sewage disposal facilities were installed before the current state regulations went into effect.
  . Recommended maintenance procedures are often ignored and cannot be readily enforced.
  . The need for repair is often difficult to detect.
  . The conversion of summer homes to year-round residences may cause failures from overuse.

- The problem is of major significance since half of the state's coastal communities do not have municipal sewage treatment facilities and residential development in coastal areas is increasing.

B. Precise information does not exist to determine specific siting criteria which will in all cases prevent the release of polluted leachate. Enough is known however, to improve upon the present state regulations which rely on a percolation test. Additional factors which determine effectiveness of septic systems include:

- the ability of soil types present throughout the leaching area to remove pollutants,
- the degree and direction of slope in the leaching area,
- flood hazards,
- depth to and fluctuations of the water table,
- depth to bedrock,
- the presence of filled land,
- and the density of housing.

C. The Areawide Water Quality Management Program is studying septic systems as a non-point source of pollution. An inventory of reported septic system failures, monitoring data from the Department of Health, and results from a soil survey will be used to identify and assess pollution problems related to septic systems and to develop management regulations and policies for their abatement and prevention.

310.5 Runoff

310.5-1 FINDINGS:

A. Runoff is a significant factor affecting Rhode Island's coastal water because Narragansett Bay and Rhode Island and Block Island Sounds ultimately receive the drainage from most of Rhode Island and parts of Massachusetts.

B. Although little quantitative information is available, the impact of pollution from urban runoff is believed to be a major problem contributing to the chronic degradation of water quality in Upper Narragansett Bay and in other heavily developed urban areas.

- Studies in other parts of the country have shown that during periods of high runoff, greater water quality degradation occurs as a result of urban runoff than from municipal sewage discharges, due to the contaminants carried by the runoff, such as solids, organic material, metals, nutrients, salt, hydrocarbons, and micro-organisms.

- Soils carried in runoff from construction sites are a major source of sediments.

- Runoff from urban areas is collected in storm sewer systems which may be separate from or combined with sanitary sewers.
  - Runoff in separated storm sewer systems is usually discharged directly into nearby waterways without treatment.
  - Combined sewer systems are designed to collect and treat runoff with sanitary sewage during periods of low flow. However, under rainy conditions, the capacity of the treatment plant, or interceptor system is often exceeded and overflow runoff combined with raw sewage is discharged without treatment. There are four municipalities in Rhode Island with combined sewer systems: Providence, Newport, Central Falls and Pawtucket.

- As development spreads to less urbanized areas where water quality is higher, the significance of the impacts of runoff may increase.

- Many factors affect the volume and composition of runoff from developed areas including precipitation characteristics, porosity of ground cover, degree and type of development, and street cleaning and road salting practices.

- In considering means of controlling pollution from runoff, it must be recognized that:
  - methods are available to reduce the quantity and to improve the quality of runoff reaching storm systems, as well as to store and later provide some form of treatment to the collected runoff.
  - treating large and rapidly fluctuating volumes of storm water is technically difficult and therefore expensive.
  - tremendous costs are involved in separating and/or providing treatment for the wastewater currently collected in older, extensive combined sewer systems such as in Providence.
  - methods are available to control soil erosion from construction sites, but with the exception of highway projects, there are no requirements to use them.

C. Runoff problems in rural areas are distinctly different from those in urban areas in the types of pollution which are generated and in means of control.

- The major impacts of runoff in rural areas are erosion and sedimentation associated with agricultural and construction activities.

- The limited amount of agriculture which takes place in Rhode Island reduces the magnitude of associated runoff problems. In addition to soil, agricultural runoff may include organic material, nutrients and toxic pesticides. While many pesticides have long-lasting residues, most of the pesticides commonly used for farming in Rhode Island have little or no mobility in soil (see Table 3-4) and thus are less likely to be contained in runoff if properly applied. (Atmospheric drift of the pesticides during spraying however, may transport them to coastal ecosystems). A study of nitrate mobility in potato and turf fields conducted at the University of Rhode Island indicated that very little of the surface applied nutrient penetrated more than 10" into the soil and that concentrations in a nearby pond were not increased even after rain.

- The major concern of the Council regarding agricultural runoff is in areas where farming activities are adjacent to coastal ponds or sheltered coves which may be sensitive to nutrient enrichment or sedimentation.

- Erosion and sedimentation resulting from poorly managed construction projects may have temporary, local impacts on marine ecosystems. Longer term impacts, including alteration of bottom communities and shoaling, may be caused by large scale construction activities such as highway development if excessive sedimentation occurs. Data from the U.S. Soil Conservation Service indicates that in Rhode Island the gross erosion rate for all construction sites is approximately 3 times greater than the rate from unprotected (no conservation measures) agricultural cropland.

Table 3 - 4

AGRICULTURAL PESTICIDES COMMONLY USED IN RHODE ISLAND

CROP	PESTICIDE	TIME	SOIL MOBILITY*	RATE OF DEGRADATION
Potatoes	Guthion	May, June, July	little	14 days
	Temik	May	***	90 days
	Furadan	May, June	***	45 days
	Sevin	May to September	little	4 days
	Copper & Zinc Fungicides	all summer	none	4 - 14 days
	Eptam (weeds)	May, June	**	14 days
Nursery	Chlordane	Sept. in soil	none	1 year
	Sevin	all summer	little	4 days
	Furadan	June	***	45 days
	Malathion	all summer	none	1 day
	Simazine & Casoron	Fall & Spring	little	6 months
Vegetable	Diazinon	Spring-soil	little	14 days
	Lannate	July to August	little	3 days
	Malathion	June to July	none	1 day
	Sevin	June to Sept.	little	4 days
	Methoxychlor	June to Sept.	little	7 days
	Weed chemicals		little	various
Dairy	Furadan 1	May	***	45 days
	Dyfonate	May	**	14 days
	Lannate			
	Atrazine & Lasso	May	little	1 - 6 months

* All pesticides are subject to runoff when surface applied.
** Soil incorporated and does not leach.
*** Soil incorporated and tied up in plant.

Source:
J. Lincoln Pearson, Assoc. Prof.
Pesticide Coordinator
Department of Plant and Soil Science, URI

- Control of erosion and sedimentation may be largely achieved through careful land use management. The U.S. Soil Conservation Service has published a Rhode Island Erosion and Sediment Control Handbook which describes practices which will reduce erosion, especially those associated with construction projects.

- The U.S. Agricultural Stabilization and Conservation Service provides cost-share assistance to prevent and control soil erosion on Rhode Island farms.

D. There are presently few regulations controlling runoff discharges or erosion and sedimentation in Rhode Island.

- The Areawide Water Quality Management Program is studying runoff problems throughout the state. Elements of this program include:
  - An assessment of the sources, quantity, and composition of urban and rural runoff;
  - Identification of the major runoff sources on Non-point Sources of Pollution Maps;
  - As assessment of the impact of runoff on water quality;
  - Consideration of alternative structural and non-structural methods to control runoff;
  - Recommendation of a management program for abatement of runoff related pollution.

- EPA is formulating regulations for General Permits under the National Pollutant Discharge Elimination System which will include stormwater discharges.

- Stormsewer discharges are not considered under the antidegradation clause of the state's Water Quality Criteria which restricts new discharges in Class SA and SB waters.

- The Department of Transportation specifies procedures for the Prevention, Control and Abatement of Water Pollution in their Standard Spècifications for Road and Bridge Construction. These regulations minimize erosion and sedimentation during the construction process and apply to any state and/or federally funded highway project. The Department of Transportation also works with the Department of Environmental Management, the Council, and the Department of Health in designing the location, size and controls, such as siltation basins, of highway drainage systems, taking into consideration the nature of the receiving waters.

310.6 Solid Waste Disposal Facilities

310.6-1 FINDINGS:

A. On a statewide basis there will be a need for additional sites or facilities for solid waste disposal in the near future.

- 1/3 of the currently used landfills have an expected usable life of less than 10 years; more than half of Rhode Island 's coastal communities can expect to have to find new sites for solid waste disposal during that time.

- Some landfills may be closed for failure to meet licensing standards issued in 1975. Reasons include poor siting, design, and operating procedures.

- Under requirements of the Federal Resource Conservation and Recovery Act of 1976, disposal of hazardous wastes will come under stricter regulation, and existing sites may not be acceptable.

- The amount of sewage sludge being generated is increasing as the volume of wastewater being treated and the degree of waste removal increases.

- Burying refuse in landfills wastes valuable potential energy resources as well as large volumes of materials such as paper, glass, and metals which could be profitably recovered and reused.

B. The most severe environmental hazard associated with landfill operations is the contamination of ground water or surface waters.

- Contaminants may include high mineral content, toxic chemicals, pathogens, or high organic or nutrient content originating from materials placed in the landfill or their degradation products.

- The contaminants are transported as leachate as water percolates through the buried refuse. Problems result when excessive amounts of water drain through the landfill or the surrounding soil is inadequate in quantity or quality to effectively remove pollutants. Thus factors affecting the pollution potential of a landfill operation include proximity to the water table or surface water, drainage patterns, soil type, design and management of the operation.

- Aesthetic degradation, including odor and litter problems, often accompanies landfill operations.

- Landfill operations destroy the natural landscape and habitat. Presently only 1/4 of Rhode Island landfills have a planned reuse for the site.

C. The siting of new landfill operations or the development of alternative methods of solid waste disposal is presently very difficult for individual towns.

- Rhode Island is a small, densely populated state in which environmentally acceptable sites are limited by other land use demands.

- Coastal communities, which include large wetland areas, have the most severe problems in finding landfill sites.

- The economic uncertainties associated with plans for future resource recovery operations in Rhode Island under the direction of the Solid Waste Management Corporation (SWMC) hamper the planning efforts of towns which must formulate solid waste management programs before the plans of the SWMC are finalized.

- Landfill siting proposals nearly always encounter strong public opposition.

D. Planning for and regulation of solid waste management activities in Rhode Island is improving.

- Landfill operations in Rhode Island have been loosely controlled in the past with the result that some surface and groundwaters may be threatened.
  . More than 1/2 of all operating and closed landfills were located in marsh or swampland or extend below the water table.

- The Division of Solid Waste Management of the Department of Health now regulates the siting, design, and operation of landfills through a licensing program established in 1975, and may require monitoring of leachate and inspections.

- The Solid Waste Management Corporation is mandated to develop a resource recovery plan for the state. It is expected that a recovery facility will be operating by 1981. Participation in this program by individual towns is voluntary except for those electing to dispose of their solid wastes outside of their own boundaries.

- Under the federal Resource Conservation and Recovery Act of 1976, the EPA will develop guidelines for recovery of energy and other resources from refuse and for the safe disposal of discarded materials, and will promulgate criteria for the identification of hazardous wastes and regulations controlling their generation, transportation, treatment, storage, and disposal. The schedule for the development and implementation of the elements of this program are shown in Table 3-5.

- The Areawide Water Quality Management Program ("208") being conducted by the Statewide Planning Program will inventory and assess existing and potential surface and ground water pollution problems associated with landfills, investigate alternative methods for alleviating existing problems and preventing future ones, and recommend a management program.

TABLE 3-5

DEADLINES FOR REGULATIONS TO BE PROMULGATED UNDER THE RESOURCE CONSERVATION AND RECOVERY ACT

(Date of Enactment - October 22, 1976)

April 1977	October 1977	April 1978	October 1978	October 1984
EPA guidelines for identifying areas for regional solid waste management	EPA guidelines describing the technical and economic level of performance attained by solid waste management practices EPA regulations with criteria for classifying open dumps and sanitary landfills State regulations identifying areas for regional solid waste management	EPA guidelines for solid waste plans State identifies agency to develop state plan, agencies to implement plan, functions that will be carried out by regional or local authorities EPA criteria identifying characteristics of listing hazardous wastes EPA standards for generators and transporters of hazardous waste EPA standards for treatment, storage and disposal of hazardous wastes EPA guidelines for state hazardous waste programs EPA's prohibition against establishing open dumps takes effect	Local elected officials of state identified interstate region for solid waste management must designate agency to develop plan EPA guidelines describing performance, control and environmental impact of solid waste management practices EPA inventory of open dump sites Standards and required permits for hazardous waste management takes effect Department of Commerce guidelines describing materials recovered from waste Department of Commerce identify markets for recovered materials and barriers to their use	All open dumps must be closed

310.7 Planning and Regulatory Responsibilities

310.7-1 FINDINGS:

A. Under Title 46, Chapter 23, Section 1, of the General Laws it is mandated that the primary guiding principle of the Council in managing the state's coastal resources shall be the "preservation and restoration of ecological systems," and that it shall be the policy of the state to "preserve, protect, develop and where possible, restore the coastal resources of the state for this and succeeding generations through comprehensive and coordinated long-range planning and management designed to produce the maximum benefit for society...."

B. To fulfill that charge the General Assembly delegated to the Council final authority to "approve, modify, set conditions for, or reject the design, location, construction, alteration and operation of specified activities or land uses (including sewage treatment and disposal and solid waste disposal facilities) when these are related to a water area under the agency's jurisdiction, regardless of their actual location."

C. The Council is charged to exercise its regulatory authorities regarding sewage treatment and disposal and solid waste disposal in situations in which there is a reasonable probability that a proposal shall:

- Conflict with a Council plan or program for resources management;
- Make any area unsuitable for any uses or activities to which it is allocated by a Council Plan or Program; or
- Significantly damage the environment of the coastal region.

D. In discharging the responsibilities set forth in C above, the Council finds that most effective management may be attained by following the procedures outlined below:

(a) A Council permit shall be required for any sewage treatment or disposal facility or solid waste facility that would be placed within 200 feet of tidal waters or a coastal physiographic feature.

(b) The Council shall review all applications for sewage treatment and disposal facilities or solid waste facility within the coastal region. For administrative purposes, these shall include all applications within those cities and towns that abut tidal waters (this shall include a greater area than the coastal region as it has been defined for inventory and planning procedures).

(c) The Council shall review all applications for sewage treatment and disposal facilities or solid waste facility within the state but beyond the coastal region where these are related to major facilities.

E. The Council is specifically charged to incorporate water quality standards set by the Department of Health into the formulation and implementation of its Management Policies. The Council is also mandated by its enabling legislation to address other basic standards and criteria. These are:

- The need and demand for various activities and their impact upon ecological systems;
- The degree of compatibility of various activities;
- The capability of coastal resources to support various activities;
- Consideration of plans, studies, surveys, inventories, and so forth prepared by other public and private sources;
- Consideration of contiguous land uses and transportation facilities; and
- Consistency with the State Guide Plan.

These broad considerations are addressed in the development of specific Policies and Regulations. Any proposal or activity which does not meet the requisite burdens imposed by the applicable Policies and Regulations will be modified, conditioned or denied by the Council.

F. The Council finds that a number of other state and local agencies exercise planning and regulatory functions relative to sewage treatment and disposal, solid waste disposal and water pollution abatement in general. These agencies and their respective functions are as follows:

- Department of Health,
  Division of Water Pollution Control:
  . Under Title 46, Chapter 12 of the General Laws the Division is responsible for implementing the various provisions of the Federal Water Pollution Control Act.
  . These include authority to establish water quality criteria and classifications and to regulate water uses consistently with these classifications;
  . Water quality monitoring;
  . Regulation through permitting authorities over industrial and municipal sewage disposal and treatment systems;
  . Review and certification of federal permits under the National Pollutant Discharge Elimination System;
  . Regulation of oily discharges into state waters including handling and storage of petroleum products;
  . Establishing needs and priorities for allocation of federal construction grants for municipal wastewater treatment facilities.

  Division of Solid Waste Management:
  . Under Title 23 Chapter 46, of the General Laws the Division is responsible through its licensing authority for regulating the siting, operation and monitoring of sanitary landfills, incinerators, transfer stations, resource recovery facilities, and other solid waste management facilities.

  Division of Food Protection and Sanitation:
  . Under Title 23, Chapter 1, of the General Laws the Division is responsible for setting standards and conducting monitoring programs for those areas and activities (including bathing beaches and shellfishing) where human health is of concern. It has the authority to open and close these beds and/or beaches as sanitary conditions dictate. The Division is also responsible for approving the design and location of all individual subsurface sewage disposal systems.

- Statewide Planning Program

  Areawide Water Quality Management Planning Program

  . Under section 208 of the Federal Water Pollution Control Act the state is required to "identify each area within the state which, as a result of urban-industrial concentrations or other factors, has substantial water quality problems."

  . By Executive Order, the entire state of Rhode Island and the neighboring Massachusetts communities of Blackstone and Millville were designated as the 208 planning area and the Rhode Island Statewide Planning Program was designated as the responsible planning agency.

  . Objectives of the 208 planning program include the identification and exploration of alternatives for meeting wastewater treatment needs in the area, the development of a water-related land use plan, and the recommendation of implementing actions such as regulations and structural and non-structural pollution abatement strategies

  . Long-range planning and the assessment of non-point sources of pollution distinguish the planning efforts of the 208 program from those of other state agencies concerned with water quality.

  River Basin Planning Program

  . Under section 303 of the Federal Water Pollution Control Act, the state is required to have a Continuing Planning Process which guides the state in the implementation of programs and abatement projects aimed at meeting water quality goals.

  . To facilitate this process, Water Quality Management Plans for each of the seven major river basins in the state have been prepared and are being updated by the Statewide Planning Program for the Department of Health. Each plan examines in detail existing water quality and sources of pollution and establishes abatement strategies, priorities and timetables.

  State Guide Plan

  . By Executive Order the Statewide Planning Program was designated as the agency responsible for preparing a long-range State Guide Plan that provides for the physical, economic, and social development of the State.

  . Included as an element of the Guide Plan is the State Land Use Policies and Plan. This plan includes goals, policies, and recommendations aimed at reducing water pollution and protecting water resources which are presently unpolluted.

- Solid Waste Management Corporation

  . Under Title 23, Chapter 46, of the General Laws the Corporation is mandated to develop long range resource recovery plans for the state and to build and operate recovery facilities.

- State Conservation Committee
  - Under Title 2, Chapter 4 of the General Laws, the Committee has the authority to require on site retention of soil sediments.

- Cities and Towns
  - Under Section 201 of the Federal Water Pollution Control Act, cities and towns prepare detailed facilities plans as needed for proposed new or expanded municipal wastewater treatment facilities and systems. The plans must assess the environmental impacts and cost-effectiveness of various alternatives for meeting community wastewater disposal needs.
  - Some coastal cities and towns, for example, South Kingstown, have ordinances regulating the siting of septic systems.

G. The Council finds that several federal agencies have regulatory and enforcement authorities relating to pollution abatement in Rhode Island.

- The Environmental Protection Agency (EPA) plays a key role:
  - in overseeing state actions toward implementation of the requirements of the Federal Water Pollution Control Act,
  - in issuing discharge permits under the National Pollutant Discharge Elimination System (NPDES),
  - in allocating federal funds for planning and construction of municipal wastewater treatment facilities, and
  - in overseeing solid waste management under the Resource Conservation and Recovery Act of 1976.

- The U.S. Army Corps of Engineers is responsible for issuing permits for discharge of dredged and fill materials.

- The U.S. Coast Guard has responsibilities for:
  - regulation of the transportation of petroleum products
  - overseeing the development of oil spill prevention and cleanup plans
  - supervising oil spill clean-up operations in marine waters,
  - enforcement of regulations governing sewage disposal from ships and recreational boats.

H. There are four federal programs that operate on a voluntary basis which can assist in the prevention of non-point pollution.

- The Agricultural Conservation Program (ACP) administered by the Agricultural Stabilization and Conservation Service provides cost-sharing to farmers to establish practices preventing water pollution.

- The Soil Conservation Service (SCS) provides technical on-site assistance to landowners and operators, including municipalities, through conservation districts to prevent water pollution from non-point sources.

- The Resource Conservation & Development Project, administered by the Soil Conservation Service, can provide cost-sharing assistance for Agricultural Related Pollution Control Measures. This authority has not been used in any state because none has identified a suitable project and means of implementation.

- Farmer's Home Administration Assistance
  - Irrigation, drainage, and other soil and water conservation loans.
  - Resource Conservation and Development Loans
  - Water and Waste Disposal Systems for rural communities
  - Watershed Protection and Flood Prevention Loans
  - Soil and Water Loans

Section 1 Pursuant to the Council's legislative mandate to coordinate state, local and federal activities affecting the coastal region, the following actions have therefore been initiated.

- The EPA, the Divisions of Water Pollution Control and Solid Waste Management, and cities and towns routinely forward all permits, certifications, and licenses relative to sewage treatment and disposal and solid waste disposal actions in or affecting the coastal region to the Council for final action. As a result of these procedures, the Council receives all NPDES permit applications, "201" facilities plans for all municipal wastewater treatment and disposal facilities, and all solid waste disposal facility licenses regardless of their location in the state. The Council also receives all permit applications for septic systems in all coastal communities.

- Integration of the planning efforts of the Council and the Statewide Planning Program with regard to Areawide Water Quality Management ("208") and River Basin Planning is achieved through:
  - frequent consultation at the staff level to exchange information and to avoid duplication of efforts;
  - the inclusion of a Council member on the Technical Advisory Committee of the Citizen's Policy Committee for "208".
  - cooperation between the Council and the "208" Project Control Team in the design and execution of all planning elements relative to areas or activities of joint concern.
  - consideration in Areawide Water Quality Management planning of applicable Council plans, programs, regulatory standards and criteria as set forth in the Coastal Resources Management Program in areas or regarding activities where direct and significant impacts on coastal waters may reasonable be presumed;
  - review by the Council of all plans and other outputs of the "208" program for consistency with its plans, policies and programs.

- In order to ensure maximum coordination between the state's Coastal Resources Management Program and federally sponsored pollution abatement programs the Council and EPA Region I have signed a letter of mutual understanding and operation dated June 21, 1976. The text of this letter is reproduced in Attachment 3-1.

Attachment 3-1

COASTAL RESOURCES MANAGEMENT COUNCIL AND FEDERAL ENVIRONMENTAL PROTECTION AGENCY REGION I MUTUAL LETTER OF UNDERSTANDING AND OPERATION

The purpose of this joint letter is to develop and formalize an agreement between the Coastal Resources Management Council (CRMC) and the Environmental Protection Agency (EPA) Region I as it pertains to implementation of Sections 201, 208 and 402 (b) of the Federal Water Pollution Control Act Amendments (FWPCA) of 1972 (P.L. 92-500) in Rhode Island. The initial step to formalize and achieve this coordination is to assure that the policies, directions and planning efforts of the Coastal Resources Management Council are buttressed, reinforced and coordinated with EPA policies. This letter of understanding provides guidance on how to achieve understanding and facilitate such coordination and to assure mutually supportive working arrangements between CRMC and EPA Region I.

Under Section 201 of FWPCA EPA administers construction and facilities grants for construction of areawide waste treatment works. Under the provision of 46-23-6 (B), G.L.R.I., CRMC has authority to approve, modify, set conditions for, or reject the design, location, alteration, and operation of such facilities when these are related to a water area under the agency's jurisdiction, regardless of their actual location where there is a reasonable probability of conflict with a plan or program for resources management or damage to the coastal environment.

Under Section 208 of FWPCA EPA administers grants for Areawide Waste Treatment Management Planning by the state's designated agency, the Rhode Island Statewide Planning Program (SPP). CRMC finds that such planning affects areas and uses subject to its legal mandate as set forth in 46-23-6 G.L.R.I. and should be undertaken in a coordinated and cooperative manner with CRMC plans. To this end CRMC and SPP have executed a Mutual Letter of Understanding regarding Areawide Waste Treatment Management Planning in Rhode Island dated June 8, 1976. This letter states in part that:

> All planning elements relative to areas or activities of joint concern shall be designed and executed by mutual agreement between CRMC and SPP.
>
> In areas or regarding activities where direct and significant impacts on coastal waters may reasonably be presumed, Areawide Waste Treatment Management Planning shall reflect cognizance of applicable CRMC plans, programs, regulatory standards and criteria as set forth in the Coastal Resources Management Program and the CRMC Policies and Regulations.

Under Section 402 (b) of FWPCA EPA administers the National Pollution Discharge Elimination System (NPDES) permit process in cooperation with the state's certifying agency, Rhode Island Department of Health (DOH). CRMC finds that point source discharges demonstrate a reasonable probability of causing damage to coastal waters and is desirous of being directly involved in the NPDES permit

program as it applies to Rhode Island. To this end CRMC and DOH have executed a mutual Letter of Understanding and Operation dated March 30, 1976. This letter states in part that:

> In order to insure proper regulation of these uses which could adversely impact the coastal zone, the Department of Health shall consider the Coastal Resources Management Council's plans, policies, and programs on all actions, applications, or requests before the Department of Health that have a reasonable probability of having a direct and significant impact upon the coastal zone.
>
> The Department of Health will submit or cause to be submitted all air and water pollution control permit applications and other related requests and actions, which are likely to have an impact upon coastal waters to the Coastal Resources Management Council for review and comment.

Under 46-23-6 (A)(d) G.L.R.I. CRMC is mandated to consider water quality standards set by the Department of Health as basic standards and criteria which must be reflected in all CRMC plans and programs. In addition, under Section 307 (f), P.L. 92-583, the State of Rhode Island is required to incorporate the provisions of FWPCA as the water pollution control requirements applicable to a coastal resources management program approvable under Section 306 (c) of P.L. 92-583. Such incorporation is reflected in the above referenced Letters of Mutual Understanding and Operation and specifically in the following provisions:

> The Coastal Resources Management Council shall continue to submit all applications pending before it to Statewide Planning Program for their review and comment on said applications to insure conformity in accordance with the Statewide Guide Plan as required by law and will further coordinate all policies and management programs with Statewide Planning to insure a coordinated implementation of the uses of the State's Coastal Zone. Coastal Resources Management Council will further coordinate with Statewide Planning Program on Areawide Waste Treatment Management Planning under Section 208 of the Federal Water Pollution Control Act Amendments of 1972 in all areas under its jurisdiction to insure a uniform and coordinated planning and management approach.
>
> The Coastal Resources Management Council shall continue to submit all applications, requests and actions before the Council to the Department of Health for review and comment and shall carefully consider comments and such reviews of the department and its subdivisions thereof.

Therefore, in order to insure a logical, sequential and coordinated implementation of a unified plan for uses impacting the coastal zone of this state, it is hereby agreed between CRMC and EPA Region I that:

1. EPA recognizes that the CRMC is under state law (46-23-1, G.L.R.I.) the "primary" agency for planning and program implementation within the coastal zone of the State of Rhode Island, and as such, further recognizes that applications for grants for planning, design or construction of publicly owned wastewater treatment

facilities under Section 201 of the FWPCA demonstrate a reasonable probability for significantly impacting the coastal zone of the State of Rhode Island. Therefore, it is mutually agreed that applications to EPA under Section 201 will be submitted to the CRMC through the state's A-95 review process as administered by the Rhode Island Statewide Planning Program. The CRMC shall review and comment on all such applications that demonstrate a reasonable probability of direct and signficant impacts on the coastal zone of Rhode Island in accordance with its plans, programs and regulations to insure consistent and unified development of the state's coastal zone. Further, EPA Region I agrees to consider the comments of the CRMC prior to issuance of any grants related to the above referenced applications and to furnish CRMC timely notice of all public hearings which applicants must hold prior to adoption of facilities plan.

2. CRMC shall be designated an appropriate governmental agency as defined in 40 CFR 125.32 (a)(2). As such the Regional Administrator of EPA shall provide CRMC timely and routine notice of all proposed permit issuances under NPDES for the State of Rhode Island and an opportunity to submit written views and recommendations to EPA on them.

3. EPA Region I recognizes that under state law (46-23-1, G.L.R.I.) CRMC is the "primary agency" for management, planning and protection of the coastal zone within the State of Rhode Island and as such further recognizes that under 40 CFR Section 125.11 (b) all permits under NPDES shall be issued on the basis of "an evaluation as to how such discharge will meet applicable requirements under the Act and other applicable laws and regulations." EPA Region I recognizes that the regulations and policies of the CRMC as set forth in its adopted policies and programs are applicable regulations for impacts upon the coastal zone. Therefore, when coordinating and evaluating NPDES applications with the state's certifying agency, the Rhode Island Department of Health, EPA Region I shall give appropriate consideration to CRMC policies and regulations.

4. It is mutually recognized that the objectives of NPDES and the Rhode Island Coastal Zone Management program with reference to direct and significant impacts upon coastal waters are of major concern to both agencies and mutually supportive information, cooperation and implementation of plans, policies and regulations as they pertain to the coastal zone of Rhode Island should be undertaken.

The Coastal Resources Management Council and the Environmental Protection Agency will continue to work towards expanding and mutually supportive aspects of programs, policies, plans and regulatory functions during planning and implementation of same. They will address aspects of mutual concern, including protection, preservation, and restoration of the coastal zone in accordance with legislative mandates and coordination of regulatory activities.

John A. Lyons 6/21/76
COASTAL RESOURCES MANAGEMENT COUNCIL

REGIONAL ADMINISTRATOR
ENVIRONMENTAL PROTECTION AGENCY, REGION I

310.0-2 POLICIES AND REGULATIONS:

A. Definitions: The Council adopts the definition of sewage set forth under Title 46, Chapter 12, Section 1 of the General Laws, to wit:

"...any human or animal excremental liquid or substance, any decomposed animal or vegetable matter, garbage, offal, filth, waste, chemicals, acid, dyestuff, starch, coloring matter, oil and tar, radioactive substances and any compound, solution, mixture or product thereof, and every substance which may be injurious to public health or comfort, or which would injuriously affect the natural and healthy propogation, growth or development of any fish or shellfish in the water of this State, or of the nourishment of the same, or which would injuriously affect the flavor, taste, or value as food of any such fish or shellfish or which would defile said waters or injure or defile any vessel, boat, wharf, pier, or any public or private property upon, in or under said waters or any shore thereof."

For purposes of the Coastal Resources Management Program "sewage" shall further be defined to include every substance which could injuriously affect the natural and healthy propagation, growth or development of any animal and/or plant life in the water of the state, or of the nourishment of the same,

Because runoff may include substances which may be injurious to public health or to animal and/or plant life, for purposes of the Coastal Resources Management Program "sewage" shall be further defined as including silt and other particulates introduced into, and/or artificial increases or decreases above or below ambient of freshwater inflow into tidal and intertidal waters, coastal ponds and coastal wetlands. The term "sewage" as defined above includes thermal discharges.

B. Review of Sewage Treatment and/or Disposal and Solid Waste Disposal Related Actions:

1. Actions Subject to Review:

a. Actions within the coastal region:
The Council shall review all actions within the coastal region relating to sewage treatment or disposal as defined herein including but not limited to:

(1) alteration, construction, or extension of domestic, privately owned, industrial or municipal sewage or stormwater treatment facilities or systems, conduits and interceptors;

(2) disposal of sludges generated by municipal or industrial wastewater treatment;

(3) treatment and disposal of isolated hazardous wastes.

The Council shall review all actions within the coastal region relating to solid waste disposal including but not limited to licensing, alteration, construction, or extension of public or privately owned sanitary landfills, incinerators, transfer stations, or resource recovery facilities.

b. Actions outside of, but capable of affecting the coastal region:

The Council shall review all sewage treatment and disposal actions outside the coastal region related to major facilities including but not limited to industrial and municipal sewage treatment and disposal systems; collection, treatment, and disposal of isolated hazardous wastes, treatment and disposal related to major commercial developments, subdivisions, transportation facilities such as major highways and interchanges, rail rights-of-way, and airports, chemical and petroleum processing, storage or transfer facilities and energy generating facilities, regardless of their actual location.

The Council shall review all solid waste disposal actions outside the coastal region as described in a. above.

2. Review Procedures:

a. The R.I. Department of Environmental Management will forward all permits issued by it relating to the above described actions and areas to the Council for review. This will include all permits for subsurface sewage disposal systems in coastal cities and towns and licenses for solid waste disposal facilities anywhere in the state. The Department of Environmental Management will also forward to the Council all "201" facilities plans for publicly owned wastewater treatment facilities throughout the state. All applications in the coastal region for approval of plans for disposal of septage and for industrial waste or waste oil disposal sites will be forwarded to the Council by the RI Department of Health. The EPA will notify the Council of all proposed NPDES permit issuances in Rhode Island.

b. For any other actions which are subject to Council review as set forth in B.1 above, including but not limited to actions involving disposal of stormwater wastes, the appropriate permitting agency of the state, city or town will forward the permit to the Council for review[1].

c. When the Environmental Protection Agency adopts pretreatment regulations (See Section 310.3-1) for industries discharging into municipal sewer systems, the federal (EPA), state or municipal agency responsible for issuing or certifying permits for such actions shall forward the permit applications to the Council for review.

d. The Council shall formally review proposed actions only after all other applicable state and local requirements have been met. However, the Council will comment on preliminary plans for major facilities to insure early input into planning processes.

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[1] For example, where the Department of Transportation issues permits for highway construction or modification involving the installation of stormsewers, that agency shall forward the permits to the Council.

e. The Council shall review proposed actions for potential impacts upon, and/or potential conflicts with:
   (1) Council management plans or programs;
   (2) Uses or activities to which an area has been allocated by a Council plan or program;
   (3) Damage to the environment of the coastal region.

f. Such review shall produce a preliminary determination as to whether there is a reasonable probability that these potential impacts and/or conflicts will result. This shall be in writing and shall be part of the public record.

g. Where the above described preliminary determination indicates that any or all of the potential impacts and/or conflicts are likely to result from the proposed action, the Council shall require that a Council permit be obtained. Persons proposing sewage treatment and disposal actions or solid waste disposal actions in the coastal region shall be notified by the Council of the preliminary determination as to whether or not a permit will be required. Persons proposing actions outside of the coastal region (limited to major facilities) shall be notified by the Council of the determination only when a permit will be required.

h. Further, a Council permit shall be required in all instances where the proposed action would be initiated within 200 feet of the inland boundary of a tidal or intertidal waterbody, a coastal pond, a coastal wetland, a beach, a barrier beach, or a cliff or bluff.

C. Regulation of Sewage Treatment and/or Disposal and Solid Wate Disposal Related Actions:

1. Applicants for a Council permit shall be required to demonstrate by a fair preponderance of evidence that the proposed action will not:
   a. Conflict with any Council Management plan or program.
   b. Make any area unsuitable for any uses or activities to which it is allocated by a Council management plan or program.
   c. Significantly damage the environment of the coastal region.
2. It shall be further demonstrated by reliable and probative evidence that coastal resources are capable of supporting the proposed activity including the potential impacts and/or effects resulting from:
   a. The alteration of chemical or physical properties of marine waters (e.g., pH, temperature, salinity) which provide a suitable habitat for natural biological communities.
   b. The accumulation of substances such as toxins, carcinogens or pathogens (e.g., heavy metals, hydrocarbons, bacteria and viruses carried in sewage) in amounts or concentrations which threaten the welfare of man or aquatic organisms.
   c. The disruption of ecological balances in marine waters upon which natural biological communities depend (e.g., excessive oxygen consumption or nutrient input).
   d. The addition of man-made substances foreign to the marine environment and to which organisms have not adapted and/or whose impacts are largely unknown (e.g., PCB's, kepone).
   e. The disruption or burial of bottom cummunities due to increased sedimentation.
   f. Any alteration of the chemical properties of ground waters.
   g. Cumulative impacts caused by an existing or potential proliferation of similar actions.
   h. Changes to the existing quality, classification and use of waters, contiguous land use and transportation facilities.

i. Secondary impacts resulting from additional development stimulated by new public facilities,
j. The need and demand for the proposed action.

3. Applicants for a Council permit for a subsurface sewage disposal related action shall,in addition to the above,demonstrate by a fair preponderance of evidence that the proposed site is capable of absorbing pollutants to the extent that there does not exist any reasonable probability that contaminated leachate will enter a tidal or intertidal waterbody, a coastal pond or a coastal wetland or a tributary to one of the above waters, or groundwater supplies,in amounts which would result in significant adverse impacts including those cited in C-2 above. Such evidence shall at a minimum address percolation rates, soil types, depth to groundwater, topography, flood hazard, and related factors.
4. Applicants for a Council permit for actions related to disposal of industrial sewage by discharge into a municipal wastewater system may be required to provide an effluent profile describing the volume, constituents and other characteristics of the discharge.
5. Proposed actions shall be subject to all regulatory requirements and procedures set forth under applicable local or state authorities.
6. The Council shall require modifications of or shall deny any proposed sewage treatment or disposal or solid waste disposal related action where the applicant has not met the requisite burdens of proof cited in C-1 and 2 above.

D. A Council permit shall not be required for the discharge of sewage generated on board a vessel. However, such discharges shall be subject to all applicable Coast Guard regulations and timetables for compliance (33 CFR 159).

E. The Council finds that the existing state regulations governing the siting of subsurface sewage disposal systems are inadequate to prevent the introduction of contaminated leachate into coastal waters and tributaries thereto. The Council encourages the Department of Environmental Management to revise these regulations and will cooperate in the development and review of such revisions.

F. In issuing permits for any actions in the coastal region under any of the authorities and policies of the Council as stated in the Coastal Resources Management Program, the Council shall require the applicant to follow procedures to prevent erosion and sedimentation as set forth in the Rhode Island Erosion and Sediment Control Handbook prepared by the U.S. Soil Conservation Service.

G. The Council endorses the goals of the Solid Waste Management Corporation in seeking to establish a resource recovery facility in Rhode Island and will cooperate where possible and appropriate in working toward that end.

H. The Council finds that it can be highly effective in solving complex problems involving problem definition, the coordination of local, state and federal agencies, and public involvement. In the past the Council has acted as a catalyst and leader to accomplish such tasks as reactivating a stalled federal project to repair the famous Newport Cliff Walk, to accelerate by four or five years the dredging of Galilee harbour (severe siltation was preventing the natural growth of the commercial fishing fleet and causing chronic difficulties for larger vessels) and perhaps most noticeably of all, the Council proposed, sponsored and administered the Rhode Island Fisheries Task Force. The Fisheries Task Force resulted in a definition of the problems and goals of commercial fisheries in Rhode Island, produced eleven bills that were submitted by the Governor ot the General Assembly, and was a highly successful effort to knit together the views of fishermen, processors, enforcement and resource management officials and university experts. In light of these successes, the Council will request that the Governor create a coastal pollution task force.

1. The Members of the Task Force should at a minimum include representatives of the Council, the Governor's office, local governments, the Division of Water Pollution Control of the Department of Health, the Statewide Planning Program ("208" and the River Basin planning program) and EPA. Other agencies, groups and interests should be invited to participate as necessary. The Task Force should meet, at a minimum, once every three months.

2. The goals of the Task Force should include:
   a. the identification of priorities for efforts to improve the pollution problem in the Providence River and upper Narragansett Bay that results from the discharges of the Fields Point sewage treatment plant and the combined sewer systems of Providence, Central Falls, and Pawtucket.
   b. assure the earliest possible involvement of the Council in planning for improvements to, or new, municipal wastewater treatment facilities.
   c. assist in expediting progress toward meeting the pollution abatement schedules outlined in the River Basin Plans, particularly those for Narragansett Bay, the Pawcatuck River and the Pawtuxet River.
   d. assure full communication and discussion among the many agencies and groups concerned with the pollution of coastal waters.
   e. increase public awareness of the magnitude of the problem and promote maximum public involvement in all efforts to attain these goals
   f. seeking maximum levels of federal funding to alleviate pollution problems associated with municipal sewage collection, treatment, and disposal systems.

320: OCEAN DUMPING

DEFINITION:

Ocean dumping: The disposal of non-dredged waste materials from vessels or other floating craft into marine waters. For the purposes of this section, ocean dumping shall not include routine discharges of effluent incidental to the operation of vessels, the dumping of fish wastes, or the placement or deposit of materials on the sea floor for the purpose of enhancing fisheries.

(See Section 530 on Dredging for Findings and Policies regarding ocean dumping of dredged materials. Discharge of ballast washings from petroleum tankers are regulated under the provisions of Section 630.1. Regulations pertaining to sewage discharges from vessels are in Section 310.7 and Section 440).

320.0-1 FINDINGS:

A. Solid wastes, sewage sludge, and hazardous wastes generated in Rhode Island are all presently disposed at land-based facilities or are shipped out-of-state for treatment and disposal.

- Demand for dumping of these wastes in tidal waters is not expected to occur in the foreseeable future for the following reasons:
  - Land-based disposal facilities for many of these wastes are presently available in RI. Protection against the environmental hazards associated with land based disposal operations in Rhode Island is improving as a result of regulations issued by the Dept. of Health, Division of Solid Waste Management in 1975. That Division has also recently been granted authority over land-based disposal of industrial wastes and is currently preparing regulations regarding the siting, design, and operation of such facilities. Long range planning for the development of solid waste facilities adequate to meet future demand is underway under the direction of the Solid Waste Management Corporation (See Section 310.6-1 for information on existing facilities and ongoing planning efforts).
  - Although there are presently no disposal facilities designed to handle hazardous wastes in New England, the Environmental Protection Agency (EPA) is working with representatives of industry and state governments to develop such a facility.
  - This use of adequate environmental safeguards in the form of proper design, siting, and operation of facilities to handle disposal of solid wastes, sewage sludge, and hazardous wastes will be required under regulations and permitting procedures to be developed and implemented by the EPA under the Resources Conservation and Recovery Act of 1976.
  - There are presently no EPA approved sites for ocean dumping of these wastes in Rhode Island waters, nor is EPA considering any new sites. The nearest sites are in the New York Bight.

B. The impacts of ocean dumping are dependent on many factors, the most important of which is the nature of the material dumped.

- Highly concentrated, toxic wastes could pose a substantial threat to marine life.

- Although concentrated hazardous wastes are often placed in containers before dumping, their integrity over time and effectiveness in preventing the release of dangerous pollutants cannot be guaranteed.

- Specific information on the chemical and biological characteristics, the quantity, and methods of disposal of the waste are required to properly assess potential impacts.

- Characteristics of the biological community, water chemistry, depth, and the speed and direction of currents at the dump site are also important factors.

- Chemical alteration and dispersal or transport of the wastes after dumping and ecological changes in marine communities which might result are not well understood at this time. The National Oceanic and Atmospheric Administration (NOAA) is sponsoring an ongoing comprehensive research program to study the effects of ocean dumping. This study is concentrating on the disposal of sewage sludge and industrial wastes in the New York Bight.

C. Ocean dumping (with the exception of dredged material) in U.S. waters is regulated by the EPA through a permitting program.

- The EPA has promulgated regulations for permitting procedures, criteria for evaluation of permit applications, and a list of designated dump sites (40 CFR 220-227).

320.0-2 POLICIES AND REGULATIONS:

A. The Council finds that ocean dumping as defined herein has the potential to pose a significant hazard to the coastal environment and its resources, and that suitable alternative means of disposal exist. The Council further finds that the possible extent of such impacts in most instances cannot be determined through the information available at this time. The Council therefore promulgates the following regulations.

1. Persons proposing to dispose of waste materials as defined herein into the territorial waters of the state of Rhode Island shall be required to obtain a permit from the Council.

2. The Council shall require the applicant to demonstrate by a fair preponderance of evidence that the project will not have a significant adverse impact on the coastal environment or its resources. Adverse impacts may include but are not limited to:
    a. The alteration of chemical or physical properities of marine waters so that they no longer provide a suitable habitat for natural biological communities;
    b. The accumulation of toxins, carcinogens or pathogens which threaten the welfare of man or aquatic organisms;
    c. Disruption of the ecological balances in marine waters upon which natural biological communities depend;
    d. The addition of man-made substances foreign to the marine environment for which organisms have had no opportunity for adaptation and whose impacts are largely unknown;
    e. The disruption or burial of bottom communities; or
    f. Interference with fishing activities.

3. The Council shall require the applicant to demonstrate by a fair preponderance of evidence that a bona fide public need for the project exists and that alternatives to the project have been considered.

4. Where the Council finds a reasonable probability that any or all of the impacts in A.2 above are likely to result to a significant degree from approval of the proposed activity it shall require appropriate modifications or shall deny the application in question.

5. The Council considers ocean dumping as defined herein in waters contiguous to but outside of Rhode Island's territorial waters to be inconsistent with its plans and programs for coastal resources management until such time as the environmental impacts resulting from such disposal are more clearly understood.

330 AIR QUALITY

330.0-1 FINDINGS:

A. Clean air is a valuable resource.

- Clean air is an identifiable coastal resource contributing to the public health and welfare as well as to activities such as recreation and conservation.

- Numerous substances can degrade air quality.
  - The most widely monitored air pollutants are suspended particulates, sulfer oxides (SO_x), nitrogen oxides (NO_x), photochemical oxidants (i.e. ozone), carbon monoxide (CO), and hydrocarbons
  - Other substances which may degrade air quality include sulfates, asbestos, beryllium, lead, mercury, vinyl chloride and others.

- Sources of air pollutants to the atmosphere are numerous but are generally divided into stationary (point) and mobile sources.

- Air pollutants cause adverse impacts on human health, plant and animal life, and physical property.

- A summary of the principal sources and effects of the major air pollutants for which national ambient standards[1] have been set is presented in Table 3-6.

B. The Division of Air Pollution Control of the Rhode Island Department of Health maintains an air quality surveillance network to continually assess the state's air quality.

- The network includes 4 stations for continuous sampling and 10 stations for intermittent monitoring.

- SO_x and total suspended particulates are monitored at all stations; NO_x, CO and particulate sulfates and ozone (photochemical oxidants) are monitored at selected stations.

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[1] Primary standards reflect minimum tolerable levels for the protection of human health. Secondary standards are aimed at safeguarding public welfare by preventing deterioration of property, plant life and aesthetic values. The Rhode Island and National standards are identical for these parameters.

TABLE 3-6

MAJOR AIR POLLUTANTS[1]

Pollutant	Characteristics[2]	Principal Sources[2]	Principal Effects[2]	Controls[2]	Other
Total suspended particulates (TSP)	Any solid or liquid particles dispersed in the atmosphere such as dust, pollen, ash, soot, metals & various chemicals; the particles are often classified according to size, as settleable particles (larger than 50 microns), aerosols (smaller than 50 microns) & fine particulates (smaller than 3 microns)	Natural events such as forest fires, wind erosion, volcanic eruptions; stationary combustion, esp. of solid fuels; construction activities; industrial processes; atmospheric chemical reactions	Health: Directly toxic effects or aggravation of the effects of gaseous pollutants; aggravation of asthma or other respiratory symptoms; increased cough & chest discomfort; increased mortality Other: Soiling & deterioration of building materials & other surfaces; impairment of visibility; cloud formation; interference with plant photosynthesis	Cleaning of flue gases with inertial separators, fabric filters, scrubbers, or electrostatic precipitators; alternative means for solid waste reduction; improved control procedures for construction & industrial processes	Standard methods of measurement determine only total weight of particulates, providing no information on particle size or chemical composition. These factors may be very important in determining health effects.
Sulfur dioxide (SO_2)	A colorless gas with a pungent odor; SO_2 can oxidize to form sulfur trioxide (SO_3) which forms sulfuric acid with water	Combustion of sulfur-containing fossil fuels, smelting of sulfur-bearing metal ores; industrial processes; natural events such as volcanic eruptions	Health: Aggravation of respiratory diseases including asthma, chronic bronchitis, & emphysema; reduced lung function; irritation of eyes & respiratory tract; increased mortality. Other: Corrosion of metals; deterioration of electrical contacts, paper, textiles, leather, finishes & coatings & building stone; formation of acid rain; leaf injury & reduced growth in plants	Use of low-sulfur fuels; removal of sulfur from fuels before use; scrubbing of flue gases with lime of catalytic conversion	A precursor in the formation of sulfates & sulfuric acid aerosol[3]

TABLE 3-6 (cont.)

Pollutant	Characteristics[2]	Principal Sources[2]	Principal Effects[2]	Controls[2]	Other
Carbon monoxide (CO)	A colorless, odorless gas with a strong chemical affinity for hemoglobin in blood	Incomplete combustion of fuels & other carbon-containing substances such as in motor vehicle exhausts; natural events such as forest fires or decomposition of organic matter	Health: Reduced tolerance for exercise; impairment of mental function; impairment of fetal development; aggravation of cardiovascular diseases Other: Unknown	Automobile engine modifications (proper tuning, exhaust gas recirculation, redesign of combustion chamber); control of automobile exhaust gases (catalytic or thermal devices); improved design, operation & maintenance of stationary furnaces (use of finely dispersed fuels, proper mixing with air, high combustion temperature)	Highly localized effects
Photochemical oxidants (O_x)	Colorless, gaseous compounds which can comprise photochemical smog, e.g. ozone (O_3), peroxyacetyl nitrate (PAN), aldehydes & other compounds	Atmospheric reactions of chemical precursors under the influence of sunlight	Health: Aggravation of respiratory & cardiovascular illnesses; irritation of eyes & respiratory tract; impairment of cardiopulmonary function Other: Deterioration of rubber, textiles & paints; impairment of visibility; leaf injury, reduced growth & premature fruit & leaf drop in plants	Reduced emissions of nitrogen oxides, hydrocarbons & possibly sulfur oxides	Transport of precursors over long distances causes regional distribution of this pollutant. Oxidant levels often reflect the impact of regional emissions of the precursors & meteorological conditions.

TABLE 3-6 (cont)

Pollutant	Characteristics[2]	Principal Sources[2]	Principal Effects[2]	Controls[2]	Other
Nitrogen dioxide (NO_2)	A brownish-red gas with a pungent odor, often formed from oxidation of nitric oxide (NO)	Motor vehicle exhausts; high-temperature stationary combustion atmospheric reactions	Health: Aggravation of respiratory & cardiovascular illnesses & chronic nephritis Other: Fading of paints & dyes; impairment of visibility; reduced growth & premature leaf drop in plants	Catalytic control of automobile exhaust gases; modification of automobile engines to reduce combustion temperature; scrubbing flue gases with caustic substances or urea	A precursor of photochemical oxidants
Hydrocarbons (HC)	Organic compounds in gaseous or particulate form, e.g. methane, ethylene & acetylene	Incomplete combustion of fuels & other carbon-containing substances such as in motor vehicle exhausts; processing, distribution & use of petroleum compounds such as gasoline & organic solvent; natural events such as forest fires & plant metabolism; atmospheric reactions	Health: Suspected contribution to cancer Other: Major precursors in the formation of photochemical oxidants through atmospheric reactions	Automobile engine modifications (proper tuning, crankcase ventilation, exhaust gas recirculation, redesign of combustion chamber); control of automobile exhaust gases (catalytic or thermal devices); improved design, operation & maintenance of stationary furnaces (use of finely dispersed fuels, proper mixing with air, high combustion temperature); improved control procedures in processeing & handling petroleum compounds	A precursor of photochemical oxidants

Notes:

1 Pollutants for which national ambient air quality standards have been established.

2 From Council on Environmental Quality, Sixth Annual Report, 1975; based on information compiled by Enviro Control, Inc.

3 Many of the health effects previously attributed to the combustion of sulfur oxides and particulates are now believed to be caused by sulfates. There is no national or Rhode Island standard for this pollutant and it has not been routinely measured in the past. Sulfate monitoring was begun in Rhode Island in 1976 at stations in Newport, Woonsocket, Arcadia and Providence. Sulfur oxide measurements alone cannot be used as an indicator of sulfate levels since the latter may be carried great distances from the site of reaction of the precursors.

C. With the exception of downtown Providence, air quality in Rhode Island's coastal region is good in terms of the parameters directly related to local emissions. Photochemical oxidant and sulfate concentrations which are related to both local and distant sources are high in Rhode Island as they are throughout the Northeast region.

- Rhode Island is meeting the national primary and secondary standards for sulfur oxides and nitrogen oxides.

- Total suspended particulate and carbon monoxide concentrations are meeting national ambient standards everywhere in the Rhode Island coastal region except in downtown Providence.
  - The Division of Air Pollution Control of the Department of Health is well underway in the preparation of a plan to develop strategies to attain national standards for total suspended particulates.
  - Planning efforts are underway within the state to deal with the carbon monoxide problem in Providence. The programs which will lead to national standard attainment include the Division of Air Pollution Control's newly adopted regulations on stationary sources of hydrocarbons; the recently enacted state Auto Emission Control Program; and the City of Providence's Plan to create an Auto Restricted Zone around Kennedy Plaza.

- National standards for ambient concentrations of photochemical oxidants (ozone is the parameter measured) are exceeded throughout Rhode Island.
  - The entire Metropolitan Providence Interstate Air Quality Control Region (MPIAQCR) which includes all of Rhode Island and Southeastern Massachusetts has been classified by the Environmental Protection Agency (EPA) as a Priority I region for photochemical oxidants. This means that the federal motor vehicle emission reduction program is not deemed adequate for the attainment of national primary and secondary standards.
  - Ambient concentrations of photochemical oxidents are related to both distant and local emissions from automobiles (about 50%) and other hydrocarbon emission sources.
  - Emissions from Rhode Island sources contribute to the regional oxidant problem.
  - The Division of Air Pollution Control of the Rhode Island Department of Health is working with comparable agencies in the other New England states to develop consistant regulations to control hydrocarbon emissions.
  - More effort at the regional level is required to effectively solve the photochemical oxidant problem.

D. The attainment and maintenance of national air quality standards in the Rhode Island coastal region is the responsibility of the Rhode Island Division of Air Pollution Control (R.I. Clean Air Act of 1966; 23-25, G.L.R.I.) and the EPA (The Clean Air Act; PL-93-319).

- Protection of air quality is achieved through controls over the volume of emissions and their distribution.

- Strict emission controls exist for large facilities which have the potential to be major polluters and adequate regulatory programs are in place for the control of other stationary sources.
  - The Division of Air Pollution Control of the Rhode Island Department of Health has promulgated regulations for the prevention, control, abatement and limitation of air pollution. These regulations, as of February 1977, apply to:
    1. Visible Emissions
    2. Handfiring of Soft Coal
    3. Particulate Emissions from Industrial Processes
    4. Open Fires
    5. Fugitive Dust
    6. Opacity Monitors
    7. Emission of Air Contaminants Detrimental to Persons or Property
    8. Sulfur Content of Fuels
    9. Approval to Construct, Install or Modify any Device or Facility Which is a Potential Air Pollution Source
    10. Air Pollution Episodes
    11. Volatile Organic Liquid Storage and Loading Facilities
    12. Incinerators
    13. Particulate Emissions from Fossil Fuel Fired Steam or Hot Water Generating Units
    14. Record Keeping and Reporting
    15. Organic Solvent Emissions
    16. Operation of Air Pollution Control Systems
    17. Odors

- The Environmental Protection Agency administers three programs to control emissions from stationary air pollution sources:
  1. Performance standards for new stationary sources.
  2. Emission standards for hazardous air pollutants for which no ambient air quality standards apply.
  3. Approval of major facility construction (includes 24 types of facilities) subject to non-deterioration standards.
  - The administration of these programs will be delegated to the State Division of Air Pollution Control sometime this year; responsibility for enforcement will remain with the EPA.

- The limitation of air pollution from mobile sources is regulated by the EPA through three programs:
  1. Automobile emission standards
  2. Traffic control plans
  3. Indirect Source Review (includes review of highway and airport construction projects).

330.0-2 POLICIES AND REGULATIONS:

A. The Council finds that the attainment and maintenance of national primary and secondary air quality standards in the Rhode Island coastal region is a high priority. The Council further finds that effective implementation of both the Rhode Island Clean Air Act (23-25, 25.1 G.L.R.I., as amended) and the Federal Clean Air Act (P.L. 93-319, as amended 1974) is an essential element of its Coastal Resources Management Program.

B. The Council finds that the facilities/activities with the greatest potential to contribute to air quality degradation in Rhode Island's coastal region include:
   1. Electric Generating Facilities (See Section 620.0-1)
   2. Commerce and Industry (See Section 540)
   3. Transfer of Petroleum Products (See Section 630)
   4. Storage of Petroleum Products (See Section 640)
   5. Processing of Petroleum Products (See Section 650)
   6. Solid Waste Incineration (See Section 310.6-1)
   7. Minerals Extraction (See Section 230.0-1)
   8. Transportation Facilities (See Section 550.0-1

   The Council further finds that the above listed facilities/activities are adequately controlled by the Rhode Island Division of Air Pollution Control, Department of Health [1] through its adopted rules and regulations and through its administration of the EPA programs for stationary sources plus the EPA programs for mobile sources (See Finding D).

C. The Council concludes that existing programs and planning efforts are demonstrating significant progress towards meeting the goals, objectives, and schedules of the State and Federal Clean Air Acts; therefore, the Council finds no need to promulgate additional management policies at this time.

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[1] These functions will be assumed by the Department of Environmental Management on or after October 1, 1977.

Chapter 4
Culture and Recreation

410 PUBLIC ACCESS TO THE SHORE

410.0-1 FINDINGS:

A. Rhode Island is richly endowed with public shorefront access opportunities via public parks and beaches, conservation areas, scenic view points and rights-of-way. However, efforts to enhance opportunities through more effective utilization of existing areas and identification of additional sites are needed.
   - The distribution of coastal rights-of-way is uneven.
   - Public rights-of-way along substantial lengths of shoreline remain unverified.
   - Public rights in many presumed rights-of-way are contested.
   - Rights-of-way must be posted to encourage use and prevent trespass on private property.
   - Parking space at popular rights-of-way is frequently inadequate.
   - Vandalism, littering and trespass on adjacent private holdings are issues of growing concern.

B. The scenic qualities of the Rhode Island coastal region and shoreline are one of the state's greatest natural assets.
   - Much of the state's shoreline is highly scenic.
   - Many scenic areas are readily accessible to the public from designated overlooks and scenic highway routes.
   - Scenic viewing is a major recreational and tourist activity.
   - Additional scenic opportunities exist at local, state and federal recreational holdings and from both state and municipal highways. These opportunities require careful evaluation if they are to be utilized to their full potential.
   - Scenic viewsites are highly sensitive to the aesthetic impacts of adjoining development.

C. The state has numerous public and private boat launch ramps.
   - Ramps are unevenly distributed with deficiencies in upper Narragansett Bay where demand is concentrated.
   - Additional ramps should be sited in or near the major recreational boating harbors of the Bay. Acquisition costs can be extremely high in such areas however.
   - Ramp siting can have major environmental impacts where it contributes to increased boating activity in sensitive marine areas.
   - Ramps can have major social and aesthetic impacts where service roads are insufficient to handle increased traffic and/or where inadequate parking is provided.

D. Development of additional rights-of-way, scenic viewpoints and launch ramps will place additional management responsibilities on state personnel.

410.0-2 POLICIES AND REGULATIONS:

A. The Council finds that the public has a right to the use and enjoyment of the shoreline guaranteed under Article 17 of the State Constitution. Enhancement of public access to coastal waters is consequently a high priority use of the coastal region.

B. Applicants for Council permits for any development or activity contiguous to a posted public right-of-way, boat launch ramp or public view site shall be called upon to demonstrate by a fair preponderance of evidence that such development or activity or any development or activity related thereto will not interfere with or prevent public use and enjoyment. Where such interference or prevention is found the Council shall prohibit or require appropriate modification of the proposal in question.

C. The Council, working in coordination with the Department of Environmental Management, shall prepare periodic updates of the state rights-of-way, scenic view sites, and public launch ramp maps commencing in 1978. It shall insure maximum publicity and distribution of these maps to the general public.

D. The Council shall, commencing in 1978, designate all verified public rights-of-way, scenic view sites and launch ramps.

420 PUBLIC BEACHES AND PARKS

420.0-1 FINDINGS:

A. Rhode Island's ocean beaches and coastal parks are among the most popular recreational outlets. They are a resource of regional significance.
   - Substantial amounts of Rhode Island's coastline consist of sandy ocean beaches with high water quality. They provide an ideal environment for swimming and sunbathing and are heavily used by residents and visitors.
   - Saltwater bathing is by far the state's most popular outdoor recreational activity according to the State Comprehensive Outdoor Recreation Plan. Upwards of 92,000 people may visit public beaches on a good summer day.
   - Oceanfront facilities, especially those operated by the state, are clearly preferred by a majority of the public (some 70% of those sampled in a recent survey).
   - State beaches attract large numbers of out-of-state visitors each summer. Some 29% of all activity is attributable to these visitors.
   - Even higher proportions of out-of-state residents visit facilities such as Burlingame State Park's 755 unit camping area and Misquamicut State Beach, both of which are closer to population centers in nearby Connecticut than they are to Rhode Island's major upper Bay metropolitan areas.
   - Heavy weekend use of state beaches has created localized seasonal traffic congestion in some areas - notably in the towns of Westerly and Narragansett.

B. The state's many public beaches and parks are managed at the state level by the Department of Environmental Management and at the local level by municipal recreation agencies.
   - Maintenance and management are by-in-large not problems. The majority of facilities are of exceptionally high quality as is clearly evidenced by their continuing popularity.
   - Enforcement of rules and regulations and prevention of littering, vandalism and similar abuses, however, is a growing problem due to the increased responsibilities of and manpower shortages in the Department of Environmental Management's Enforcement Division.

C. Rhode Island is extremely fortunate in that unlike many coastal states it has an abundance of publicly owned beaches (Table 4-1).
   - Beach use is at levels well below design capacity a health 97 percent of the time according to the State Comprehensive Outdoor Recreation Plan.
   - The state's public beaches can comfortably service upwards of 173,000 people on a given day. Design day use (use on a good

Table 4-1. State and Municipal Beaches and Parks in the Coastal Region (Over 1 Acre)

Town	Facility name	Ownership	Acreage	Shorefront	Inland
Jamestown	Fort Wetherill State Park	State	51.0	X	
	DAR Memorial Park	Local	18.0		X
	Fort Getty	Local	41.0	X	
	Town Beach	Local	.3	X	
East Providence	Haines Park	State	9.0	X	
	Squantum Woods	State	28.5		X
	Veteran's Pkwy	State	44.1		X
	Bourne Park	Local	7.5		X
	Bullocks Point Park	Local	14.0	X	
	Waddington Park	Local	5.3		X
	Bold Point Waterfront Pk.	Local	2.1	X	
	Central Avenue Park	Local	2.4		X
	Delle Femine Park	Local	10.0		X
	Sabin Point Waterfront Park	Local	5.0	X	
Little Compton	Town Beach	Local	5.7	X	
New Shoreham	Crescent Beach	State	18.7	X	
	Mott Park	Local	5.0		X
Newport	Brenton Point Park	State	78.0	X	
	Fort Adams	State	52.5	X	
	Aquidneck Park	Local	7.7		X
	Easton's Beach	Local	11.8	X	
	Freebody Park	Local	4.3		X
	King Park	Local	7.9	X	
	Miantonomi Park	Local	30.0		X
	Norton Park	Local	12.9		X
	Spencer Park	Local	2.4		X
	Storer Park	Local	3.1	X	
	Touro Park	Local	1.8		X
Portsmouth	Teddy's Beach	State	2.0	X	
	Sandy Point Beach	Local	9.0	X	

Table 4-1. State and Municipal Beaches and Parks in the Coastal Region (Over 1 Acre)

Town	Facility name	Ownership	Acreage	Shorefront	Inland
Westerly	Misquamicut State Beach	State	152.0	X	
	Westerly Beach	Local	10.0	X	
	Wilcox Park	Local	23.0		X
Charlestown	Burlingame State Park	State	2375.0		X
	East Beach	State	174.0	X	
	Town Beach	Local	14.3	X	
	Charlestown Breachway	State	15.0	X	
South Kingstown	Moonstone Beach	Leased by town	2.0	X	
Narragansett	Fishermen's Park	State	91.8		X
	East Matunuck State Beach	State	25.7	X	
	Sand Hill Cove State Beach	State	30.0	X	
	Scarborough State Beach	State	26.0	X	
	Canonchet Beach	Local	7.0	X	
	Municipal Park	Local	4.0		X
	Narragansett Beach	Local	20.0	X	
	Thompson Park	Local	2.0		X
	Veteran's Park	Local	1.5		X
Bristol	Colt State Park	State	459.0	X	
	Bristol Town Beach	Local	27.2	X	
	Chestnut St. Park	Local	1.0		X
	Independence Park	Local	5.7		X
	Rockwell Park	Local	1.0		X
	Town Common	Local	8.5		X
Middletown	Purgatory Chasm	State	8.4	X	
	Atlantic Beach	Local	1.0	X	
	Second Beach	Local	40.0	X	
	Third Beach	Local	10.0	X	

Table 4-1. State and Municipal Beaches and Parks in the Coastal Region (Over 1 Acre)

Town	Facility name	Ownership	Acreage	Shorefront	Inland
North Kingstown	Cocumscussoc	State	414.1		X
	Central Park	Local	136.4		X
	Down's Park	Local	64.6		X
	Feurer Park	Local	29.5		X
	McGuinn Park	Local	25.3		X
	Town Beach	Local	8.2	X	
	Walmsley Park	Local	6.0		X
Pawtucket	Seekonk River	Local	15.8	X	
	Ten Mile River	State	65.5		X
	Dunnel Park	Local	13.9		X
	Fairlawn Park	Local	39.0		X
	Slater Park	Local	208.3		X
	Payne Park	Local	1.2		X
	Novelty Park	Local	1.1		X
Providence	Roger Williams National Park	Federal	5.0		X
	Dyerville Park	State	9.1		X
	Ardaene Park	Local	4.5		X
	Blackstone Park	Local		X	
	Branch Ave. Park	Local	1.0		X
	City Hall Park	Local	2.6		X
	Columbia Park	Local	1.5		X
	Davis Park	Local	10.1		X
	Fenner Park	Local	1.1		X
	Fox Point Park	Local	2.2	X	
	Hopkin's Park	Local	4.5		X
	India Pt. Park	Local	13.1	X	
	Lippit Park	Local	6.0		X
	Merino Park	Local	7.4		X
	Messer St. Park	Local	1.9		X
	Mt. Pleasant Park	Local	1.9		X
	Patterson St. Park	Local	1.7	X	
	Pleasant Valley Pkwy.	Local	5.4		X
	Richardson Park	Local	3.2		X
	Roger Williams Park	Local	415.1		X
	Wanskuck Park	Local	24.0		X
	Witherby Park	Local	1.6		X

Table 4-1. State and Municipal Beaches and Parks in the Coastal Region (Over 1 Acre)

Town	Facility name	Ownership	Acreage	Shorefront	Inland
Tiverton	Grinnel's Beach	Local	2.5	X	
	Tiverton Beach	Local	45.0	X	
Warren	Burr Hill Park	Local	7.6		X
	Janiel Park	Local	11.2		X
	Warren Town Beach	Local	2.3	X	
Warwick	Goddard Park & Beach	State	489.2	X	
	Bayside Beach	Local	9.5	X	
	Conimicut Pt. Beach	Local	14.4	X	
	Gorton's Pond Beach	Local	4.1		X
	Naughton Ave. Park	Local	1.5		X
	Oakland Beach Area	Local	27.1	X	
	Sand Pond Beach	Local	3.3		X
	Warwick Park	Local	203.6	X	
	Warwick Pond Beach	Local	.4		X
Barrington	Haines Park	State	73.1		X
	Latham Ave. Park	Local	3.9		X
	Orwood Dr. Park	Local	1.0		X
	Osamequin Park	Local	1.0	X	
	Sherwood Park	Local	4.5		X
	Town Beach	Local	1.3	X	
	Veterans Park	Local	215.0		X

July weekend day) only infrequently exceeds 92,000, leaving a margin of nearly 50% to absorb increased demand. Because of this additional capacity few state beaches approach saturation on any but the very hottest summer weekends.

- Additional public ocean beach acquisition for the above reasons does not appear to be a high priority for Rhode Island.

D. Rhode Island is less fortunate in the distribution of its public beaches. The state's major metropolitan concentration at the head of Narragansett Bay is removed considerable distances from the majority of facilities located along the open ocean shoreline.

- Beach use is largely income-dependent. It increases dramatically in proportion to increases in family income.
- In explaining this phenomenon the State Comprehensive Outdoor Recreation Plan cites high participation costs and lack of open space and other recreational opportunities in low-income urban areas.
- Access is further complicated by the relatively low level of automobile ownership among low income urban families, by inadequate or nonexistent public transit service to outlying beach areas, and increasing costs of fuel.
- Few opportunities for additional saltwater beach development exist in or near the Upper Bay's metropolitan concentrations due to intensive coastal development, water quality limitations, and less desirable coastal topography.

E. The recreational value of parks and beaches depends on a variety of environmental and aesthetic characteristics all of which are sensitive to change. It is frequently enough to disrupt just one of these to upset the delicate balance of factors which sustains recreational activity.

- Beaches and parks are sensitive to onsite impacts associated with overuse or inappropriate use.
- They are also highly sensitive to the environmental, aesthetic and other impacts of activities that take place elsewhere. The external impacts of abutting uses are of particular concern because they can have profound and immediate effects on recreational values, effects which have only been infrequently controlled in the past.
- The variety of external impacts is great:
  - Increased traffic may compromise public access opportunities;
  - Noise, odors or other airborne "pollutants" may detract from recreational enjoyment;
  - Water pollutants may preclude water contact sports;
  - Physical changes may contribute to beach erosion or introduce sediments into previously pristine waters;
  - Large structures may compromise the visual attractiveness of adjacent recreational areas.

420.0-2 POLICIES AND REGULATIONS:

A. Public recreational use and enjoyment of parks and beaches shall be a high priority use of the coastal region. Activities and developments detrimental to such use and enjoyment shall have low priority.

B. Applicants for Council permits for any development or activity contiguous to a publicly owned and/or operated park or beach shall be called upon to demonstrate by a fair preponderance of evidence that such development or activity or any development or activity related thereto will not significantly interfere with or damage the recreational use or value of the affected park or beach.

It shall be further demonstrated by reliable and probative evidence that the coastal resources are capable of supporting the proposed activity including the impacts and/or effects upon:

1. Public access and traffic congestion;
2. Noise levels incidental to construction, use or operation of proposed contiguous facilities or developments;
3. Visual and aesthetic impacts on contiguous recreational activities;
4. Natural processes such as sedimentation, runoff, coastal erosion and the like which may adversely affect contiguous recreational areas or uses of those areas;
5. Air or water quality which may adversely affect contiguous recreational activities.

Where significant interference with or damage to recreational use or value is found the Council shall prohibit or require appropriate modification of the proposal in question.

C. The Council recognizes the management responsibilities of the Department of Environmental Management and municipal recreation authorities as they relate to public beaches and parks. It shall endeavor to support these responsibilities to the maximum extent consistent with other Council Policies and Regulations.

430 CONSERVATION AND MANAGEMENT

430.0-1 FINDINGS:

A. The Rhode Island coastal region is richly endowed with both public and privately held conservation and wildlife management areas. However, the social and environmental amenities these areas provide are so valuable and varied that it would be unwise to satisfy ourselves with what we have. (Listed in Table 4-2.)
   - Both the Department of Environmental Management and the Federal Fish and Wildlife Service are actively investigating additional coastal region purchases.
   - Acquisition is a particularly attractive method of protection because it allows for a variety of recreational and nonrecreational uses in addition to the primary conservation function.

B. Conservation and management areas are among the state's most important multiple-use recreational resources. A variety of recreational activities are frequently compatible with primary conservation and wildlife management objectives. These include:
   - Controlled hunting for waterfowl and upland game;
   - Hiking and cross country skiing;
   - Wildlife observation and scenic viewing;
   - Fishing and swimming.

C. A number of socially, economically and environmentally desirable non-recreational activities can often be pursued concurrently with primary conservation and management objectives.
   - These include many forms of agriculture and forestry.

D. Conservation and management areas have broad ranging social, economic and environmental significance. This significance has all too frequently gone unrecognized in the past.
   - They provide reservoirs of open space and undisturbed natural beauty. Their value in this regard will increase incrementally as the state's population grows.

Table 4-2 Conservation and Management Areas in the Coastal Region

Town	Facility Name	Jurisdiction	Acreage	Area Type	Coastline	Inland
Portsmouth	Melville Pond	State	58.0	Pond/woodland		X
	Old Orchard Marsh	Private	12.5	Salt marsh	X	
	Heritage Trust Land (Prudence Island)	Private	240.0	Woodland		X
	Black Point Swamp	Private	72.0	Deciduous swamp		X
	Gould Island Refuge	Private	5.0	Wooded island	X	
	Porter's Marsh	Private	17.0	Salt marsh	X	
Little Compton	High Hill Marsh	State	17.0	Salt marsh	X	
Tiverton	Seapowet Marsh	State	162.1	Salt marsh	X	
	Fort Barton Conservation area	Local	77.0	Forest		X
	Lafayette Conservation area	Local	230.0	Forest		X
	Ruecker Wildlife Refuge	Private	30.0	Forest/salt marsh	X	
	Tiverton Rod & Gun	Private	65.0	Forest		X
Bristol	Silver Creek	Local	11.0	Salt/fresh marsh	X	
	Hopeworth Road site	Local	12.0	Forest		X
	Brown U. land	Private	307.0	Forest	X	X
	Bristol Rod & Gun	Private	50.0	Forest		X
Narragansett	Galilee Bird Sanctuary	State	171.2	Salt/brackish marsh	X	
	Wesquage Pond	Private	30.0	Coastal Pond	X	
	Pettaquamscutt Refuge	Private	9.7	Salt Marsh	X	
	Ram Island	Private	13.9	Island in salt pond	X	

Table 4-2 Conservation and Management Areas in the Coastal Region

Town	Facility Name	Jurisdiction	Acreage	Area Type	Coastline	Inland
Jamestown	Dutch Island Management Area	State	80.0	Island in Narragansett bay uplands	X	
	Fox Hill Pond Salt Marsh	Private	45.0	Salt marsh/surrounding uplands	X	
	Marsh Meadows	Private	21.0	Salt marsh	X	
	Racquet Road Thicket	Private	19.0	Shrub wetland		X
	Jamestown Rod & Gun	Private	22.0	Woodland		X
Newport	Almy Pond Conservation Area	Private	21.0	Coastal Pond		X
	Ocean Drive Marsh	Private	9.7	Salt Marsh	X	
Middletown	Sachuest Point National Wildlife Refuge	Federal/Local	228.0	Barrier beach/marsh, shrub uplnd	X	
	Norman Bird Sanc.	Private	320.0	Fields/forests		X
New Shoreham	Block Island Nat'l Wildlife Refuge	Federal	28.0	Dune field	X	
	Mohegan Bluffs	Local	13.4	Coastal bluffs	X	
	Rodman's Hollow	Local	38.5	Shrubland		X
	Breed's Land	Local	35.0	Shrub/open land		X
Westerly	Newton Swamp	State	111.0	Fresh marsh		X
	Woody Hill mgmt. area	State	723.0	Upland forest		X
	Watch Hill Fire District (Napatree)	Private	57.0	Barrier Beach	X	
	Weekapaug Fire Dist. Shelter Harbor Fire District, and Nopes Island Assoc., Inc. (administered by Quonochontaug Beach Conservation Comm.)	Private	100.0	Barrier Beach/salt marsh	X	

Table 4-2 Conservation and Management Areas in the Coastal Region

Town	Facility Name	Jurisdiction	Acreage	Area Type	Coastline	Inland
Charlestown	Ninigret Nat'l Wildlife Refuge	Federal	27.5	Barrier Beach	X	
	Ninigret Cons. Area	State	174.0	Barrier Beach	X	
	Wards Island	State	15.1	Salt Marsh	X	
	Charlestown Mgmt. Area	State	73.9	Breachway/salt marsh	X	
	Quonochontaug Area	State	49.2	Breachway/salt marsh	X	
	Nopes Island, Assoc., Inc. (Administered by Quonochontaug Beach Conservation Comm.	Private	60.0	Barrier beach/salt marsh	X	
	Burlingame Management Area	State	840.5	Forest		X
	Indian Cedar Swamp Management Area	State	850.0	Wooded swamp		X
	Deep Pond Area	State	32.0	Forest		X
	Kimball Wildlife Refuge	Private	30.0	Forest		X
South Kingstown	Trustom Pond Nat'l Wildlife Refuge	Federal	115.0	Coastal Pond	X	
	Matunuck Mgmt. Area (includes east)	State	170.5	Barrier Beach/ Salt Marsh	X	
	Moonstone Wildlife refuge	Private	6.7	Barrier Beach/Pond	X	
	Indian Run Woods	Private	50.0	Forest		X
	Frisella's Hunting Area	Private	173.7	Forest		X
Warren	Wajack Farm	Local	66.7			X
	East Warren Rod & Gun Club	Private	32.0			X
	Warren Reservoir	Private	10.0	Forest		X

Table 4-2 Conservation and Management Areas in the Coastal Region

Town	Facility Name	Jurisdiction	Acreage	Area Type	Coastline	Inland
Barrington	Rumstick Point	State	33.4	Salt marsh	X	
	Hundred Acre Cove	State	23.3	Salt marsh	X	
	Tall Cedars	Local	32.8	Forest		X
	Knockum Hill	Local	75.0	Forest	X	
	Walker Farm	Local	62.0	Agric. land	X	
	Hampton Meadows	Local	120.0	Forest		X
	Hundred Acre Cove	Private	43.0	Salt marsh	X	
East Providence	Turner Reservoir	Local	25.2	Forest/lakes		X
	Bryden Heights Con. Area	Local	10.0	Marsh/forest	X	
	South Boyd Con. Area	Local	13.3	Forest		X
	Willett Pond Con. Area	Local	16.9	Forest/lakes		X
Warwick	Narragansett Pkwy	State	55.5	Forest		X
	Cranberry Bog Brook	Local	30.4	Forest		X
	Cranberry Bog	Local	16.3	Marsh		X
	Buckeys Brook Area	Local	52.4	Forest/Marsh		X
	Baker's Creek	Local	12.6	Salt marsh	X	
East Greenwich	Davis Wildlife Ref.	Private	30.9	Forest/river/ flood plain		X
North Kingstown	Silver Spring	State	14.6			X
	Cornelius Island	Local	18.7	Forested island	X	
	Hunt River Swamp	Private	55.8	F.W. Marsh/forest		X
	Cocumscassoc Brk	Private	16.0	Forest		X

- Their presence enhances the quality of life available to all the state's citizens. They make Rhode Island a more pleasant place in which to live and work, a fact of growing economic consequence as an attraction to industry.
- They preserve water quality and scenic diversity while helping to guide future growth.
- They preserve vegetation and habitat necessary to support the state's wildlife, fisheries and migratory birds.
- They help preserve the rural character of much of the state's coastal region and some of its most valuable farmland.

E. Conservation and management areas are often complex and delicately balanced natural environments. They are sensitive to a variety of internal and external impacts.
   - Inappropriate recreational use or overuse can destroy habitat and degrade aesthetic quality;
   - Adjacent development can limit access and generate noise, traffic, pollution or physical changes which diminish aesthetic qualities or alter environmental conditions.

430.0-2 POLICIES AND REGULATIONS:

A. Preservation and restoration of scenic areas and features, and the living resources of the coastal region must be a high priority use of Rhode Island's coastal region if its natural beauty, diversity and quality is to be maintained. Uses not compatible with such preservation and restoration shall be considered of low priority.

B. Applicants for Council permits for any development or activity on/or contiguous to an area committed to conservation, fisheries or wildlife management purposes by covenant or deed shall be called upon to demonstrate by a fair preponderance of evidence that such development or activity or any development or activity related thereto will not significantly interfere with or damage the primary conservation or wildlife management purpose of the affected area.

   It shall be further demonstrated by reliable and probative evidence that the coastal resources are capable of supporting the proposed activity including the impacts and/or effects upon:

   1. Public access;
   2. Construction, operational or traffic related noise and activity especially as these affect wildlife;
   3. Natural processes such as sedimentation, runoff, coastal erosion and the like;
   4. Air and water quality;
   5. Visual and aesthetic resources.

   Where significant interference with or damage to the primary conservation or wildlife management purpose of the affected area is found the Council shall prohibit or require appropriate modification of the proposal in question.

C. The Council recognizes the management responsibilities of the Department of Environmental Management, the U.S. Fish and Wildlife Service, the National Marine Fisheries Service and private conservation organizations such as the Audubon Society of Rhode Island and the Nature Conservency. It shall support these agencies to the maximum extent consistent with other Council Policies and Regulations.

440 RECREATIONAL BOATING AND BOATING FACILITIES; RESIDENTIAL DOCKS AND PIERS

440.0-1 FINDINGS:

A. Recreational boating is one of the most significant, widespread and popular uses of Rhode Island's coastal waters. It is an activity of regional significance.
   - Nearly 17,000 boats were registered in the state in 1976, up some 16% from 1974.
   - State waters are heavily travelled by out-of-state craft. They account for 36% of recreational boating revenue according to Department of Economic Development statistics.
   - Recreational boating generated gross sales of over $13 million in 1976.
   - Recreational boating expenditures generate additional activity throughout the state's economy - up to $276 for each $100 spent.

B. Popular boating anchorages, harbors and marinas are crowded, often to the point of saturation.
   - Demand for mooring, docking and storage space is a particularly severe problem.
   - As of 1975 according to surveys undertaken at the request of the Department of Economic Development there were 5,400 slips, 2,500 moorings and 4,500 winter storage spaces in the state. Waiting lists for these get longer every year.
   - Crowding creates numerous problems.
     . It detracts from the quality of the boating experience.
     . It increases conflicts among sports fishermen, sailors, waterskiers and commercial vessels.
     . It creates hazards where boating activity spreads into swimming, skin diving and shellfishing areas.
     . It increases noise, litter and pollution from toilet discharges, exhaust by-products and occasional fuel spills.
     . It generates pressure on environmentally sensitive areas such as salt ponds, eelgrass beds and waterfowl habitat.

C. Boating activity is on the increase, especially for craft in the sixteen foot and under size range.
   - Department of Economic Development projections predict a possible increase in the number of Rhode Island boats of as much as 92% over the next 20 years, although rising fuel costs and general economic conditions may act as restraints.
   - Demand for berthing space will increase in proportion to increases in boating activity by a possible 390-780 boats per year through 1980, 440-880 boats per year between 1980 and 1985, and by as many as 1,000 boats per year through 1990.

D. Expansion opportunities at existing marinas are limited.
   - Only about 1,000 new berths were planned when the Department of Economic Development undertook its survey in 1975. This is enough to meet only 65% - 85% of immediate demand.
   - Expansion is limited by:
     . Preexisting development concentrated along the shorefront of most of the state's popular recreational harbors;
     . By zoning constraints;

. By environmental protection regulations and standards;
. By dredging costs and procedural difficulties and time delays in obtaining necessary state and federal permits.

E. Suitable sites for new marinas are in extremely short supply.
- For most of the above reasons.
- Because of relatively rigid siting requirements including:
. Superior road access;
. A large site - an economically viable marina of a minimum 200 slips requires some five acres of land for parking, storage and service structures;
. Access to sheltered waters open to the Bay or ocean;
. Adequate nearshore water depth;
. Restrictions on siting in SA waters.

F. Residential piers, docks and wharves are proliferating, often to the detriment of other legitimate coastal activities.
- Piers, docks and floats already constitute the single largest type of Council permit activity - 35 to 40% of all applications received between 1971 and 1975. The vast majority of these applications were for private single-residence structures.
- Piers, docks and floats tend to concentrate along the shores of protected coves, coastal ponds and tidal rivers.
- These concentrations contribute to crowding, aesthetic deterioration and most importantly interfere with constitutionally guaranteed public rights of access to and along the low water shorefront.
- Substantial difficulty has been encountered in controlling proliferation of docks and piers because of the incremental nature of the problem. Many individually innocuous proposals have collectively had a substantial impact on the state's shoreline.

- The state can, therefore, deny or restrict without compensation wharfage privileges for any of a variety of public purposes including protection of access, navigation, commerce, fisheries or the environment.

440.0-2 POLICIES AND REGULATIONS:

A. The Council finds recreational boating to be a high priority use of the coastal region. However, more efficient use of existing marina space shall be preferred to new marina development and undirected proliferation of docks and piers will be actively discouraged.

B. Operation of recreational craft:
1. Must be in compliance with applicable Department of Environmental Management Division of Boating Safety regulations regarding load limits, safety devices, rules of the road, and operation in restricted zones such as bathing, shellfishing and skin diving areas.
2. Must be in compliance with posted municipal and state speed and minimum wake regulations pertaining to channels, anchorages and other water bodies.

C. Overboard discharge of wastes, sewage and litter:
   1. Overboard discharge of oily wastes and residues from spills, exhausts, engine cooling waters or any other source is prohibited pursuant to applicable Coast Guard standards and regulations.
   2. Overboard disposal of litter, garbage, refuse or any other similar solid waste material is prohibited.
   3. Overboard discharges of human waste material shall be subject to all applicable Coast Guard standards, regulations, requirements and timetables for compliance.

D. Marina development and expansion:
   1. The Council encourages marinas to seek innovative solutions to increased demands for mooring, dockage and storage space including dry stack storage, alternative slip and mooring configurations and the like.
   2. Marina development and expansion shall be subject to all Council policies and regulations pertaining to effected marine, intertidal and coastal resources and uses of those resources.
   3. Proposals for marina expansion and development shall in all instances contain a description of related dredging and dredged material disposal, bulkheading, or breakwater requirements and proposals. The purpose of this regulation is to protect the applicant from initiating developments for which other necessary approvals will not be forthcoming.
   4. Proposals shall provide for sanitary facilities and related sewage treatment and disposal systems sufficient to service additional marina users.
   5. Proposals shall provide for sufficient on-site parking to service additional marina users, where applicable.

E. Marina and residential dredging and dredged material disposal: See Chapter 5, Section 530

F. Residential docks, piers and floats:
   1. The Council specifically recognizes the public's constitutional right to lateral access along the shorefront below the mean high water mark.
   2. Applicants for residential docks, piers, wharves or any other structure extending from lands above the mean high water mark into and across tidal waters below this mark shall be called upon to demonstrate by a fair preponderance of evidence that their proposal will not interfere with or prevent public access along the shore below mean high water.

      In evaluating such applications and evidence pursuant thereto the Council shall consider:

      a. The presence, number and distribution of docks, piers, wharves, etc. along the shorefront in question;
      b. The probability of future dock, pier and wharf construction based on ownership and development patterns along the shorefront in question;
      c. The collective impact these docks, piers and wharves have or may have on lateral public access;

Where interference with or prevention of lateral public access is found the Council shall prohibit or require appropriate modification of the proposal in question.

450 HISTORIC PRESERVATION

450.0-1 FINDINGS:

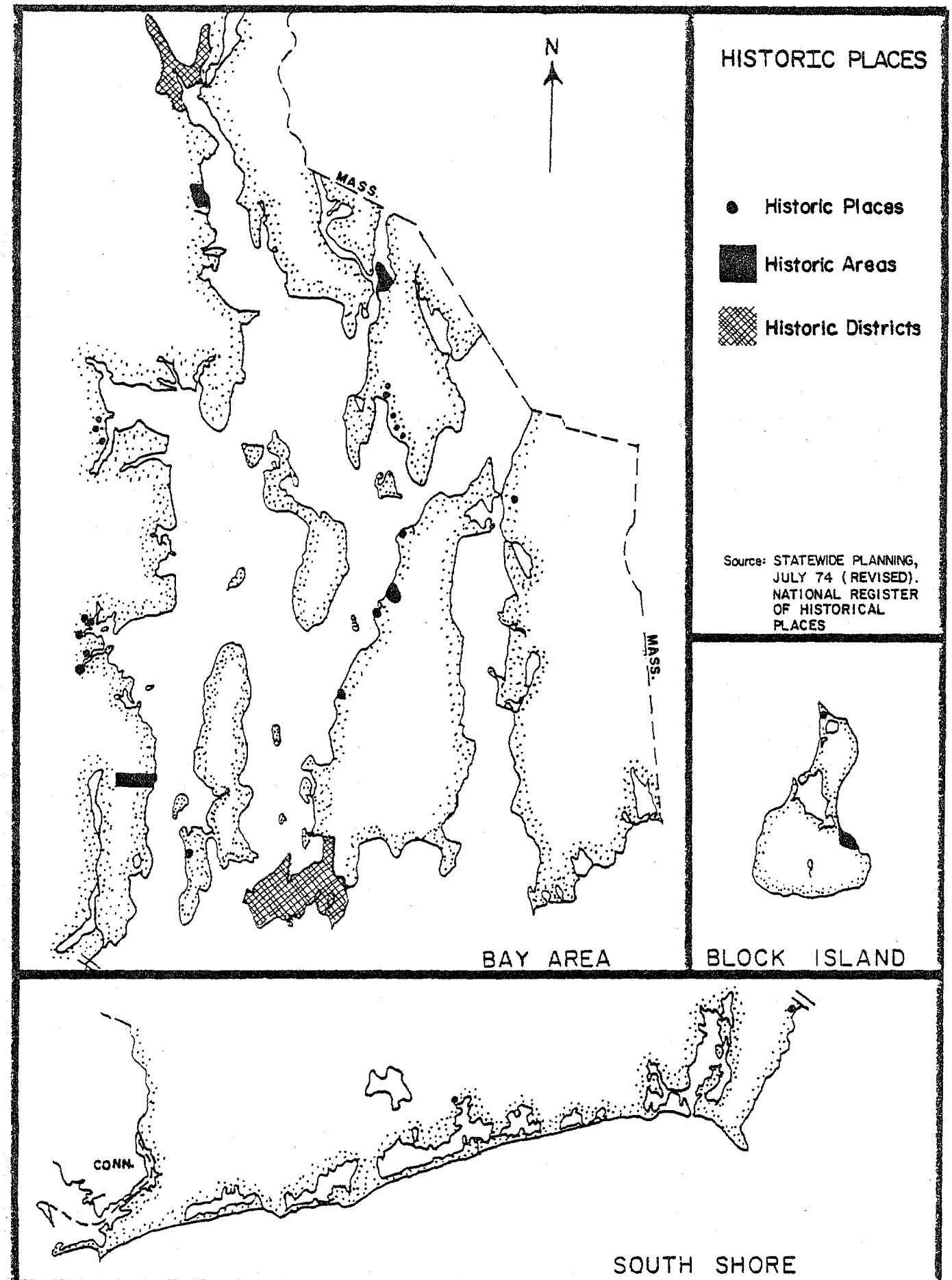
A. The Rhode Island coastal region has a rich and long history.
   - The first Europeans under Giovanni da Verazzano visited the future site of Newport in the early 1500's and were greeted by friendly and prosperous Indians.
   - While relatively few artifacts of these native occupants remain, many traces of precolonial and colonial settlement have survived.
   - The cities of Newport and Providence and the villages of Wickford and Kingston were all major political and cultural centers and are dotted with historic buildings. Many other coastal areas have historic significance as well.
   - The majority of the state's designated historic places, buildings, and districts are within the coastal region. Many significant military artifacts such as Fort Adams in Newport remain as important tourist attractions.

B. The state has a vigorous Historical Preservation Commission. The Commission acts in cooperation with the National Park Service at the federal level and with local historic commissions at the municipal level to identify and protect areas and sites of historical and archaeological significance.
   - The Commission is conducting a statewide survey, which identifies places of historical importance and recommends programs for historic preservation.
   - Some 180 historic places in coastal communities have been entered on the national and state registers.
   - The Historic Preservation Commission reviews all publicly financed or licensed projects affecting designated historic sites either directly or through the impact of adjacent developments.
   - The Commission is empowered to review the environmental and aesthetic impacts of such developments and to make rulings on adverse impact. Where these rulings are contested they are subject to federal action by the National Advisory Council on Historic Preservation or to state action by the Governor.

C. Historic sites are a highly significant recreational, cultural and educational resource of growing value to the state's citizens and visitors alike. (Sites shown in Figure 4-1.)
   - They provide access to and enjoyment of scenic coastal areas.
   - They contribute to the preservation of and public awareness of a rich and varied cultural heritage.
   - They contribute to the variety of recreational opportunity that supports the state's tourist industry.

D. Effective and responsible coastal management efforts must promote preservation of historically significant areas and sites.
   - The Council finds a need to formalize longstanding cooperative arrangements between itself and state and local historic preservation commissions to insure preservation of registered historical and archaeological places and districts.

Figure 4-1



Maps of these features (scale of 1:12000) are available at the Council's offices

450.0-2 POLICIES AND REGULATIONS:

A. Preservation of areas and sites of historical and archeological significance is a high priority use of the coastal region. Activities which damage or degrade historic resources shall be considered of low priority.
B. The Council shall duly notify appropriate federal, state and local historic preservation agencies of proposals before it or subject to its review where there exists any reasonable probability of these affecting the physical preservation, aesthetic quality or accessibility of registered historic sites, buildings or districts. Such notification will follow all applicable provisions of the Administrative Procedures Act including most particularly the right to comment and hearing. The Council will weigh the comments of all federal, state and local historic preservation agencies prior to any action under this section.
C. The Council shall evaluate all proposals subject to its review or permitting authorities for their impact on the physical preservation, aesthetic quality or accessibility of designated historic sites, buildings or districts. It shall require modification or shall prohibit proposed contiguous uses where it finds a reasonable probability of adverse structural impacts on such designated sites, buildings or districts. It shall strongly recommend modification of proposals likely to affect the aesthetic quality or accessibility of such sites, buildings or districts.
D. The Council shall be duly notified of all additions to federal and state registries of historic places by nominating agencies. This shall enable it to more effectively contribute to their preservation.

460 RESEARCH

460.0-1 FINDINGS:

A. Environmental baselines must be established to measure and respond to man's impacts on Rhode Island's coastal and marine resources.
    - At their most basic level environmental impacts reflect themselves in changes to ecological systems.
    - If impacts are to be properly identified we must accumulate baseline information against which to measure such changes.
    - Baseline information is best accumulated through ongoing research and long-term sampling of the same site. Ongoing research helps distinguish between natural fluctuations and those impacts generated by man's activities.
    - Rhode Island is fortunate in having a large number of marine and coastal data stations on which scientists at the state's various universities and within the Department of Natural Resources have been accumulating data. These data are an invaluable asset in developing coastal management plans and programs.
    - Data stations are highly sensitive to localized impacts and environmental alterations which interfere with the acquisition of accurate information.
B. As coastal planning and management efforts expand in scope and sophistication and as changing social and environmental conditions generate needs for periodic updating and refinement of these efforts the demand for information continues to grow.

- The task before us generates increased demands for information useful in effectively managing coastal resources.
- Information needs are as varied as the many issues facing the state's coastal region. They include environmental data and the monitoring of public expectations and priorities.
- Research produces numerous social benefits in addition to the value of the information it generates. Of great interest to the Council are the many educational opportunities it opens to scientists and students at the state's high schools and universities. Of further interest is the state's very active and growing private marine research industry.

460.0-2 POLICIES AND REGULATIONS:

A. Research on coastal and marine ecosystems and processes and on the impacts of man's various activities on these systems and processes is a vital and high priority element of the state's Coastal Resources Management Program.

B. Applicants for Council permits for any development or activity at or contiguous to a designated environmental research/data station shall be called upon to demonstrate by a fair preponderance of evidence that such development or activity or any development or activity related thereto will not interfere with the primary data acquisition and/or research function of the affected station.

It shall be further demonstrated by reliable and probative evidence that the coastal resources are capable of supporting the proposed activity including the impacts and/or effects caused by:

1. Construction, operation or traffic;
2. Noise, odor or other impacts on air quality;
3. Impacts on natural processes such as sedimentation, runoff, erosion and the like;
4. Impacts on water quality, chemical, particulate or organic characteristics.

Where interference with the primary data acquisition and/or research function of an affected station is found the Council shall prohibit or require appropriate modification of the proposal in question.

C. Uses of marine and coastal areas subject to Council jurisdiction which do not require a specific Council permit shall be considered in violation of Council management policies where they interfere with the primary data acquisition and/or research function of a designated research/data station. Such interference may be in any of the forms identified under 1 through 4 above.

470 THE BAY ISLANDS PARK

470.0-1 FINDINGS:

A. The Council endorses and supports the Bay Islands Park concept both in its existing elements and those proposed for future acquisition.
   - The Council has participated in the development of the proposed park system since its inception. The recently published Bay Islands Park: A Marine Recreation Plan for the State of Rhode Island was jointly sponsored and produced by the Council in cooperation with the Department of Natural Resources.

B. The Council believes that the proposed park represents a unique opportunity to develop an exceptional recreation facility in the Narragansett Bay area. It finds:
   - That this opportunity will be lost if timely state action is not taken.
   - That the Bay's islands are among the state's greatest natural assets and potentially a most valuable recreational resource.
   - That recreational and open space use of the various islands proposed for inclusion in the parksystem will offer a unique recreational experience to generations of Rhode Islanders.
   - That the park will provide much needed additional marine oriented recreational outlets to residents of the upper Bay's metropolitan concentrations.
   - That it will be compatible with economic development objectives because it focuses on areas of limited commercial-industrial potential either due to access or topographic difficulties.
   - That it will enhance the attractiveness of the state for residents, visitors, commerce and industry by preserving areas of unspoiled natural beauty within the state's most developed region.

C. The Council supports the underlying objectives of the Park system.
   - To make the Bay's islands more accessible to all the state's residents by expanding private ferry service.
   - To provide a wide variety of water enhanced recreational opportunities with particular emphasis on such high demand activities as bathing, picnicking, fishing, sightseeing, boating, hiking and hunting.
   - To preserve open space, cultural resources, scenic vistas, educational opportunities and valuable wildlife habitat. The Council supports the special management programs initiated by the Department of Environmental Management to protect Hope Island's newly established and flourishing heron and egret colony.
   - To expand on rather than duplicate opportunities provided elsewhere.
   - To keep facility development at a minimum.
   - To respect the rights and privacy of island residents.
   - To develop the system and spread its cost on the basis of defined priorities.
     . Highest priority to low-cost opportunities including the upgrading of areas already in state ownership and the development of free (for public recreation purposes) federal surplus property;

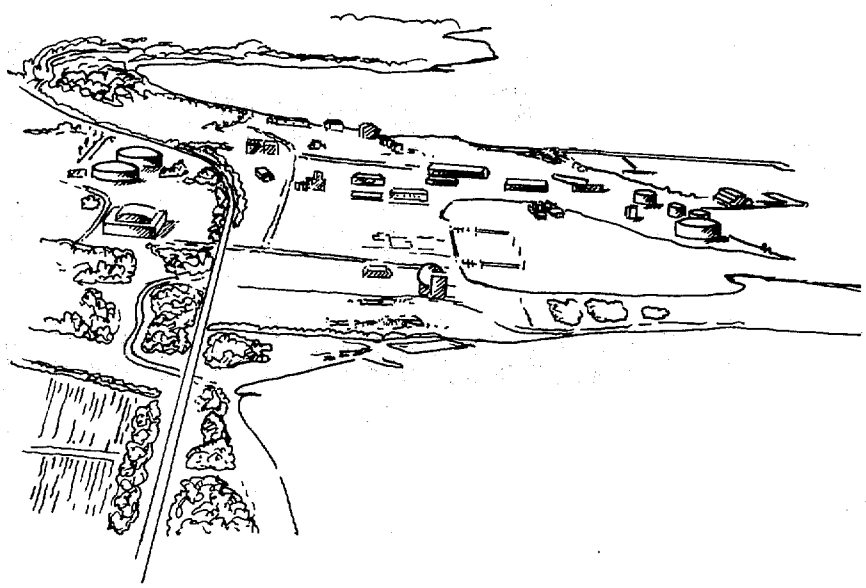
470.0-2 POLICIES AND REGULATIONS:

A. Development of the Bay Islands Park System as already initiated by the Department of Environmental Management shall be a high priority of the Rhode Island Coastal Resources Management Program. Developments and activities inconsistent with this objective shall have low priority.

B. Designated Bay Islands Park holdings shall be subject to all Council Policies and Regulations for public parks and beaches, public access areas and historic preservation as set forth in this Chapter.

C. Applications for Council permits for any development or activity on or contiguous to an area proposed for inclusion in the Bay Islands Park System, but not already owned or operated for Park purposes, shall be reviewed for their consistency with proposed recreation or conservation uses. Where the Council finds a reasonable probability of inconsistency it shall forcefully urge appropriate modification of the proposal in question.

Chapter 5
Coastal Development



510: RESIDENTIAL DEVELOPMENT

510.0-1 FINDINGS:

A. Residential development is expanding more rapidly in the coastal region than in other parts of the state.

- Coastal cities and towns are actively involved in managing residential development. All have adopted zoning ordinances, and most have adopted subdivision regulations.

- All coastal communities, except New Shoreham and the large cities, grew in population by at least 20 percent through the 1960's. Five grew by more than 50 percent, as opposed to a statewide average of 10.5 percent.

- Some of the expansion is being accommodated by conversion of seasonal housing (the number of seasonal houses statewide dropped by 27% through the sixties;) a trend which is expected to continue. Some of these converted homes are not suitable for year-round occupancy.

B. There is enough suitable land within the coastal region to meet projected needs for residential expansion. Residential development is a necessary and appropriate use of the coastal region. There is a growing need, however, to insure that residential development does not extend into sensitive natural areas or areas hazardous for development. It is also important that new development does not overtax state and municipal services or adversely affect areas or activities of broad social significance such as recreational areas.

- Residential development has, however, frequently taken place with little consideration of the suitability of the site chosen. Significant areas in the coastal region have constraints for development.
  - . Of land within the coastal region some 9% is hazardous due to periodic coastal flooding;
  - . Much is poorly or very poorly drained and 50% has at least some drainage problems;
  - . Other land is unsuitable because of shallow soils, severe slopes or the presence of wetlands.

- Local and state zoning laws generally fail to address these problems. The present state zoning enabling act mentions only flood-prone areas. Few coastal communities base their zoning ordinances on soil surveys. Six have zoning provisions that restrict the use or layout of sites in the flood hazard areas which are present in all coastal communities. Few have provisions that recognize development limitations in the areas of very steep slope which are also present in all but one coastal community.

- Residential development has frequently been initiated with little consideration for the demands it places on public facilities and services. Problems have arisen where these services are insufficient.
    - Health and environmental problems have occurred when conversion of seasonal homes to year round use overtaxed the capabilities of on-site disposal systems and public sewers were not available. This is of particular concern near sensitive natural areas such as coastal ponds and wetlands where ground-water levels and water quality are easily affected.
    - One-half of the coastal communities have no public sewers or very limited service areas, but most have extended public water systems and allowed small-lot development without insuring that soils are capable of adequately absorbing sewage. As a result the pace of sewer construction has had to be accelerated, often at great expense to local taxpayers.

- The state's principal direct control over residential development has until recently been limited to Department of Health regulations pertaining to the siting and design of on-site sewage disposal systems.
    - A Department permit is required prior to construction of such systems, although required percolation tests focus primarily on direct threats to human health and water quality.
    - Department regulations do not address many issues of concern to the Coastal Resources Management Council such as siting in areas of high flood hazard, proximity to sensitive natural areas, impacts on adjacent recreational areas, public access points, or conservation areas.
    - The Council by express legislative mandate, however, has final regulatory and permitting authority over sewage treatment and disposal within the coastal region and may exercise this authority where it finds a reasonable probability of adverse impacts on the resources of the coastal region or conflicts with plans for the utilization or preservation of those resources. Where it finds such probabilities, the Council is authorized to modify, set conditions for or reject the design, location, construction, alteration or operation of treatment and disposal systems.
    - Because of the expansive nature of its legislatively mandated planning and management responsiblities for the coastal region the Council finds an obligation to reflect these responsibilities in regulatory policies pertaining to sewage treatment and disposal.

- Other direct state controls relative to residential development include regulations for the protection of freshwater wetlands administered by the Department of Environmental Management
    - . These establish as public policy preservation of the purity and integrity of freshwater ponds, streams, rivers, swamps, marshes and bogs.
    - . They require a Department permit for any alteration to the character of a freshwater wetland and set forth standards for unacceptable alterations including:
        - reduction of the flood retention and mitigation ability of the wetland;
        - reduction of its groundwater recharge capacity;
        - reduction of water quality; or
        - reduction of wildlife habitat or recreational value of wetlands with outstanding aesthetic, ecological and/or cultural significance.

C. Low density residential expansion within the state as a whole is continuing. This is frequently wasteful of land and other resources.

- If present trends continue more coastal land could be developed between 1960 and 1990 than in the preceeding 300 years.

- Since the state is so small (less than the size of the average U.S. county) the resultant loss of rural and scenic areas will affect all state residents.

- Agricultural lands are being particularly hard hit by development pressures. Most of the state's farmland could be gone by the late 1980's.

- Compact and planned residential development offers numerous advantages over existing low density development.
    - . Road and utility costs could be cut in half;
    - . Energy and water consumption could be cut by 35 to 45 percent;
    - . Air pollution could be reduced by 45 percent.
    - . Increased amounts of space could be left open or committed to other desirable uses.

- Two fundamental impediments to more compact and efficient use of developable land exist, however;
    - . Existing state zoning enabling legislation does not encourage it.
    - . Municipal zoning ordinances frequently do not allow it.

510.0-2 POLICIES AND REGULATIONS:

A. The Council recognizes that the General Assembly has delegated authority to local government so that they have the principal responsibility to plan for and manage land use and development, much of which is of local concern only. The Council encourages and shall endeavor to support local efforts to adopt plans and zoning ordinances that:

1. recognize the development potential of land in or near existing urban areas and public water and sewer service areas (designated for higher intensity and medium intensity development in the coastal region plan);
2. make a distinction between urban areas (higher and medium intensity development in the coastal region plan) and rural areas (agricultural and rural/resource land in the plan), based on land capability and availability of public services;
3. guide development away from agricultural land; and
4. recognize the constraints on development of poorly drained, steep, or shallow-to-bedrock soils (land with development constraints in the coastal region map).

B. The Council recognizes continued undirected low-density residential development as an inefficient and frequently wasteful use of the state's land resource. It finds so called "sprawl," a problem of statewide magnitude and concern, neither unique nor indigenous to the coastal region. It believes, therefore, that the only proper and effective approach to this problem must accommodate and address its statewide scope. The Council consequently supports and urges passage of Bill 77H-6299, An Act Establishing A State-Local Land Management Program. It finds the Act's purpose, to wit:

- relating development to physical capabilities of land;
- relating intensity of development to availability of public service;
- recognizing the areawide impact of some development decisions;
- protecting valuable natural resources and areas;
- reserving suitable sites for needed economic development;
- providing adequate housing for all residents; and
- improving the visual quality of development.

fully consistent with and supportive of its own planning and management objectives relative to utilization of the state's coastal resources.

C. Pending passage of comprehensive statewide land management legislation, however, the Council finds there is much that it can do on its own authority to effectuate the intent of such legislation as it relates to the coastal region.

Specifically, through implementation of its regulatory and permitting powers relative to coastal physiographic features, coastal wetlands and sewage treatment and disposal, the Council has adopted policies relative to development of and/or developments on or contiguous to:

1. Barrier beaches (Section 120.0-2)
2. Sand dunes (Section 120.0-2)
3. Coastal cliffs, ledges and bluffs (Section 120.0-2)
4. Coastal wetlands (Section 120.0-2)
5. Flood hazards (Section 120.0-2)

6. Coastal erosion (Section 140.0-2)
7. Conservation and management areas (Section 430.0-1)
8. Public Access to the shore (Section 410.0-1)

The Council has further adopted specific policies for sewage treatment and disposal related activities and developments of any sort within or affecting the coastal region and its resources (see Section 310.0-2).

520: URBAN WATERFRONTS AND PORTS

520.0-1 IDENTIFICATION: See Figure 5-1

A. General Cargo and petroleum products:

The state's major general cargo and petroleum import-export center is the Port of Providence, defined here as including port facilities along both the Providence and East Providence shores of the Providence River at the head of Narragansett Bay.

Satellite petroleum and lumber import facilities are located off the Fall River shipping channel in Portsmouth and Tiverton.

B. Commercial fishing and recreational boating:

The state has two principal commercial fishing ports at Galilee and Newport which together account for 95% of commercial landings (see Section 210.0-1) Warwick Cove, Newport, and to a lesser extent Galilee are also important recreational boating ports.

The state's many other smaller ports and harbors (see Figure 5-1) are primarily recreational in orientation, but support small commercial trawl, lobster, mollusk and fish trap fisheries.

C. Federal surplus port facilities:

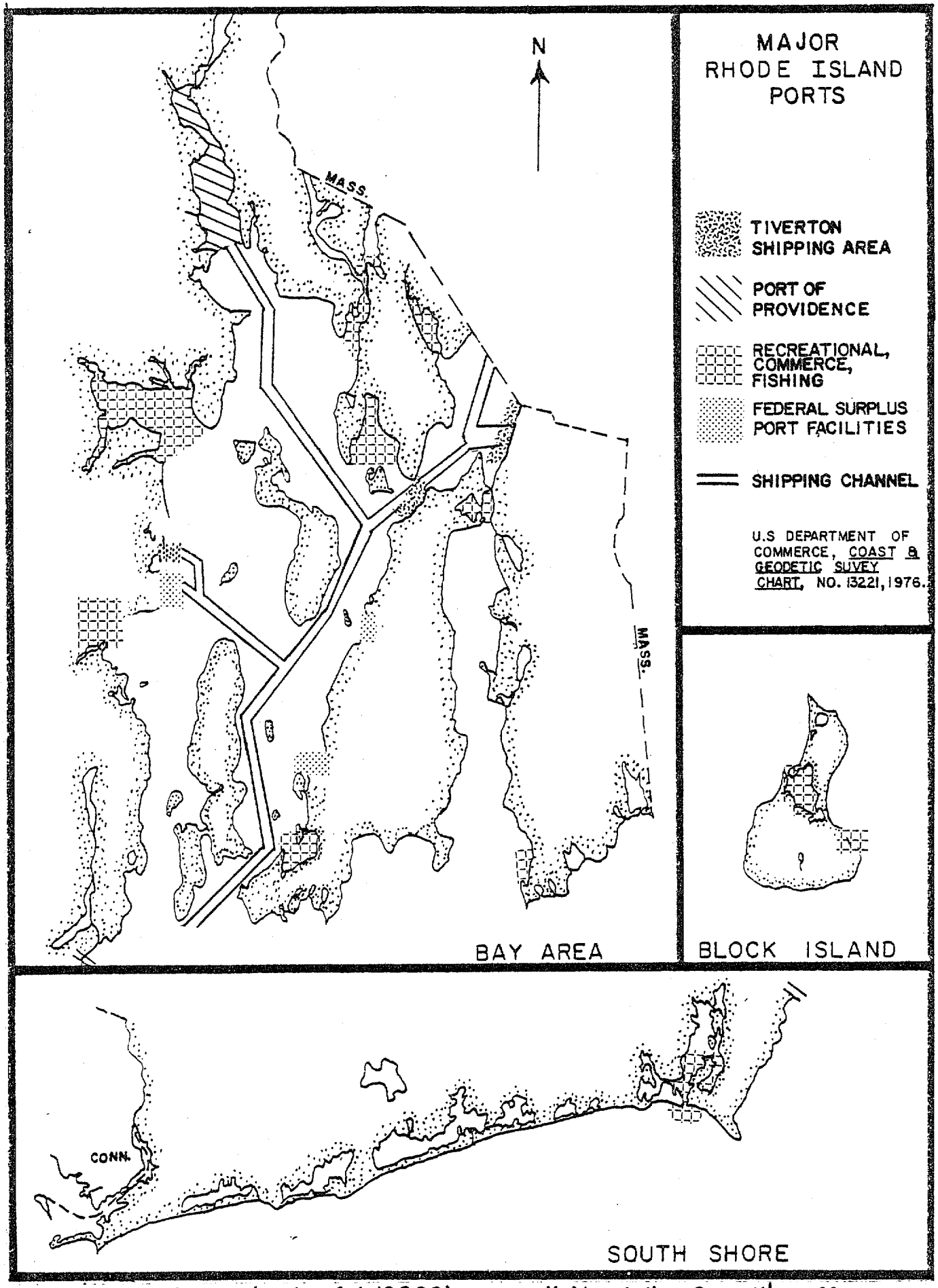
Navy piers and related port and petroleum storage facilities are located at Quonset Point-Davisville on the west shore of the Bay and at Coddington Cove and Melville on the East Bay (Aquidneck Island). These facilities have been excessed by the Navy to the General Services Administration (GSA) for disposal. However, several parcels are being re-evaluated by the Navy for possible future programs. Final disposal of any of those facilities, moreover, is being held in abeyance pending the completion by GSA of a comprehensive Environmental Impact Statement (EIS).

520.1 General Cargo and Petroleum Ports

520.1-1 FINDINGS: THE PORT OF PROVIDENCE

A. The Port of Providence is the state's major cargo terminal and port facility. It consists of approximately ten miles of commercial waterfront extending along both shores of the Providence River (Figure 5-1).

Figure 5-1



Maps of these features (scale of 1:12000) are available at the Council's offices

- The port contains 10 public wharves, 14 private docks or piers, and at least nine private marinas. Fourteen of these are primarily petroleum (gasoline, oil and lubricants) related and abut privately operated tank storage farms. Six are dry and bulk cargo related, one is a ferry pier and seven service tow and tugboats and recreational craft.

- Port acreage totals approximately 635 acres, which may be categorized as follows:
  - 540 acres petroleum handling and storage;
  - 25 acres bulk cargo handling and storage (open and warehousing);
  - 70 acres miscellaneous commercial and marina.

- The main shipping channel has been dredged to a control depth of forty feet along its entire length. Shoal areas off Fuller Rock Light and Conimicut Light which had previously limited the port to vessels with a maximum draft of thirty feet were dredged in 1974.

- Dredging of three berths (450 feet, 595 feet, and 688 feet respectively in length) at the Providence municipal wharf to a depth of forty feet is currently underway.

- Control depth at private petroleum piers ranges between 30 and 38 feet.

- A substantial area of the upper harbor between Bold Point and Green Jacket Shoals is shoal and littered with abandoned and deteriorating piers and barges. Commercial opportunities in this area are consequently limited.

- Port related employment is difficult to compute because of the variety of activities involved. The port director estimates sixteen administrative and security positions and two to three hundred stevedores at any one time. Indirect employment in port related transportation, vessel servicing, and commercial-industrial activities is substantially higher than the above figures, but specific numbers are not available.

- The port has a major economic impact on the City of Providence and East Providence and on the state as a whole through: direct and indirect employment; taxes and duties; dockage, wharfage and storage fees; vessel and crew servicing, refueling and repair; and stimulus to trucking and railroad business. Although the precise magnitude of this impact is unknown:
  - The U.S. Economic Development Administration has estimated that each dollar of petroleum product landed generates an additional five to seven dollars of economic activity in the market area.

. Similar multipliers for other cargo sectors have not been developed. However, port officials agree that bulk and general cargo, primarily through higher related employment, have a greater per dollar impact on the local economy.

- The value of 1975 international cargos, which were only a portion of the total, are shown in Table 5-1.

B. Providence is a major regional import center - imports accounted for 98% of total 1976 tonnage handled. Petroleum products accounted for 93.5% of these imports (82% of this was gasoline and fuel oil) and 65% of exports by tonnage, making the port the fuel distribution center for eastern Connecticut, Rhode Island and Southeastern Massachusetts (a market population of seven million people).

- Import/export patterns over the last ten years indicate an erratic pattern of slow net growth (Figure 5-2). (Rhode Island Transportation Plan - 1990, Report No. 19, R.I. Statewide Planning Program 1973).

- Import/export patterns in petroleum products roughly parallel overall patterns reflecting the strong contribution of petroleum handling to the general cargo mix (Figure 5-2).

- The port's principal exports are scrap metal (Providence is the region's largest exporter) and petroleum products (much of which is transported by truck).

- Petroleum products account for a substantial proportion of the landed value of products handled (Table 5-2). However, bulk and general cargo traffic has increased significantly in recent years, especially foreign automobile imports. In support trends and port improvements suggest that bulk and general cargo will be the dominant growth sector in the foreseeable future.

C. Ongoing improvements of both Providence and East Providence Port facilities and surplus storage capacity at existing petroleum tank farms suggest that port expansion is likely to continue and that bulk and general cargo handling may increase substantially. The economic activity resulting from such expansion would benefit the cities of Providence and East Providence, the entire state, and the Southeastern New England region as a whole. The Council believes, therefore, that port expansion should be encouraged.

- In addition to the previously mentioned berth dredging at the municipal pier, the City of Providence has earmarked bond monies for rebuilding and repairing associated warehouses, constructing additional warehouses, installing sprinkler systems, repairing and extending paved pier surfaces and loading areas, removing excess trackage and upgrading drainage systems. These improvements will attract more and larger general cargo vessels to the port. Lumber, steel and automobile imports are already increasing.

PORT OF PROVIDENCE PATTERNS AND TRENDS[1]

Table 5-1

Manifested International Cargo Evaluation[2] - 1975

Domestic Exports	--	$ 21.63 million
Domestic Imports	--	$176.32 million

[1] It should be recognized that these statistics reflect international traffic only. Hence it gives an extremely conservative perspective on port related activity, most of which is domestic and much of which involves land transportation as well.

[2] These statistics are from U.S. Customs, which do not include shipments of less than $1,000, $2,000 Canadian. In addition, the amounts reflect owner evaluation, so the minimum value is indicated.

TABLE 5-2

1975 Imports By Value[3]

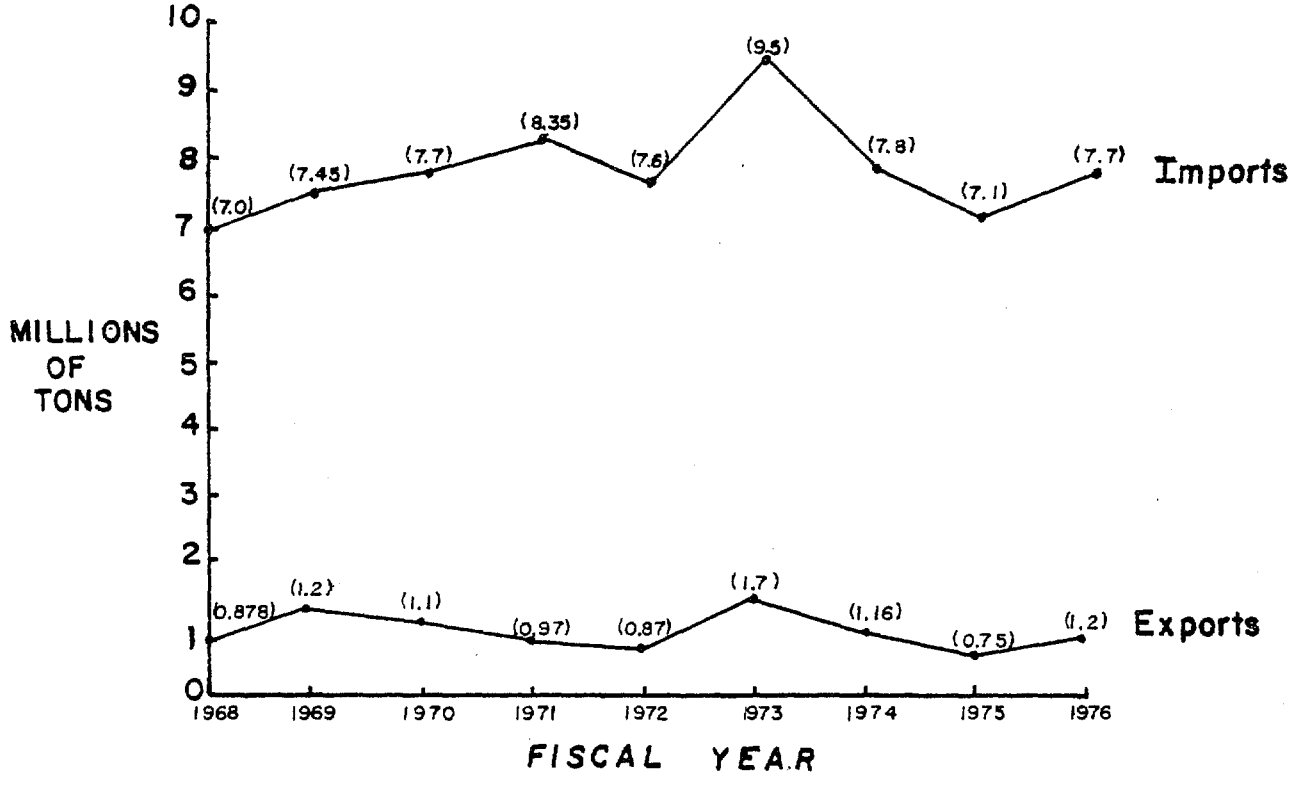
Petroleum Products.....	$78.4 million ...	$651 million[4]
Automobiles.....	$72.6 million	
Steel, Industrial Parts....	$12.4 million	
Lumber products.....	$ 6.5 million	

[3] U.S. Customs statistics (do not reflect domestic traffic)

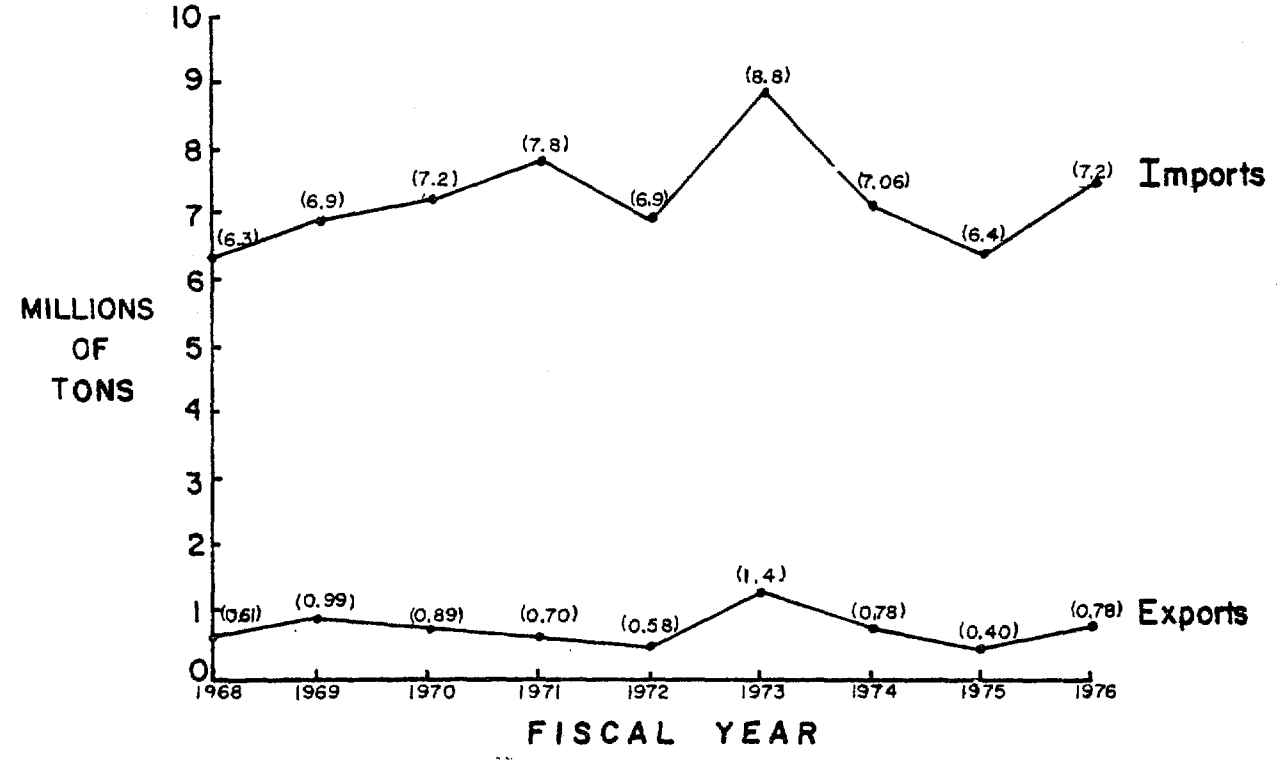
[4] Includes domestic tanker traffic.

Figure 5-2

IMPORT EXPORT PATTERNS BY TONNAGE (1968-1976)



PETROLEUM IMPORT EXPORT PATTERNS BY TONNAGE (1968-1976)



Source: Port Director, Port of Providence, Rhode Island.

- Long range redevelopment plans under preparation by the Mayor's Waterfront Development Committee provide for continued improvement of the municipal pier area with supporting commercial-industrial development concentrated inland of the Route 95 corridor. The Council finds that this pattern would greatly enhance the port's development potential.

- Port activity along the East Providence shoreline is also likely to increase as a consequence of the Providence and Worcester Railroad's proposal to substantially expand the area South of the Wilkesbarre Pier and north of the Gulf Oil Terminal. This expansion, which has already been approved by the Council, and is currently being reviewed by the Corps of Engineers, will put an underutilized length of commercial shoreline into productive use.

- A proposed clean up of the upper Providence and Seekonk Rivers under consideration by the Corps would open up additional areas on both shores to port and related commercial use by removing dilapidated piers, warehouses and abandoned barges. A major impediment to this $2.9 million project is the absence of local funds to match the Federal Government's 75% contribution. The Council recognizes the need to assist the cities involved in obtaining necessary funds to initiate this project.

- The Council recognizes the contribution of the port's petroleum handling and distribution facilities to the state and regional energy supply network and to the many people and industries it services. The Council finds, however, that there exists sufficient storage potential within the property bounds of existing shorefront tank farms to handle projected requirements for the foreseeable future. It therefore concludes that commitment of additional shorefront or port lands to tank storage of petroleum products is unnecessary (see Section 640.1-1).

D. While recognizing the growth potential of the Port of Providence the Council sees a number of impediments to full realization of this potential. These include difficulties associated with dredging, removal of deteriorating facilities, long range port planning, and redevelopment costs.

- Additional dredging at berthing facilities to a control depth of forty feet will be necessary to obtain maximum benefit from existing piers and wharves.
    - . The cost of major dredging projects is rapidly increasing;
    - . Environmental concerns have greatly complicated the tasks of identifying acceptable disposal sites and techniques for handling polluted spoils;
    - . Major dredging projects have been stalled as a result

- Abandoned and deteriorating structures and vessels create navigational hazards and preempt significant amounts of harbor waters and port shoreline.
    - . It has proved difficult to establish ownership and liability for the removal or restoration of many of these obstructions.
    - . State and local funds for removal are limited and the difficulty of establishing ownership frequently places the entire financial burden for removal on the public.

- Port expansion and redevelopment is extremely costly.
    - . The Providence-East Providence waterfront is heavily developed and land values are extremely high.
    - . Local funds for redevelopment and shoreline protection are limited and state assistance may be necessary.

- Long range port planning is an extremely complicated and time consuming process.
    - . Planning for the Port of Providence as broadly defined is complicated by the number of governments involved - four cities, the state and the federal government.
    - . Planning must be placed in the overall context of urban development. It must consequently address transportation, public access, recreation, housing and general commercial-industrial issues in addition to narrowly defined port priorities.
- The Council recognizes an obligation as the state's principal agency for coastal planning and management to participate in the solution of these problems.

THE TIVERTON SHIPPING AREA:

A. The Tiverton shipping area is not a discrete port, but rather two concentrations of piers and related storage facilities located in Portsmouth and Tiverton off the Fall River shipping channel (Figure 5-1). Tiverton facilities are committed primarily to petroleum products.

- Tiverton facilities consist of four major piers with lengths ranging between 600 and 700 feet and control depths of 34-35 feet. Storage capacity is approximately 2.2 million barrels.

- Control depth in the main shipping channel is 34 feet at low tide. The turning basis in the Tiverton channel is approximately 1200 feet in length. Because of the channel's limited depth and the small size of the turning basin, use is limited to high tide and groundings are a potential problem for the larger vessels (32,000 dead weight tons) servicing this area.

- Tiverton facilities handle considerably less volume than the Port of Providence (in 1972, 988 thousand tons as opposed to 8.5 million tons for Providence). Petroleum products make up the bulk of imports which account for 73% of the total tonnage.
  Exports, which account for 27% of the total tonnage are refined petroleum products such as gasoline, fuel oil and kerosene.

520.1-2 POLICIES AND REGULATIONS:

A. The Council recognizes that the Port of Providence and the Tiverton Shipping Area will require periodic navigational improvements and maintenance dredging. It shall support environmentally sound dredging projects (see Section 530.0-2).

B. The Council finds that port related commercial-industrial development including but not limited to facilities for the handling, transfer, and/or storage of shipped products shall be the highest priority use of the Providence - East Providence shorelines within the Port of Providence.

In exercising its regulatory and permitting powers relating to shoreline use within this area, the Council shall require applicants to demonstrate in addition to other evidentiary burdens (see Section 540.0-2) that proposed facilities are port related as defined above. Demonstration by probative evidence of such a relationship shall be a primary consideration in approving such applications.

C. Abandonment of vessels, piers, wharves or other such structures in the navigable waters of the state of Rhode Island is specifically prohibited. Upon verification of legal title to such abandoned structures the Council shall order their removal at owner expense within a time period specified in said order.

Failure to comply with the terms of such an order shall be a violation of a duly adopted Council regulation and subject to all fines and penalties established by law. Each day of noncompliance, defined as beginning the day after expiration of the specified notice period, shall be deemed a separate and distinct violation in accordance with 46-23-1, GLRI.

D. The Council finds that shorefront siting of petroleum storage facilities within the confines of pre-existing tank farms is an acceptable use of the state's coastline. It shall duly consider applications for additional storage facilities or modification and improvement of existing facilities within the confines of established tank farms subject to siting and safety criteria set forth under Section 640.1-2).

E. Pending completion of ongoing energy facility planning studies under new section 305 (b) (8) of the Federal Coastal Zone Management Act, the Council shall not permit expansion of existing tank farms beyond their present bounds nor shall it permit construction of new storage facilities along the state's shoreline. This period shall not extend beyond September 30, 1978.

520.2 Commercial Fishing and Recreation Ports

520.2-1 FINDINGS: Point Judith

A. Point Judith is one of Rhode Island's principal commercial fishing ports and among New England's most prosperous (see Section 210.0-1).

- In 1975 Point Judith ranked third among New England's fishing ports in landings by weight and fifth by value, and accounted for 67% of all Rhode Island landings of fish and shellfish by weight and 33% by value.

- The dockside value of 1975 landings was approximately $6.2 million. Since each dollar of fish sold at the dock generates an additional $2.50 in economic activity, 1975 landings introduced some $16 million into the state's economy.

- In 1976 the Point Judith fleet consisted of 105 primarily Rhode Island owned and operated vessels, most of which were trawlers in the forty to ninety foot range.

- The port also contains facilities for recreational craft, party fishing and tour boats and a dock for the Block Island ferry.

- Point Judith is also an area of considerable seasonal tourist and recreational activity and contains a state beach, several private beaches and numerous other tourist related facilities.

- The port supports two fish processing facilities and several businesses, including two shipyards that service the commercial fleet.

- Much of the port's land area and all of the land at Galilee where most berthing, unloading, supply and processing facilities are concentrated, is owned by the state which, through the Department of Environmental Management and the Council, has committed this land to priority use for commercial fishing and related industries.

B. The Council finds that the Point Judith fleet can expand significantly in size and economic significance in response to growing demand from within the fleet itself, and the creation of the new two hundred mile domestic fisheries zone by the Fisheries Management and Conservation Act of 1976. The Council finds it to the benefit of all Rhode Island citizens to support this expansion.

- On a regional basis it has been estimated that from 75 to 242 vessels in the groundfish fleet along may be added to the domestic fleet as a result of the 200 mile limit. They

would employ between 900 and 2,500 fishermen and support, possibly a doubling of employment in fish processing. Other existing fisheries may experience similar expansion and new fisheries for species not presently sought by domestic fishermen may develop.

- The Point Judith fleet and Rhode Island, in general, is in an excellent position to attract a significant proportion of this expansion because of the vitality of its fishery (a net increase in landings of 110% by tonnage and 238% by value between 1950 and 1975 as opposed to a region wide decrease of 55% in tonnage and an increase of only 74% in value).

C. Major impediments to growth of the Point Judith fleet exist, however. These are of two primary types - lack of dock space and insufficient water depth (much of the harbor has shoaled to depths of less than twelve feet) to handle larger vessels.

- In 1976 the Council in cooperation with local officials and the Department of Natural Resources succeeded in obtaining Corps of Engineers funding to initiate necessary dredging. This recently completed dredging will prevent groundings which have become chronic, will allow for the physical expansion of the port and will permit more and larger vessels to berth.

- In addition, the Department of Natural Resources has spent nearly $2 million since 1970 to expand and improve pier and docking facilities.

- Competition between sport fishing craft, party boats, and commercial fishing vessels for dock space continues, pending completion of scheduled port improvements. However, it has been minimized by concentrating recreational and party boats in the northern portions of the port, away from fish unloading and processing facilities.

NEWPORT:

A. Newport is Rhode Island's other major fishing port and New England's third largest (1975) in terms of the dollar value of landings and sixth by weight. It has experienced an upswing in activity beginning in the late sixties due to an influx of out of state boats (primarily from Massachusetts).

- In 1976, the port handled landings from a fleet of over fifty vessels, primarily trawlers in the forty to seventy foot range (twenty-nine of fifty-four vessels were groundfish trawlers; of these twenty-three were between forty and seventy feet in length).

- The Newport fishery is dominated by groundfish and lobster. More lobster (approximately 2.2 million pounds) was landed here than in any other New England port in 1975.

- Primarily due to the high value of lobster, 1975 Newport landings exceeded the dollar value of the Point Judith catch ($8.8 million as opposed to $6.2 million).
  . Utilizing the same conversion factor as for Point Judith ($2.50 in related economic activity for each dollar of catch value) Newport landings had an overall 1975 economic impact of some $22 million. However, becasue the bulk of the Newport catch is shipped directly out-of-state for processing and further handling, much of the port's economic impact is shared with neighboring states.

- The port supports various marine services, a municipal wharf, and numerous private piers. It contains several shipyards, the largest of which is capable of hauling vessels up to 300 feet in length and 3,000 tons displacement.

- Newport fisheries have growth potential, albeit possibly not as dramatic as Point Judith, under the new 200 mile limit.

B. Newport is an important and growing tourist, resort, and recreational boating center. An active waterfront and historic restoration program continues to enhance the port's recreational attractiveness.

- Recreation and tourist related expenditures are many and varied and because of this very difficult to compute. However, a single event, the recent seven day visit of the international tall ships fleet, was estimated to have generated some $15.6 million in economic activity.

- Additional large influxes of out-of-state tourist expenditures are generated by such major attractions as the America's Cup Races and other major yachting events.

C. The port is extremely crowded, especially during the summer long tourist season.

- Facilities are commonly saturated with visiting yachts and smaller recreational craft.

- There is little room for commercial fishing vessels which are forced to raft (moor several abreast) at the few piers available to them.

- The Council finds that one of the port's major attractions and certainly a key to its economic vitality is the mix of recreational boating and commercial fishing which it supports. It concludes, therefore, that any solution to chronic crowding cannot favor one use to the exclusion of the other.

OTHER COMMERCIAL FISHING/RECREATIONAL PORTS:

A. With few exceptions, the state's other recreational harbors support small commercial fishing fleets (Figure 5-1) particularly in the nearshore fish trap, crustacean fisheries, and Bay mollusk fisheries.

- Most of these harbors contain small fish handling and retail businesses.They support numerous repair facilities capable of servicing smaller recreational and commercial craft.

- The aggregate impact of these smaller fisheries while significantly less than for the state's two principal fishing ports is still significant.

- Commercial activities are also important in attracting federal funds for Corps sponsored navigation projects which benefit recreational boaters and marina facilities as well.

B. These smaller harbors are principally dedicated to recreational boating and are heavily congested during the summer months (see Section 440.0).

- Crowding adversely affects recreational and commercial vessels and traffic alike.

- As with Newport, the Council finds that a key to the attractiveness and economic vitality of these harbors is the mix of commercial and recreational boating activities they support. It believes that this mix should be maintained in any solution to the problem of crowding.

520.2-2 POLICIES AND REGULATIONS:

A. Point Judith

1. Highest priority uses of the Port of Galilee and its waterfront shall be those related to the commercial fishing industry including; but not limited to berthing of commercial fishing and party fishing vessels, unloading and supply facilities, fish processing and related storage and transfer facilities. These priorities of uses have been and will continue to be reflected in state leasing practices.
2. In exercising its permitting responsibilities regarding commercial-industrial siting in Galilee, the Council shall require applicants to demonstrate, in addition to other evidentiary burdens set forth under Policies for Commercial-Industrial Siting (see Section 540.0-2) that proposed facilities are related to the conduct of support of the commercial fishing industry as defined above. Demonstration by probative evidence of such a relationship will be a primary consideration in approving such applications.
3. The Council recognizes the necessity of periodic maintenance dredging of the port to support its commercial fishery and shall use its good offices with the Corps of Engineers to ensure that such dredging is undertaken in an expeditious manner.

B. Newport

1. The Council recognizes Newport's significance as a center of historic attractions, a major tourist area and an important recreational boating and commercial fishing port. Priority uses of its waterfront shall include historic restoration, commerce related

to tourism and recreational and commercial fishing vessels, fish unloading and transfer facilities.

2. See also Policies on Recreational Boating and Boating Facilities (Section 440.0-2) and Policies on Marine Fish and Fisheries (Section 210.0-2).

C. Other Commercial Fishing/Recreational Ports:

1. See Policies on Boating and Boating Facilities in Section 440.0.

520.3 Federal Surplus Port Facilities

520.3-1 FINDINGS:

A. The surplussing of Navy holdings in and around Narragansett Bay beginning in 1973 has opened up numerous commercial-industrial and recreational opportunities to the state.

- Rhode Island was until recently a major center for the Navy, which in 1973 began to surplus many of its holdings.

- The parcels involved are large and many contain facilities and services necessary to support commercial-industrial activities. These include rail links, extensive road networks, open and protected storage areas, piers and wharves, sewage, water, and utility services.

- Planning for reutilization of surplus lands and facilities is complicated by differing views of the State and the local communities in which these facilities are located and by uncertainties related to military contingency and reactivation constraints, related lease and use stipulations, identification of holdings which will be fully excessed (transferred out of federal ownership) and the timing of such transfers.
  - Many of these holdings are still held by the Navy or the General Services Administration pending title transfer.
  - The federal government, while thus far responsive to the suggestions of the state and affected municipalities, remains the legal leasing agent for land not as yet formally transferred.
  - Additional complications arise from the exclusion of federal lands from all but indirect state coastal management controls under the provisions of the federal Coastal Zone Management Act of 1972 (P.L. 92-583). Until title is formally transferred, therefore, Council opportunities to ensure redevelopment of these lands consistently with the state's Coastal Resources Management Program are limited.

B. Surplus facilities at Coddington Cove in Middletown, Melville in Portsmouth and Quonset Point-Davisville in North Kingstown (Figure 5-1) provide significant opportunities for port related use and redevelopment.

- Coddington Cove is a 56 acre site off the main Providence shipping channel containing eight major buildings and two long finger piers, one 1,536 feet long and 100 feet wide with rail spurs on either side, the other 1,573 feet long by 200 feet wide. The piers provide 6,516 linear feet of berthing space with control depths of 35 feet. Protected storage space measures 86,000 square feet. A turning basin and protected anchorage with a 33 foot minimum depth lies between Coddington Point and a 4,000 foot stone breakwater.

- Melville is also off the main Providence shipping channel. Its 1,164 acres were used by the Navy for fuel storage. Port facilities include a small boat basin, a 2,130 foot fuel pier to the south and another 12 acre boat basin with depths of between 6 and 34 feet. Piers are of wood and concrete construction. Railroad spurs and warehouse space are located in the immediate vicinity.

- Quonset Point is connected to the main Providence shipping channel by a 33 foot dredged channel running north of Jamestown. The Quonset pier, dredged to a depth of 29 feet, is 1,400 feet long by 65 feet wide, constructed of concrete on steel pilings and has railroad spurs down both sides. Considerable office and warehouse space and a major airport are located nearby.

- The two Davisville piers are approximately 1.5 miles north of Quonset and are connected to it by a 31 foot channel. The 1,200 foot piers are serviced by railroad spurs and dredged to a depth of 30 feet. Considerable warehouse, open storage and office space is located in the immediate vicinity. Allen Harbor, a well protected anchorage where the Navy formerly maintained a yacht basin for service personnel, is located immediately to the north of the piers. Both Quonset and Davisville are connected by rail to the New York-Providence mainline and are proximate to Interstate 95.

C. These surplus facilities offer opportunities for recreational boating and related services; commercial fishing and related service, transfer and storage facilities; OCS oil and gas exploration/development support; and port dependent commerce and industry.

The Council finds:

- That use by commercial fishing vessels (already underway on a temporary basis at Quonset Point and Melville) and recreational craft (a marina is in the advanced planning stages for Melville, while a major shipbuilding facility is proposed for Coddington Cove) would do much to alleviate chronic crowding of other ports in the Bay area;

- That use of Davisville pier area for Outer Continental Shelf exploratory support would contribute significantly to our knowledge of the offshore oil and gas resources and might ultimately support development of offshore resources.

520.3-2 POLICIES AND REGULATIONS:

A. The Council in cooperation with the Department of Economic Development shall encourage the General Services Administration and the Department of the Navy to complete transfer of excessed lands and to clarify contingency and emergency reactivation constraints on leased lands in the most expeditious manner permitted by law.

B. Upon transfer of title all such lands shall become subject to applicable state plans, regulations, and permitting procedures provided for under state law and the Coastal Resources Management Program.

C. Highest priority use of the excessed Navy pier and related port facilities described in this section shall be port related commercial and industrial uses including but not limited to activities associated with the conduct of commercial fishing, recreational boating, ship and boat building, and support of OCS exploration.

D. The Council does not find it advisable at this time to encourage development of areas which would compete with the Port of Providence for bulk and general cargo or petroleum products traffic. It recognizes, however, that petroleum storage potential, expecially at Melville, should be explored if and when existing Port of Providence and Tiverton facilities become obsolete or storage requirements tax their safe capacity.

E. In exercising its regulatory and permitting authority relating to use of these areas, the Council shall require applicants to demonstrate in addition to other evidentiary burdens set forth under Policies for Commercial-Industrial Siting In the Coastal Region (Section 540.0-2) that proposed facilities are port related as defined above. Demonstration by probative evidence of such a relationship shall be a primary consideration in approving such applications.

F. These regulatory policies shall not be construed as superceding policies applicable to lands included in or designated for inclusion in the Bay Islands Park (Section 470.0-2).

G. Subject to approval by Federal leasing authorities, the Council shall continue to cooperate with the R.I. Port Authority and Economic Development Corporation to encourage interim use of these areas for berthing and servicing of commercial and recreational craft pending final disposition, provided that such use does not preempt long term port related development options.

H. The Council shall consult with local governments in the process of planning for the reuse of these lands.

530: DREDGING AND DISPOSAL OF DREDGED MATERIALS

530.0-1 FINDINGS:

A. There is a chronic need for dredging in Rhode Island waters in order to maintain and improve the state's commercial, recreational and fishing ports and the various channels leading to them.

- In 1976, The Council received 6 applications for dredging. In addition, fifteen major projects which would produce over 2 million cubic yards of spoil, applied for in previous years are still pending. The Area Wide Water Quality Management Program is currently inventorying past and present dredging projects.

- Factors influencing the need for dredging include:
  - rate of shoaling
  - frequency and nature of ship traffic
  - safety and navigability
  - the cost of dredging versus the economic benefits to be gained from dredging

- Channels and berths are gradually filling through the natural process of sedimentation.
  - Based on past experience, the Providence River requires maintenance dredging approximately every eight years, the Port of Galilee every ten years, Great Salt Pond every eight years, and Block Island Harbor every six to seven years.

- New dredging projects which include the creation of channels and berths and the deepening of existing facilities below the control depth are periodically needed for several reasons including the following:
  - The size of commercial ships has increased thereby requiring deeper channels and berths.
  - The size of commercial fishing vessels is expected to increase and the industry itself is expected to expand; new facilities will be required to acommodate more and larger vessels.
  - New or expanded recreational boating facilities must be accommodated.

B. Dredging projects are expensive; their costs and benefits must be carefully evaluated.

- Costs vary greatly from project to project and are influenced by factors such as:
  - Size - In general the larger the project, the less the cost per cubic yard.
  - Method of dredging.
  - Proximity to other projects - The cost of transporting, installing, and removing equipment is substantial.
  - Composition of material to be dredged - Unconsolidated material is less expensive to dredge than rocks or compacted sediment.

  - Area of operation - Dredging between finger piers is more expensive than dredging open channels
  - Economic factors - Inflation, labor costs, and the competition for dredging contracts cause cost variations.
  - Means of dredged material disposal - (See Finding D)

- Determination of benefit/cost ratios is difficult and almost always controversial.
  - For federal projects, the benefit:cost ratio can influence the priority rating assigned to a project.

- Commercial navigation projects approved by Congress receive 100% federal funding; federally approved recreation projects receive 50% federal funding; other state, local and private projects are not eligible for such funding.

C. Dredging may cause a wide range of environmental impacts.

- Dredging new channels can alter established estuarine circulation patterns, and affect the estuary by altering its salinity regime, flushing times and mixing characteristics.

- The turbidity resulting from dredging operations, although of concern, is generally not sufficiently concentrated nor persistent enough to constitute a significant impact on the estuary. Most estuarine organisms are able to tolerate fairly high concentrations of suspended sediments for short periods of time. In addition, pelagic species are often capable of avoiding high concentrations of suspended sediment, although the behavioral response cannot be generalized for all species. Light penetration is decreased in turbid waters, but only localized, short-term decreases in primary productivity are usually observed.

- Suspended dredged material exerts an oxygen demand upon the surrounding water. The degree of this demand is related to the amount of organic matter and reduced substances in the sediment as well as to the extent of the sediment-water contact. If the sediments to be dredged contain high concentrations of nutrients or heavy metals and other toxic substances, these substances may become dissolved into the surrounding waters.

- The impact of any dredging project depends on numerous factors including:
  - whether it is a new project or maintenance dredging; new projects usually have greater environmental impacts.
  - method of dredging

- . the volume and composition of dredged material
- . the location of the dredging project and the environmental conditions present there including:
  - (1) hydrographic conditions, especially temperature, salinity, current, wave and tidal regimes
  - (2) ambient chemical parameters of the water, especially turbidity, oxygen and nutrient concentrations
  - (3) biological communities
- . the presence of pollutants such as hydrocarbons and heavy metals in the dredged sediments
- . the method of dredged material disposal

- Existing Corps of Engineers management policies call for the inspection and monitoring of dredging operations and the dredged material disposal site to determine environmental impacts.

D. Dredging projects are frequently delayed because suitable disposal sites cannot be found. There is no single solution for the disposal of all dredged material.

- Large volumes of dredged material will continue to be generated by maintenance and new projects requiring that disposal sites be found.
  - . Major pending dredging projects in Rhode Island will produce some 2.2 million cubic yards of dredged material which would cover a one mile square area, such as the proposed Brown's ledge site, to a depth of 2 feet.

- Numerous factors influence the suitability of different dredged material disposal methods for individual projects. Especially important factors include:
  - . the size of the project; recent dredging projects have produced from 1,000 to 8,000,000 cubic yards of dredged material
  - . the composition of the dredged material and the presence of pollutants
  - . funding available for the project

- The Areawide Waste Treatment Program is studying management alteratives for dredging and spoil disposal.

- Alternatives for dredged material disposal include:

1. <u>Inland Disposal</u>
   - . Unpolluted dredged material may be used for landfill.
   - . Inland disposal sites are limited and large volumes cannot be accommodated. For example the 12 million cubic yards of material dredged from the Providence River could create a tower almost 1½ miles high on an acre of land.

- Filling of inland areas may create unpleasant odors and affect ground water supplies.
- Disposal costs increase with distance from the project. Transport of dredged material from Point Judith to Misquamicutt, a distance of 25 miles, would cost $3.33/cu. yd. ($0.13/cu.yd./mile)

2. Creation of Artificial Islands or New Shoreline
   - The creation of new islands may incur serious jurisdictional problems.
   - Islands may be navigational hazards and may produce numerous environmental impacts.
   - Containment of sediments on islands or along the shore may be difficult as well as expensive; retaining structures, which are necessary for fine sediments cost from $50 to $100 per linear foot in shallow water and from $1200 to $2000 per linear foot in water deeper than 30 feet.
3. Salt Marsh Creation
   - Salt marshes, natural systems with high ecological value, created on dredged materials are a positive solution to dredged material disposal.
   - Artificial salt marshes can pose navigational hazards, and if built with polluted dredged material can introduce pollutants from the sediment into the water column, and/or into the food chain.
   - There are few suitably sheltered sites which can hold sufficient volumes of dredged material in Rhode Island.
   - Salt marsh creation is only feasible for relatively small projects (approximately less than 500,000 cu.yds.).
   - Salt marsh creation costs largely depend on the method used for establishing marsh grasses

seeding	$1000 per acre
springing	$1000 to $2000 per acre
planting	$2000 to $3000 per acre

(1975 prices)

4. Near Shore Ocean Dumping
   - Properly sited and executed ocean dumping is an attractive method for disposing of large volumes of dredged material
   - Ocean dumping may adversely affect the marine environment.
     - Dumping buries bottom animals and high turbidity at the dump site may exclude certain mobile animals such as finfish; recent laboratory evidence from the University of Rhode Island shows that scup avoid turbid waters.
     - Pollutants from sediment may be reintroduced into the surrounding water; this effect may be minimized by "sandwiching" polluted dredged materials.

- Studies on the Brown's Ledge Disposal Site suggest that it may be an environmentally acceptable ocean dumping site.

. Dumped dredged materials become recolonized by animals from the surrounding environment.
  - At the Brenton Reef site, deeper spoil has been recolonized; shallower spoil is wave-washed sand with few animals.

. It is often difficult to confine sediments to the designated disposal sites
  - Bottom currents may resuspend and move sediments
  - placement of dredged material within the designated site is difficult. A major problem with the disposal of dredged materials at Brenton Reef in Rhode Island Sound was that the designated dump site was changed four times and spoils were dumped outside the designated site. This greatly increased the impacts of dumping upon commercial fisheries and caused many people to conclude that the dredged materials were migrating from the dump site.
  - ocean dumping costs are variable but may be up to $0.05 cu. yd./mile; special procedures such as "sandwiching" further increase costs.

5. Deep Ocean Dumping (disposal site on the continental slope)
   . Large volumes of dredged material can be accommodated.
   . Dump sites are located away from prime coastal fishing areas.
   . The environmental impacts of deep ocean dumping are not well understood but recent scientific evidence indicates that they may be severe.
   . Deep ocean dumping requires special barges and transportation over distance and consequently is very expensive.

E. The time lag for approval of dredging projects is often lengthy and the process may be confusing to the individuals concerned.

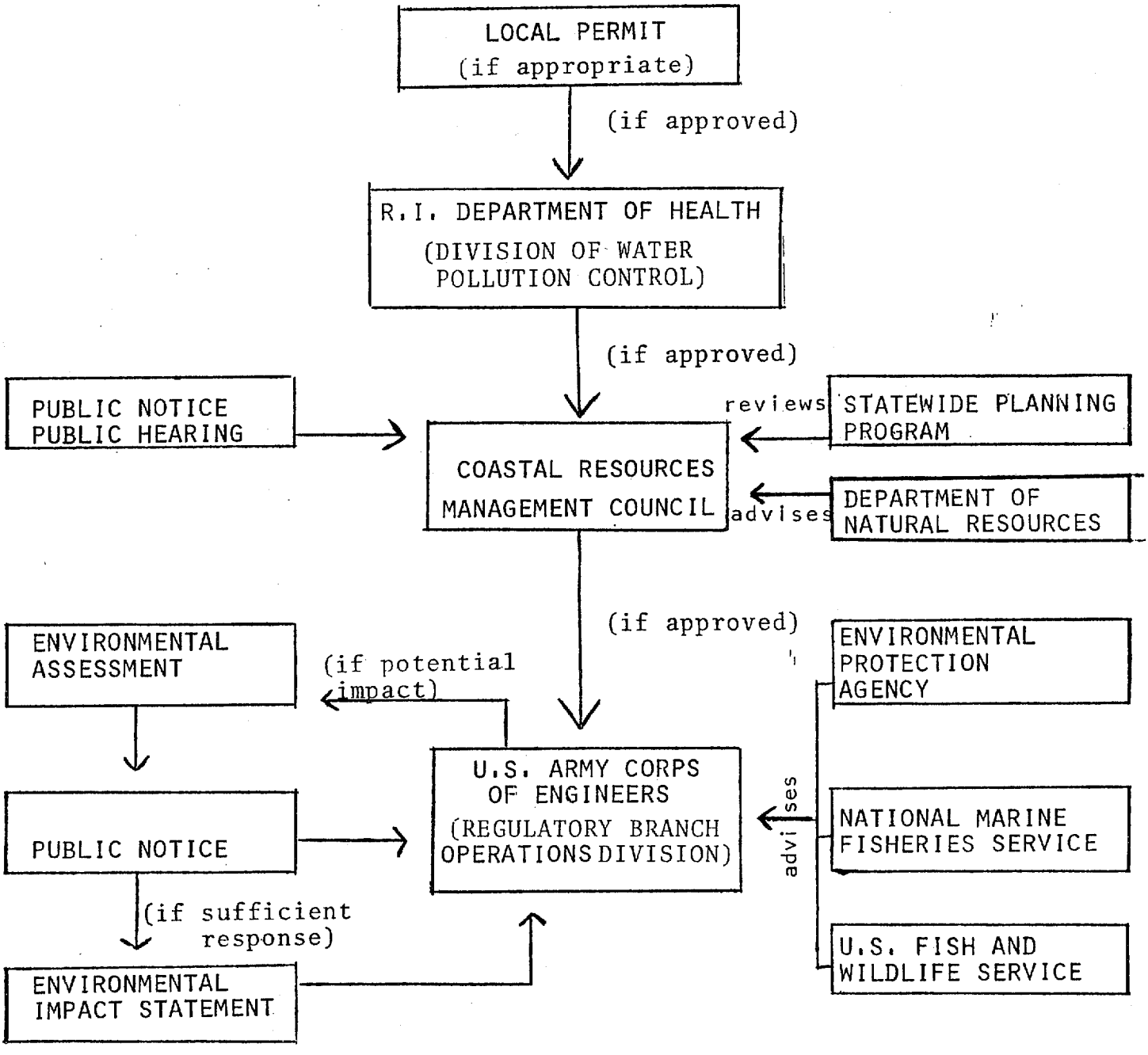
- Congressional approval of projects proposed for federal funding generally takes a minimum of four years. The local congressmen must present the proposal to Congress. The Corps of Engineers then conducts a study and determines a benefit/cost ratio.

- The permit procedure for non-federal projects involves several agencies (see Figure 5-3). The review time required by the different agencies often makes the permit process very lengthy.

- Maintenance dredging for ten years is sometimes included in the original permit.

Figure 5-3

DREDGING PERMIT PROCESS



530.0+2 POLICIES AND REGULATIONS:

A. Permits

1. The Council shall require a permit for all dredging in tidal waters and the disposal of this material within the state.

2. All such applications shall be subject to all Council policies and regulations pertaining to affected marine, intertidal and coastal resources and the uses of those resources.

3. The Council will endeavor to facilitate the often lengthy state-federal permitting procedure by:
   a. making Council informational requirements for a permit application parallel to those required by the U.S. Corps of Engineers;

B. Dredging

1. The Council shall require applicants for dredging permits to include in their proposal:
   a. drawings and information as specified by the U.S. Army Corps of Engineers for dredging operations, these include a vicinity map, a plan view, an elevation and/or section view (Table 5-3).

2. The Council shall require that the applicant demonstrate by a fair preponderance of evidence that the proposal will not have significant adverse environmental impacts on the area to be dredged. Environmental impacts of concern include, but are not limited to:
   a. changes in water circulation and sedimentation patterns;
   b. loss of bottom communities, fishing grounds and spawning and nursery areas;
   c. indirect effects including those associated with turbidity and changes in bottom substrate such as
      - altered primary productivity
      - the release of toxic substances, nutrient injection, or high BOD from resuspended sediments
   d. secondary environmental and economic impacts; for example, development of adjacent shorelands or increased boat traffic

3. In considering these environmental impacts, the Council shall balance the benefits that are expected to result from the project against any environmental damages that may result. Where the Council finds a reasonable probability that significant damage to the marine environment will result, it shall require appropriate modifications to or shall deny the application in question.

C. Dredged Material Disposal

1. Persons proposing to dispose of dredged material in state waters shall be required to first obtain a Council permit.

TABLE 5-3

APPLICATION FORM FOR A U.S. ARMY CORPS OF ENGINEERS PERMIT TO DREDGE

DRAWING REQUIREMENTS AND CHECKLIST

1. General.
   ( ) Submit one original and two copies of all drawings on 8- by 10½-inch paper. Submit the fewest number of sheets necessary to adequately show the proposed activity. Drawings should be in accordance with the general format of the enclosed sample drawings and must be of good reproducable quality.
   ( ) A 1-inch margin should be left at the top edge of each sheet for binding purposes.
   ( ) Drawings should not reflect the approval, non-objection, or action of other agencies.
   ( ) Since drawings must be reproduced photographically, color shading cannot be used. Drawings may show work as dot shading, hatching, cross-hatching, or similar graphic symbols.
   ( ) Show distance between proposed activity and navigation channel where applicable.

2. Vicinity Map.
   ( ) Show location of the activity site including latitude and longitude if known.
   ( ) Show name of waterway.
   ( ) Show name of and distance to local town, community, or other identifying location.
   ( ) Identify map or chart from which vicinity map was taken, if applicable.
   ( ) Show graphic scale.
   ( ) Show north arrow.

3. Plan View
   ( ) Show existing shorelines
   ( ) Show ebb and flood in tidal waters and direction of flow in rivers.
   ( ) Show north arrow.
   ( ) Show graphic scale.
   ( ) Show mean high and low waterlines if the proposed activity is in tidal areas on the Atlantic and Gulf coasts and the Great Lakes. For the Pacific Coastal areas, show mean higher high water and mean lower low water. Show ordinary high water line and ordinary low waterline if proposed activity is in a lake or stream.
   ( ) Show principal dimensions of structure or work and extent of encroachment beyond the applicable high waterline.
   ( ) For dredging, excavations, or fills, show number of cubic yards, type of material, method of handling, and location of fill or spoil disposal area. If spoil material is to be placed in approved dumping grounds, a separate map showing the location of the dumping grounds may be attached. The drawing must indicate proposed retention levees, weirs, and/or other devices for retaining hydraulicly placed materials
   ( ) Show and identify structures (if any) in navigable waters immediately adjacent to the proposed activity including permit numbers if known
   ( ) Identify and show location of any structures to be constructed on fill or pile supported platforms in navigable waters. If nothing is to be constructed on fill or platform, state the intended use.
   ( ) Show your property lines and identify adjacent property owners. (On narrow waterways the property owner on the opposite shore must also be identified.)

4. Elevation and/or Section Views
   ( ) Show same water elevations as for plan view
   ( ) Show depth at waterward face of proposed work or if dredging is proposed, show dredging grade
   ( ) If a fill, float or pile supported platform is proposed, show dimensions and identity of any structures to be erected thereon
   ( ) Show graphic scale.

5. Notes on Drawings.
   ( ) List names of adjacent property owners whose property also adjoins the water if not shown in plan view.
   ( ) State purpose (private use, commercial, etc.) of proposed activity
   ( ) State datum used in plan and elevation views.
   ( ) If petroleum products or other hazardous material will be stored or handled at the proposed facility, so indicate.

2. The Council encourages the use of innovative solutions to the problem of dredged material disposal.

3.. The Council favors ocean dumping as a means to dispose of large volumes of dredged material providing that environmental impacts are minimized. Applicants who propose to use ocean dumping as the means of dredged material disposal must demonstrate by a fair preponderance of evidence that:
   a. suitable measures are provided so that dredged material will only be dumped within the confines of the designated site.
   b. hydrographic conditions at the approved dump site are such that the dredged material will remain within the dump site and that resuspension of bottom sediments will not be significant.
   c. the dump site is not located in an area designated by the Council as a prime fishing ground or critical habitat area.

4. The Council encourages the consideration of "sandwiching" of polluted dredged material with clean material to minimize the release of pollutants to the water column.

5. The Council shall consider deep ocean dumping off Rhode Island's shore inconsistant with its plans and programs for coastal resources management until such time as additional information on the environmental impacts of such dumping is made available. At that time, this policy shall be reevaluated.

540: COMMERCE AND INDUSTRY

540.1 General Commerce and Industry

540.1-1 FINDINGS:

A. Manufacturing has traditionally provided the employment base for the southern New England economy. Over the last twenty years, however, Rhode Island and the region as a whole has experienced a marked decline in manufacturing growth (as indicated by employment). This decline is likely to continue.

- Between 1960 and 1973 Rhode Island employment in manufacturing grew by only 3.7% while employment in the nonmanufacturing sector grew by over 38%. Employment trends by sector are indicated in Figure 5-4.

- Energy costs and supply are particularly important constraints on manufacturing growth in New England and in the short term there appears to be relatively little the state can do to enhance its competitiveness in this area.
  - Energy costs vary on a regional basis throughout the nation. New England relies primarily on oil, most of which is imported. Industries requiring large quantities of oil, gas, or electricity for production cannot operate competitively within the framework of New England fuel and power costs.
  - The impact of oil and gas from outer continental shelf (OCS) reserves on energy cost and availability remains unclear and reserves, if exploited, will not enter the regional market until the mid 1980's at the earliest.

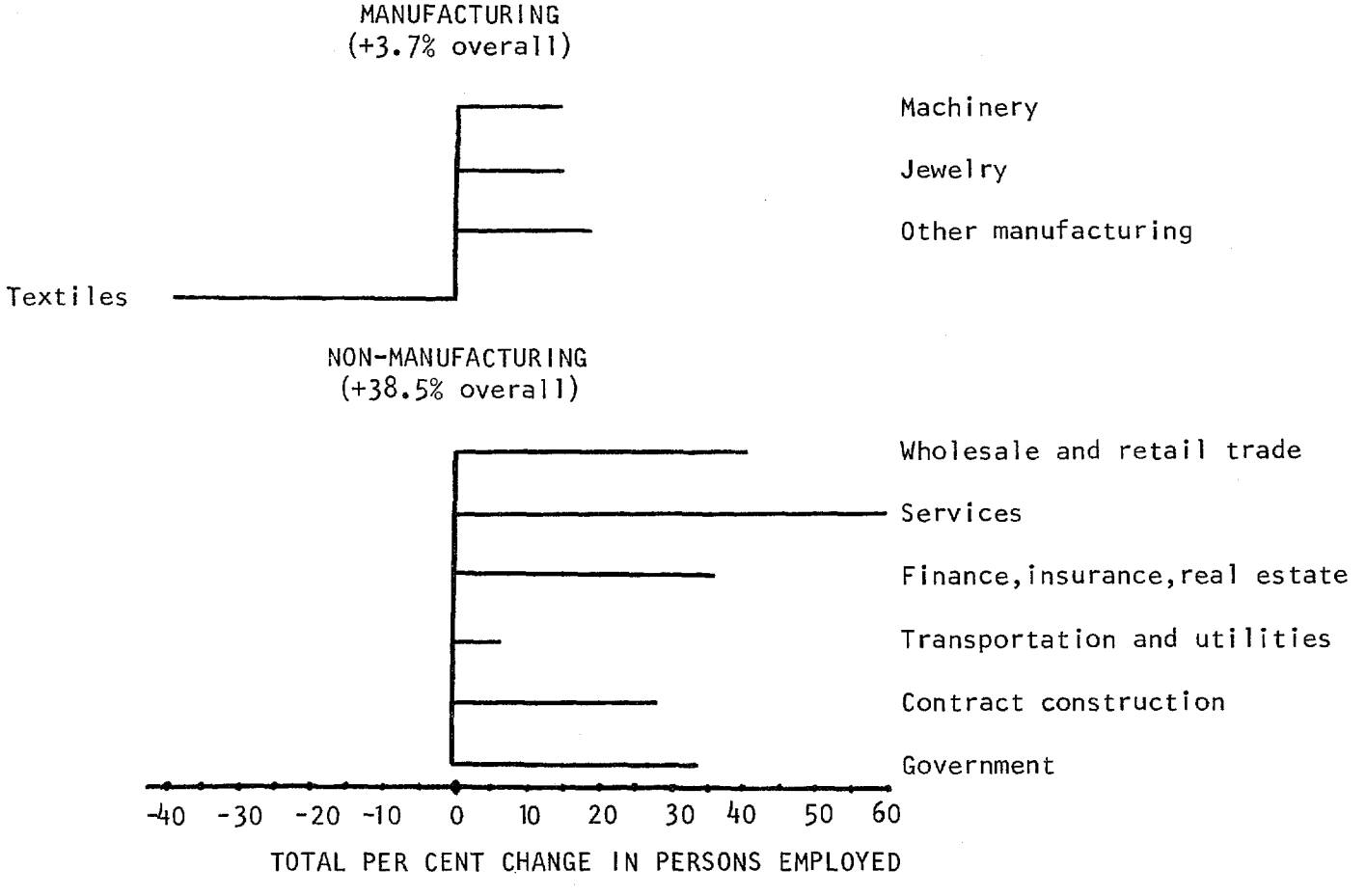
- Economic development priorities should not consequently be predicted on the availability of an abundant low cost fuel source.

B. The declining importance of the state's major traditional industrial sectors need not spell irreversible economic stagnation. It rather indicates that we have entered a period of economic transition with both the immediate dislocations and long term opportunities that implies. The Council along with such sister agencies as the Department of Economic Development and the Statewide Planning Program is concerned, however, that in reacting to these dislocations we do not lose sight of or needlessly foreclose opportunities. A major state priority must, therefore, continue to be the identification and marketing of our many commercial-industrial assets and the targeting of those growth industries most likely to be attracted by Rhode Island's assets.

- Marketable assets include:
  - a variety of development sites in serviced industrial parks, industrially zoned urban areas, and excessed federal lands;
  - a technologically oriented and expanding service industry;
  - an industrially skilled and productive labor force supplemented by tailored state funded job training programs;
  - an excellent (air, road, rail and water) transportation network;

FIGURE 5-4

EMPLOYMENT TRENDS BY SECTOR
(1960-1973)



Source: Rhode Island Department of Economic Development.
Basic Economic Statistics - The Economy, Summary and Trends,
Providence, 1976.

. a market population larger than either Los Angeles or Chicago;
. one of the lower tax structures in the region;
. liberal state guaranteed construction loans and subsidies;
. lower than the regional average housing costs;
. an attractive living environment with excellent educational, health care, and social service systems, extensive marine oriented recreational opportunities, open space, and scenic beauty.

- Based on an assessment of the above assets and a recognition of the region's high energy costs the Department of Economic Development has identified a number of target industries (Table 5-4) from among those demonstrating the greatest growth potential nationally. Marketing and promotional efforts are being directed towards these industries, although the Department recognizes the need to take advantage of all opportunities as they arise.

C. The nonmanufacturing sector of the state's economy especially sales and services, is healthy and expanding (Figure 5-4). Continued expansion and growing employment is likely and suggests that the state has entered a period of economic transition.

- The Port of Providence is expanding in size and significance as an import and distribution center.

- The state's commercial fishing industry is among the region's most prosperous and productive and is likely to grow significantly under the stimulus of the 200 mile fisheries zone.

- Recreational boating and the sales, service, supply and related activities it supports are expanding rapidly.

- Tourism is a major industry. Natural, scenic and historic attractions such as the state's ocean beaches, the Bay Islands and Newport's historical waterfront are drawing growing numbers of out-of-state visitors.

- Surplus Navy lands have provided additional opportunities for coastal recreational, commercial and industrial development.

D. Rhode Island has a variety of commercial-industrial sites and industrially zoned land. However, much of this land is deficient in one or more desirable services. The Council, nevertheless, finds that there is no pressing need within the coastal region to accomodate industrial development of environmentally sensitive areas or to accomodate further non-water dependent commercial-industrial development on the state's waterfront. Siting policies and priorities shall reflect this conclusion.

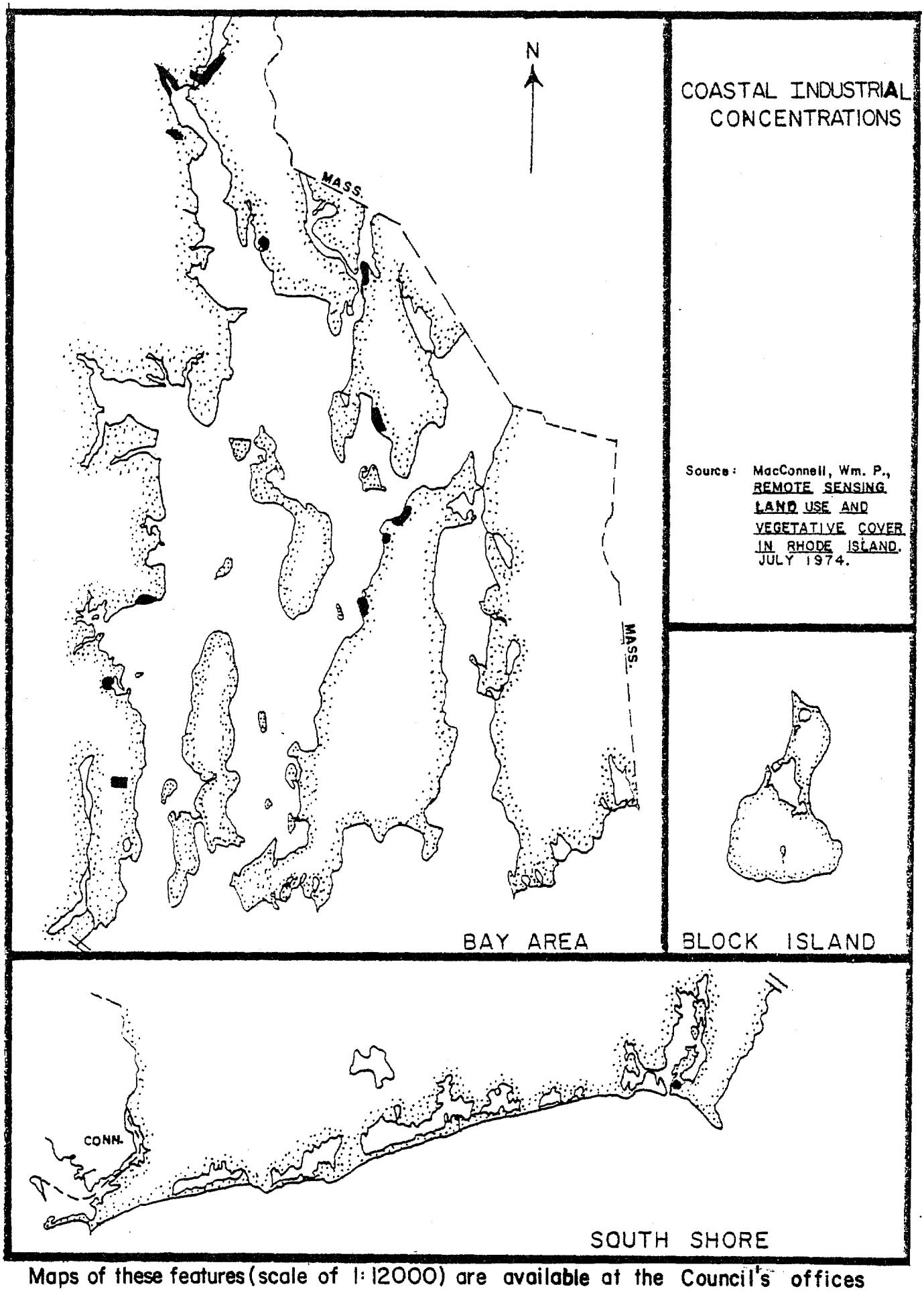
- Approximately six of the state's four hundred miles of shoreline is presently in industrial use (Figure 5-5). A total of 20 miles is zoned for industrial uses (Figure 5-6).

TABLE 5-4

TARGET INDUSTRIES

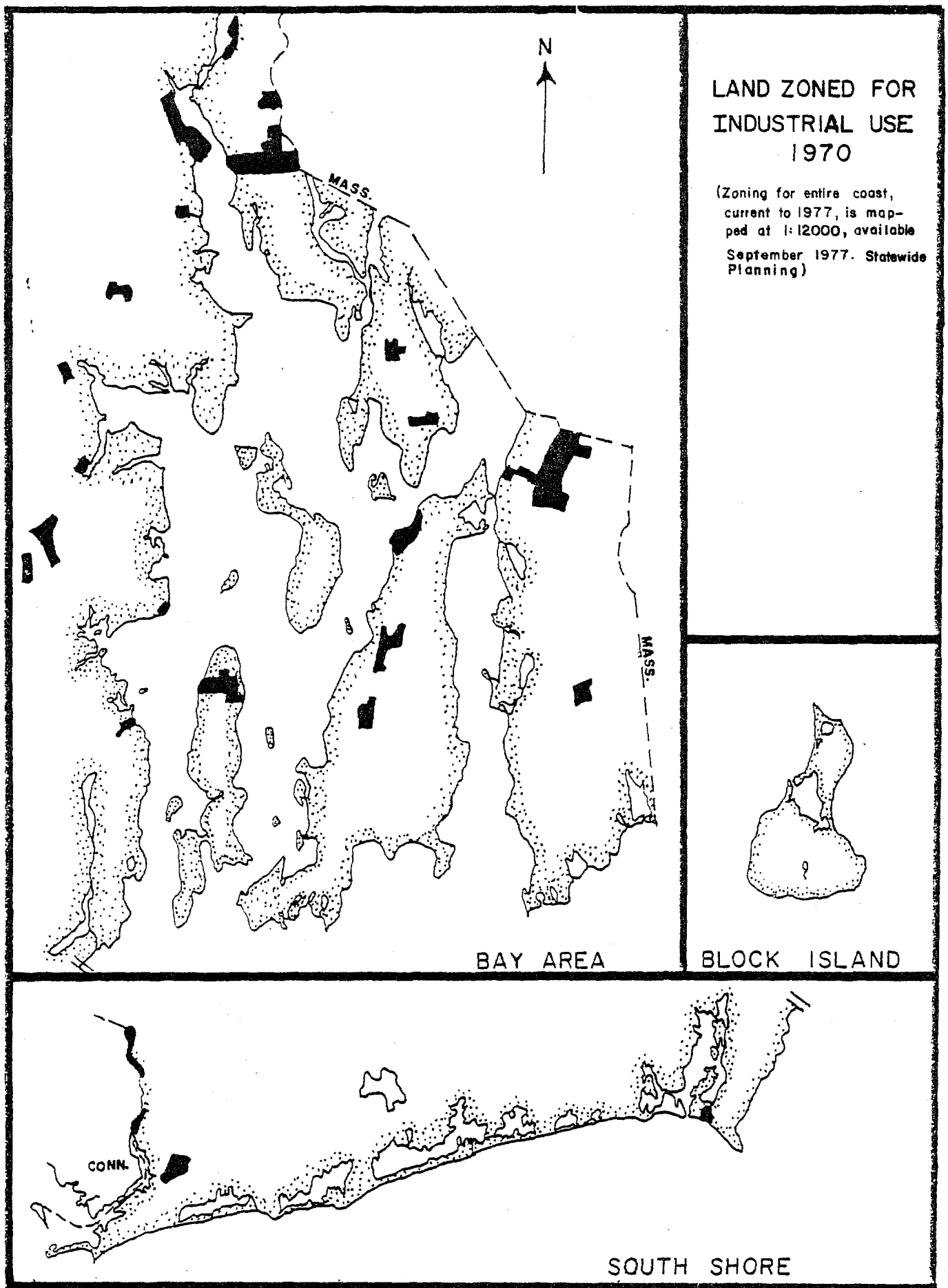
Industry
Biological Products
Medicinal Chemicals
Pharmaceutical Preparations
Small and Medium Turbines
Two-way Communications
Medical Electronics
Instruments for Measurement, Display and Control of Process Variables
Instruments for Measuring and Testing of Electricity and Electrical Signals
Laboratory, Scientific, and Research Instruments
Dental Equipment

Figure 5-5



Maps of these features (scale of 1:12000) are available at the Council's offices

Figure 5-6



LAND ZONED FOR INDUSTRIAL USE 1970

(Zoning for entire coast, current to 1977, is mapped at 1:12000, available September 1977. Statewide Planning)

Maps of these features (scale of 1:12000) are available at the Council's offices

- In excess of 1,000 acres of coastal land has been or soon will be opened to commercial-industrial leasing and development as a result of the ongoing surplussing of former Navy holdings. The transfer of title of these lands to the state has been delayed, pending completion of an Environmental Impact Statement by the General Services Administration.

- Substantial amounts of the state's industrially zoned land area is deficient in one or more desirable services.
  - 25% has unfavorable soils or topography;
  - 17% has no public water service;
  - 60% is not sewered; and
  - 67% has no rail service, although most industrially zoned lands are serviced by adequate to superior road networks.
  - Industrial parks are typically better serviced than industrially zoned land.

- Physical and service related constraints on commercial-industrial development must be reflected in siting decisions.

- The majority of growth industries targetted by the Department of Economic Development for recruitment do not require a waterfront site for transportation or production purposes.

540.2 Commerce and Industry Related to OCS Oil and Gas Exploration

540.2-1 FINDINGS:

A. The advent of exploration and possible production of oil and gas on the outer continental shelf (OCS) of the North Atlantic offers substantial economic opportunities to Rhode Island. However, the many uncertainties involved in OCS oil and gas development make planning for onshore facilities difficult.

- Rhode Island is approximately equidistant between Georges Bank and the Baltimore Canyon, the two Atlantic areas presently proposed for exploration. Oil and/or gas finds in these areas will influence the demand for onshore facilities in Rhode Island.

- The quantities of recoverable oil and gas in both locations remain unknown; estimates range from .9 to 2.4 billion barrels of oil and 3.3 to 12.5 trillion cubic feet of gas for all of Georges Bank, and .4 to 1.4 billion barrels of oil and 2.6 to 9.4 trillion cubic feet of gas for the recently leased parts of the Baltimore Canyon.

- The quantity of oil and gas found influences not only the level of onshore development but the types of facilities that will be required and the sequence of events.

B. Considerable planning for the siting of onshore commercial and industrial facilities related to OCS oil and gas development has already been initiated.

- The Department of Economic Development has determined after extensive dialogue with the petroleum industry that of all available industrial sites in Rhode Island, the excessed Navy property at Quonset/Davisville is the most marketable for onshore oil and gas support facilities.
  - . About 100 acres on the surplussed Navy holdings at Davisville are already being utilized as service support bases to support OCS oil and gas exploration efforts.
  - . Brown and Root, a petroleum related industry leader, has entered into negotiations with the state to site a platform fabrication yard in the Davisville pier area.
  - . About 30 petroleum related companies hold leases for small pieces of property or office space on Quonset/Davisville.

C. Because of the petroleum industry's interest in Quonset/Davisville as a staging area for OCS oil and gas exploration and production and the state's belief that Quonset/Davisville redevelopment is an essential cornerstone to economic recovery, an intensive planning effort has been undertaken with funds provided by the federal Office of Coastal Zone Management. A multi-agency Task Force (including representatives from the Council, Governor's Office, Department of Transportation, Navy, Federal Aviation Administration and the Town of North Kingstown) was created by the Rhode Island Department of Economic Development. Three alternative development scenarios were formulated for the site, by the Task Force consultants, based on the following criteria:

1. locate no OCS oil and gas related facilities on the property.
2. site appropriate OCS oil and gas related facilities that would be expected with a medium find on Georges Bank. (Even if no oil or gas is discovered there will be several years of exploratory activity).
3. site appropriate OCS oil and gas related facilities that would be expected with a high find on Georges Bank.

For each scenario, socio-economic and environmental assessments are being prepared.

- OCS related commercial and industrial facilities have been analyzed to determine their siting requirements, economic costs and benefits, and their potential environmental impacts.

- The physical suitability of Quonset/Davisville for these activities and their appropriateness, in terms of meeting state and local economic development goals, has been examined.

D. Quonset/Davisville is a suitable site for certain industrial and commercial facilities related to the exploration and production of OCS oil and gas.

- OCS support facilities prefer locating in the same vicinity. Therefore, a good site must have sufficient land area.
  - Quonset/Davisville has 781 acres of available land.

- A single planned OCS related commercial/industrial facility is economically attractive to the petroleum industry and will facilitate environmental monitoring and management.

- OCS support facilities require good transportation links.
  - Quonset/Davisville has excellent road, rail, air, and sea access.

- Since OCS support facilities are high risk ventures and have a relatively short life span, facilities located in already developed industrial parks would be expected to have the fewer socio-economic impacts.
  - Proposed uses of Quonset/Davisville are consistent with its existing character; impacts on growth and/or development patterns will therefore be minimal.

- Major environmental impacts associated with the development of commercial and industrial facilities related to OCS oil and gas development are related to both the amount of site preparation required and the characteristics of their ongoing activities.
  - Quonset/Davisville is already developed for commercial-industrial uses.

  - Anticipated environmental impacts, therefore, relate primarily to the operation of proposed facilities.
  - Management policies should set forth clear operational and safety standards and procedures to prevent environmental damage.

- Onshore commercial and industrial facilities which could be appropriately sited at Quonset/Davisville are:
  1. Temporary and permanent service bases
  2. Cold steel platform fabrication yard
  3. Pipe lay down and coating yard

These facilities were, therefore, included in the two Quonset/ Davisville development scenarios which accommodate appropriate oil and gas related facilities.

. The siting requirements, major environmental concerns, and job opportunities related to these facilities are summarized in Table 5-5.

- Although pipe coating yards are usually located on waterfront sites, only water access and not a waterfront location is required. A more inland location for a pipe lay down and coating yard would minimize its environmental impacts and allow for more efficient use of waterfront property.

- The primary OCS oil and gas support facilities listed above require services from a variety of ancillary industries.
  . For example, service bases require diverse services ranging from laundries to food services to ship repair yards. Already operating Rhode Island businesses will often be able to expand to meet these needs.

- On the basis of studies undertaken by the Department of Economic Development, Quonset/Davisville does not appear to be a suitable site for a gas processing plant, petroleum terminal, and/or oil refinery. These facilities are, therefore, deemed of low priority.

Table 5-5

COMMERCIAL AND INDUSTRIAL FACILITIES RELATED TO THE EXPLORATION AND PRODUCTION OF OCS OIL AND GAS

	Offshore Oil Support Bases	Platform Fabrication Yard	Pipe Coating and Laydown Yard
DESCRIPTION	Stores & transports materials to & from offshore facilities	Constructs steel platforms & jackets (platform legs) which are barged to sites offshore	Stores, cleans, coats, wraps, weighs, cures & tests steel pipe for use in gas or oil pipelines Most of site is used for pipe storage
START-UP YEAR	Temporary Bases: just before exploration begins Permanent Base: year 2*	Year 6	Year 7
LIFE SPAN	Temporary Base: 5 years Permanent Base: about 30 years, until production ceases	About 30 years: 10 for Georges Bank, 20 for other areas	About 26 years: 6 years for Georges Bank, 20 for other areas
SITE REQUIREMENTS			
Land Area	500 acres identified for servicing high-find on Georges Bank Scenarios prepared for Quonset/ Davisville allocate 195 - 205 acres for service bases	100 acres	30 - 100 acres Scenarios for Quonset/Davisville allow 30+ acres
Marginal Wharf	6600 - 14,000 linear feet required for servicing Georges Bank Scenarios prepared for Quonset/ Davisville allocate 4,000 - 5,200 linear feet of new pier space in addition to the existing 3,600 feet at the Davisville piers	200 feet per jacket	Access to waterfront for shipping pipe & receiving supplies
ENVIRONMENTAL CONCERNS			
Air Quality	Emissions from service vessels, cranes, trucks Emissions from fuel storage & transfer Dust from mud & chemical storage & transfer	Emissions from cranes, trucks, machinery Emissions from organic solvent based paint Sand blasting	Emissions from boilers, ovens, cranes & trucks Solvent fumes White fumes containing oil & toxic gases Strong odor Dust from hydrated lime, iron ore, other coating materials

*Year 1 is the year of the lease sale.

Table 5-5 (con't)

	Offshore Oil Support Bases	Platform Fabrication Yard	Pipe Coating and Laydown Yard
ENVIRONMENTAL CONCERNS			
Water Quality	Accidental & chronic fuel spills Accidental spills of mud & chemicals Run-off from storage & work areas	Cooling & process water from steel rolling, shot balsting & welding Run-off may include heavy metals, particulates, petroleum products & process chemicals	Run-off containing hydrated lime (high pH), hydrocarbons, steel shot, heavy metals Cooling & process water contaminated with hydrocarbons, lime, metals
Landscape/ Shoreline	Installation of additional piers, wharf & bulkheading General construction impacts	Possible bulkheading, dredging Highly visible structures General construction impacts	General construction impacts Visual impact
Other (noise, solid waste)	Handling of contaminated solid waste from offshore rigs (250,000 - 500,000 lbs per day during peak activity in proposed Quonset/Davisville scenarios)	Outdoor noise (76 - 116 dB) 24 hours per day	Noise from shot blasting, boilers & compressors
JOB OPPORTUNITIES	About 700 persons (50 - 60 percent local) during peak activity at the facility proposed for Quonset/Davisville	1,500 - 2,000 workers (mostly local) during peak level of operation of a facility at Quonset/ Davisville	Seasonal, largely resident, employment of 120 persons during peak operation of a 100 acre facility at Quonset/Davisville

*Year 1 is year of the lease sale

Source: Coastal Resources Center, 1977. The Redevelopment of Quonset/Davisville: An Environmental Assessment.

540.0-2 POLICIES AND REGULATIONS

A. The highest priority use of commercial and/or industrially zoned lands in the Rhode Island coastal region shall be low energy consuming, high technology commerce and industry (firms spending a large part of revenues on research and development; employ scientific and engineering skills as well as skilled and semi-skilled labor; and products are high value relative to bulk). Desirable industrial targets presently experiencing growth in New England and likely to locate in Rhode Island are identified in Table 5-4. Industries not listed, however, would not necessarily be discouraged. The Council endorses Department of Economic Development efforts to attract such commerce and industry to the state. It finds that it can best support those efforts by:

   1. Preserving and enhancing the environmental, scenic and recreational qualities of the coastal region. These qualities are among the state's most important economic assets, and policies for their preservation and enhancement are consequently an integral element of the Coastal Resources Management Program.
   2. Setting forth specific criteria and policies for commercial and industrial siting in the coastal region (see C below) such that state and municipal officials, potential applicants, and other interested parties have a clear idea of the bases upon which Council permitting actions will be taken.
   3. Urging the expeditious completion of the General Services Administration's Environmental Impact Statement so that transfer of excessed Navy lands to the state can occur.

B. Based on presently available information, the Council finds that a platform fabrication yard, a pipe coating and laydown yard, and OCS support service bases could be accommodated at Quonset/Davisville within a framework of balanced and environmentally sound development. Therefore, a high priority use of the surplus Navy holdings at Davisville shall be commerce and industry related to and/or supportive of OCS oil and gas exploration. Such exploration is necessary to clarify the extent of offshore reserves and to assess the potential impact of their development on the state's environment and economy. The Council further finds that the long term development options for Davisville should be kept open in view of its potential for accommodating facilities related to OCS oil and gas exploration and development.

C. Applicants for a Council permit for any sewage treatment or disposal action[1] related to the siting of a commercial or industrial facility in the coastal region shall be called upon to demonstrate by a fair preponderance of evidence that the proposed facility will not:

   1. Conflict with any Council management plan or program.

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[1] Defined as including, but not limited to the alteration, construction or extension of sewage facilities or systems, conduits and/or interceptors.

2. Make any area unsuitable for any uses or activities to which it is allocated by a Council plan or program; or
3. Significantly damage the environment of the coastal region.

D. Applicants shall further be called upon to demonstrate that:
   1. All applicable local zoning ordinances[1], building codes, municipal master plans, and all state safety, fire code, and environmental requirements have been met;
   2. Public water service and sewage disposal and treatment facilities are available where onsite water withdrawal and/or sewage disposal unacceptable for environmental or public health reasons;
   3. Adequate transportation links and utility service to support proposed operations and related activities are available;
   4. Appropriate steps will be taken to minimize visual impacts on surrounding areas.

   It shall be further demonstrated by reliable and probative evidence that the proposed shorefront commercial and/or industrial facility:

   1. Requires access to navigable waters for purposes of transportation or transfer of materials or products (See Section 520.0); or
   2. Requires access to coastal waters for purposes of industrial cooling or processing.

E. Because of their potential to significantly impact the coastal environment through vessel movements, sewage and solid waste disposal and the handling of large quantities of fuel and other potentially hazardous materials, the Council shall require applicants for OCS service base construction to submit a detailed facilities plan with the following elements:
   1. A land utilization plan which promotes efficient use of shorefront facilities.
   2. A spill prevention and clean up plan for all hazardous materials handled or stored on the site including provisions for routine and emergency containment, monitoring, and fire fighting. (See also Sections 630 and 640).
   3. A waste disposal plan for all contaminated materials, both liquid and solid, to be handled by the proposed facility whether produced on site or by serviced drilling rigs.

[1]The Port Authority has the power to override local zoning (42-64; G.L.R.I.)

550: TRANSPORTATION AND TRANSPORTATION FACILITIES

550.0-1 FINDINGS:

A. Rhode Island's transportation network is an essential element of the state's economic and social structure. The type and location of transportation facilities has had a profound impact on population distribution and development patterns since colonial times.

- The state's excellent natural harbors were responsible for the early growth of the cities of Providence and Newport as trading, cultural, and political centers.

- Development of the surburban residential patterns that presently characterize much of the coastal region was facilitated by major expansions and improvements to the state's highway system in the years following World War II.

B. The state's roads have become its single most important transportation resource. (Figure 5-8) Movements of people by automobile and goods by truck has largely replaced rail, bus and marine transport. Road siting and construction have demonstrated significant potential to profoundly affect the social and natural environment of the coastal region.

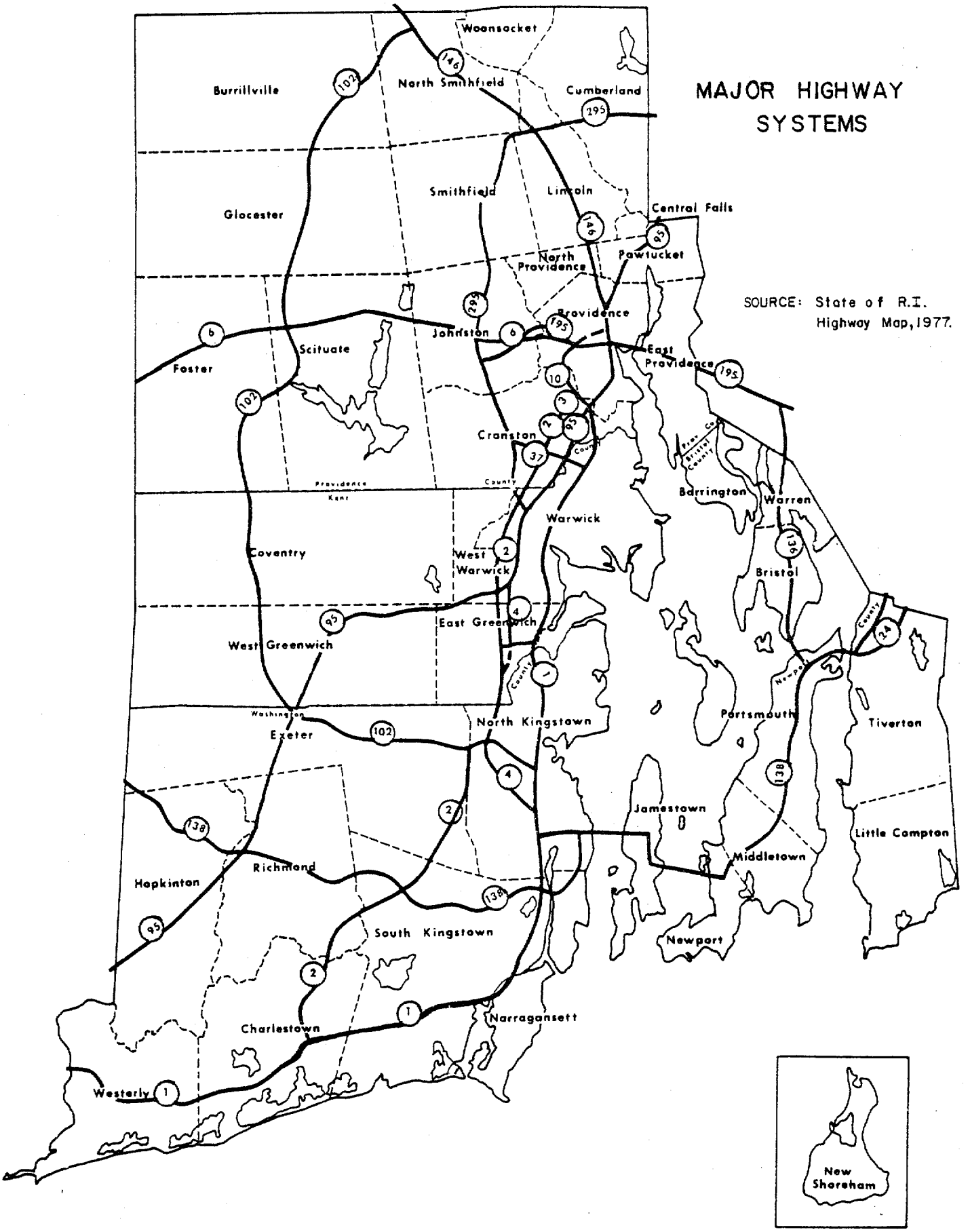
- Highways have bisected established neighborhoods and encouraged industrial-commercial and residential dispersion and sprawl into rural and previously unserviced areas. In the process historic and archaelogical sites and established commercial and residential areas have often been disturbed or displaced.

- Sprawling development patterns and ready access to automobiles have increased fuel consumption to the point where more than 25% of the state's annual total energy consumption is transportation related.

- Superior road networks are essential to assuring widespread public access to the shore and the state's coastal recreation areas and bathing beaches. Improperly sited coastal roads and limited access highways in particular can, however, severely restrict access opportunities by isolating recreationally attractive areas.

- Highway construction can cause numerous adverse impacts to the coastal environment including:
  - Disruption or removal of soils, bedrock, vegetation, wetland areas and wildlife habitat;
  - Alteration of topography;
  - Alteration of drainage patterns, increased and the introduction of pollutants to runoff water;
  - Increases in noise, dust, and air pollutant emissions.

Figure 5-7


MAJOR HIGHWAY SYSTEMS
SOURCE: State of R.I. Highway Map, 1977.
Woonsocket
Burrillville
North Smithfield
Cumberland
Smithfield
Lincoln
Central Falls
Glocester
North Providence
Pawtucket
Providence
Johnston
Scituate
Foster
East Providence
Cranston
Barrington
Warren
Warwick
Coventry
West Warwick
Bristol
East Greenwich
West Greenwich
Tiverton
Portsmouth
North Kingstown
Exeter
Jamestown
Little Compton
Middletown
Hopkinton
Richmond
Newport
South Kingstown
Charlestown
Narragansett
Westerly
New Shoreham

C. The Council is particularly concerned about the siting and construction of bridges and causeways associated with new highway construction or highway upgrading. Construction and siting of these facilities can have direct and significant impacts on the marine and coastal environments.

- The most probable environmental impacts include:
  - Changes in the water body's tidal prism, current velocities and salinity;
  - Alteration of sediment distribution;
  - Introduction of runoff contaminated with hydrocarbons and deicing compounds into coastal waters;
  - Interference with movement of fish and other marine organisms (causeways).

- Social impacts may include:
  - Changes in community orientation, development and shopping patterns;
  - Impacts on the aesthetic quality (positive and negative) of the coastal region.

D. The state's Land Use Policies and Plan prepared by the Statewide Planning Program identifies four major transportation goals for 1990.

- Complete the radial and circumferential highway networks surrounding Providence, but otherwise slow the rate of new highway construction.

- Improve existing state roads.

- Substantially expand mass transit systems utilizing buses and commuter trains.

- Upgrade airport facilities.

E. The Council finds that the upgrading of mass transit systems is a socially and environmentally laudible objective and that it can be largely accommodated without major new commitments of coastal land.

- Buses and new bus routes will for the most part utilize existing roads.

- Commuter trains will utilize existing rail beds and rights-of-way.

F. There are no plans to build facilities in addition to the six existing state airports. Improvement of these facilities focuses on upgrading and limited expansion of existing runways, terminals and parking facilities, and the installation of safety equipment.

G. Marine transport of goods and people remains an important activity in the coastal region.

- The Council has expressed particular concern for the state's ports (520), dredging and dredged material disposal (530), and the shipping of petroleum products by adopting specific findings and policies.

- Several island communities are highly dependent on commercial ferry service to link them to the mainland, particularly New Shoreham (Block Island), Prudence Island, and Hog Island.

- The Bay Islands Park is dependent on ferry service to link its various island holdings together in an integrated recreational system.

H. In evaluating the various transportation modes common to the coastal region and long range statewide transportation plans, the Council concludes that the most pressing transportation related issue in Rhode Island's coastal region is the potential siting and construction of major new highways. This concern includes currently studied proposals for I-895, an east-west road across southern Rhode Island.

550.0-2 POLICIES AND REGULATIONS:

A. The Council recognizes the importance and necessity of improved transportation facilities to service the Rhode Island coastal region. Upgrading such facilities, especially those which contribute to improvement of mass transit systems shall be a high priority use of the coastal region.

B. The Council shall support and cooperate with the Statewide Planning Program, the Department of Transportation and appropriate municipal agencies in the development and implementation of transportation plans subject to (E) & (H) below.

C. Upgrading of transportation facilities, particularly expansion of existing major highways, must be carefully planned if social benefits are to be maximized at minimal social and environmental cost.

D. The Council finds that the preparation of environmental impact statements as is presently required for all major transportation facility and highway construction and/or improvement projects provides the best means of obtaining and evaluating data necessary to weigh the social and environmental cost / benefit ratio of such projects.

E. The Council shall cooperate with agencies preparing such statements in identifying and ensuring consideration of coastal issues and impacts. It shall review such statements upon their completion to ensure consistency of the proposed action with applicable provisions of the Coastal Resources Management Plan. In undertaking such reviews the Council shall address issues including but not limited to:

1. Impacts on public access to and recreational enjoyment of public parks and beaches;
2. Impacts on the natural environment and habitat quality of conservation and wildlife management areas;

3. Impacts on scenic, sensitive, productive and/or unique coastal natural features and areas such as wetlands, beaches, cliffs and bluffs.
4. Impacts on areas, buildings or sites of historical, cultural and/or archeological significance;
5. Impacts on broad development patterns; particularly as this relates to stimulating development of rural, unserviced and/or open space lands or lands with development constraints;
6. The need for coastal or near coastal sites or corridors especially where such a site or corridor would interfere with public access to the shore.

F. Where the above described review results in a determination that the proposed action may conflict with any Management Plan or Program or may damage the coastal environment, the Council shall direct the party and/or agency involved to modify the proposal to conform and otherwise be consistant with the Council Management Program.

G. In all cases, the Council shall require any person to apply for a Council permit when proposing to construct a transportation facility through or over the tidal waters of the State of Rhode Island and/or any other area under the Council's jurisdiction.

H. Applicants with proposals for transportation facilities within areas directly under Council jurisdiction shall demonstrate by reliable and probative evidence that coastal resources are capable of supporting the proposed activity including the impacts and/or effects upon:

1. The considerations listed under (E) above.
2. Water circulation and sedimentation processes.
3. Bottom communities, fishing grounds, shellfish beds, marine spawning and nursery grounds.
4. Water quality including turbidity, release of toxins, nutrients, and other such substances either as a result of construction or runoff.
5. Aesthetic and visual qualities of the coastal region.

Chapter 6
Energy

610 ENERGY FACILITIES

610.1 Planning for Energy Facilities

610.1-1 FINDINGS:

A. Passage of the 1976 energy facility planning amendments (Section 305(b) (8)) to the Federal Coastal Zone Management Act and subsequent promulgation of regulations (Federal Register, Vol. 42, No. 83) under this section has placed substantial additional energy related planning burdens on states such as Rhode Island which are in the process of developing coastal management programs. More specifically, NOAA regulations now require the state to:

- Identify energy facilities which are likely to locate in or which may affect the coastal region;
- Develop a procedure for assessing the suitability of sites for such facilities;
- Develop policies and techniques for managing energy facilities and their impacts;
- Develop cooperative and coordinating arrangements between the Council and other agencies involved in energy facility planning and siting;
- Identify legal techniques to be used in managing energy facility siting and related impacts.

B. In order to implement NOAA requirements to identify energy facilities likely to be located in or affect the coastal region (920.18(a)(1)) the Council finds a need for the state to independently assess existing demand projections for electric power consumption.

- It is on the basis of such projections that power plants which may be located in or affect Rhode Island's coastal region will be proposed.
- Historic patterns of growth in electric power consumption upon which existing facility development plans are predicated have declined dramatically in recent years (see Table 6-1).
- The Council does not find that this decline has been adequately reflected in existing demand assessments.
- The reasons for this decline remain unclear and until such reasons are better understood it will not be possible to project with confidence either future demand trends or related plant construction requirements.

RHODE ISLAND ELECTRICITY CONSUMPTION

TABLE 6-1

	Consumption (Trillions of BTU's) (3413 BTU's per kwh)	Annual Rate of Growth (Per Cent)
1971	14.3	7.5
1972	15.3	6.9
1973	16.4	7.1
1974	15.5	-5.4
1975	15.1	-2.5
1976	16.5	9.2

Sources: 1971-1974, Electric Council, STATISTICAL BULLETIN, 1974.
1975, Annual reports submitted to Public Utilities Commission by each company.
1976, New England Power Company.

C. In enacting these new planning requirements the Congress expressly recognized and provided for the additional burdens, both temporal and financial, they placed on the states.

- Planning monies were made available for the specific purpose of undertaking energy facility planning efforts.

- The deadline for completing energy related planning and program development efforts under the Federal Coastal Zone Management Act was extended to September 30, 1978.

610.1-2 PLANNING POLICIES:

A. In order to effectively implement the various energy facility planning requirements (920.18) of NOAA regulations promulgated on April 29, 1977, the Council finds that the state should undertake assessments or establish procedures for assessing the following topics by September 30, 1978:

1. An assessment of OCS oil and gas related facility siting including onshore support services, fuel transfer, storage and processing facilities, if any.

2. An assessment of "native" energy sources including coal, wood, wind, water, solar, solid waste, geothermal and energy conservation.

3. An evaluation of the regional context of energy production and distribution as it affects instate production and facility development requirements.

4. An evaluation of long term petroleum related transportation and storage requirements and opportunities.

5. An assessment of long term electrical power requirements and optional generating technologies with particular attention to such demand variables as changing life styles, income, rate structures and end uses; such technical considerations as base, intermediate, peak and reserve generating requirements; and such social considerations as the relative consequences of supply deficiencies and surplusses.

6. An assessment of optional "mixes" of energy sources including OCS oil and gas, native sources and electrical generating techniques including total energy systems and cogeneration with particular emphasis on the flexibility, reliability and environmental impacts of such sources and techniques.

7. Development of detailed data on the siting requirements and related siting and/or operational impacts of specific facility types.

8. Development of additional and/or refinement of existing Council Policies and Regulations relating to facility siting and operation pursuant to plan and program development responsibilities set forth under Title 46, Chapter 23, Section 6 of the General Laws.

9. Development of specific coordinating and cooperative arrangements between the Council as the state's principal fact finder for nuclear power plant and oil refinery siting and the General Assembly as the final permitting body for such siting decisions.

10. Development of additional arrangements to ensure consistent and cooperative planning and regulation by all units and levels of government.

11. Assessment of techniques to reduce the demands for energy.

610.2 Siting of Energy Facilities

610.2-1 FINDINGS:

A. Facilities for the processing, transfer and storage of petroleum products and the production of electrical power provide services necessary to support and maintain the public welfare and the state's economy.

B. Such facilities, whether sited in the coastal region or elsewhere, have a high probability of affecting coastal resources and land uses because of their large size, environmental and aesthetic impacts, and impacts on surrounding land uses and broad development patterns.

C. In order, therefore, to properly and effectively discharge legislatively delegated responsibilities related to the location, construction, alteration and/or operation of such facilities, the Council finds a need to require in all instances a permit for such location, construction, alteration and/or operation within the State of Rhode Island where there is a reasonable probability of conflict with a Council plan or program, or damage to the coastal environment.

610.2-2 POLICIES AND REGULATIONS:

A. The siting, construction, alteration and/or operation of petroleum processing, transfer or storage facilities and power generating facilities within the State of Rhode Island shall require a Council permit when there is reasonable probability demonstrated by reliable and probative evidence that the proposal will:

1. Conflict with any Council Management Plan or Program;

2. Make any area unsuitable for any uses or activities to which it is allocated by a Council Plan or Program; or

3. Significantly damage the environment of the coastal region.

B. Applicants shall be further required to demonstrate by reliable and probative evidence that:

1. Alternative sites have been considered and rejected for environmental, economic and/or operational reasons;

2. Construction and/or operation will be in conformance with all applicable environmental standards, guidelines and objectives;

3. Siting will not cause secondary developments that are inconsistent with the State Guide Plan or approved municipal master plans;

4. Operation will not degrade aquifers or water bodies utilized for public water supply; and

5. Adequate procedures for the safe transport and/or disposal of products, materials and/or wastes hazardous to man or the coastal environment will be taken, including emergency containment and cleanup.

C. In the absence of comprehensive statewide energy siting procedures applicants shall also be required to demonstrate that:

1. There is a need for the proposed facility; and

2. Impacts on public service requirements and in-state employment opportunities have been identified and considered.

D. Where on the basis of such evidence and/or demonstrations the Council finds a reasonable probability of noncompliance with any applicable Policy or Regulation, including C and D above, it shall require appropriate modification of or shall deny the application in question.

E. Recipients of approved Council permits shall be required to maintain such records as may be necessary to monitor and ensure compliance of facility operations with all applicable Management Policies as set forth above.

620 ELECTRIC POWER PRODUCTION

620.0-1 FINDINGS:

A. The production of electrical energy whether by combustion of fossil fuels (oil, gas, and coal) or nuclear fission involves a host of impacts on the coastal region, its resources, and uses of those resources.

- Impacts are of six principal types:

  . Land use
  . Water quality
  . Air quality
  . Waste disposal related
  . Human health and safety
  . Socio-economic

- Impacts are caused by both construction and operation of generating plants.

- Impacts are extremely variable and dependent on a number of factors unique to specific sites and facility designs. General observations must consequently be weighed with this in mind.

B. Siting of power generating plants has major impacts on coastal land use and development patterns.

- Power plants occupy large sites - up to 110 acres for a 1,000 MW oil fired plant and 350 acres for a nuclear plant.

- With their large buildings and tall stacks, power plants are major visual intrusions.

- Transmission rights-of-way may preempt other uses of lands located considerable distances from the plant itself.

- Exclusion and safety zones around nuclear power plants place constraints on surrounding uses and development patterns.

- Power plants require land with prime industrial development characteristics and preclude other industrial uses of such lands.

C. Siting of power plants is influenced by the availability of water for transportation and processing purposes, although neither fossil fuel nor nuclear facilities require a waterfront location. Construction and operation may have wide ranging impacts on water resources and marine life.

- Construction related impacts on nearby waters are comparable although frequently of considerably longer duration than those for any major industrial facility. These may include increased runoff and siltation, dredging or filling and runoff of hydrocarbon contaminated liquid wastes.

- Construction of once-through cooling systems may have significant impacts on adjacent waterbodies since extensive dredging may be required.

- Water consumption and related impacts during plant operation vary considerably with plant design, especially the design of the cooling system which accounts for most of the water used.

- Cooling and process water taken in and then released to the environment can have several impacts.

    . Heated discharges affect critical biological functions of marine organisms.
    . Chemical antifouling agents are used to prevent corrosion and marine growth in water systems; their cumulative impacts are unknown.
    . Nuclear power stations release radioactive substances such as tritium and ruthenium.
    . Fish may be trapped against water system intake screens and killed. Larvae and plankton are drawn through the entire system where most are killed by pressure changes, abrasion, or temperature shock.

D. Plant construction and operation result in gaseous and particulate emissions which may affect air quality across a wide area.

    - Construction related impacts are comparable to those associated with any large scale construction project. The considerable length of the construction period extends these impacts over a long time frame.

    - Fossil fuel plant emissions include such pollutants as sulphur dioxide,fly ash, nitrogen oxides, volatile hydrocarbons, and carbon monoxide.

    - Nuclear plant emissions are principally radioactive gases: krypton, iodine, and xenon.

E. Operation of fossil fuel powered plants, especially coal fired, generates large quantities of solid waste material. Its disposal may have major impacts on the coastal environment.

    - Eighty to ninety-nine percent of the fly ash produced by fossil fuel combustion may be removed by stack "scrubbers" which produce a semi-liquid slurry or sludge. Up to 100,000 tons of this material may be produced annually by a 1,000 MW coal fired plant.

F. Generation of electrical power by nuclear fission produces considerably smaller but more toxic amounts of solid waste. Disposal of these highly radioactive wastes in an environmentally acceptable manner presents a number of very serious problems which remain to be resolved. In the absence of such resolution, the production of radioactive wastes represents a major long term environmental and human health hazard.

- Because nuclear wastes remain radioactive for long periods (most wastes have half-lifes of between 1 and 380,000 years) their safe disposal poses numerous problems. The technology for isolating them from the environment for such periods has not yet been developed.

- Radioactive wastes are shipped from the generating plant to temporary storage sites by unescorted trucks over public roads. Although protected by shielded casks designed to prevent their release in case of accident, the possibility of such release remains.

G. The production of electricity by either fossil fuel or nuclear fired plants pose threats to human health and safety. While these can be reduced by use of best available technology and careful management, they cannot be totally removed, and energy production will continue to involve some degree of public risk. Electrical power plants should, therefore, only be built on the basis of a real and demonstrated need for their generating output.

620.0-2 POLICIES AND REGULATIONS:

A. Information available to the Council at this time does not provide an adequate basis for the Council to responsibly and properly evaluate proposals for the siting, construction and operation of electric generating facilities in the state's coastal region (see Section 610.1-1).

B. In discharging its responsibilities as the General Assembly's principal fact finder for nuclear power plant siting in or affecting the coastal region and its resources, and in further discharging its permitting authorities regarding fossil fuel fired generating plants, the Council shall not therefore process applications to construct electrical power generating facilities in or affecting the coastal region until such time as the above referenced evaluations and studies are completed. In no case shall this period extend beyond September 30, 1978.

C. The state's and the Council's position on power plant siting pending completion of ongoing energy facility assessments or procedures shall not be construed as indicating a prejudice or bias as to the conclusions of such assessments or procedures.

630 TRANSFER OF PETROLEUM PRODUCTS

630.1 Transportation by Vessel

630.1-1 FINDINGS

A. The Port of Providence is the major petroleum products distribution center for southern New England.

- 7.2 million tons of refined oil, kerosene and gasoline with an estimated value of $651 million were imported in 1975.

- Petroleum related vessel movements (including both tankers and barges) in and out of Narragansett Bay accounted for some 1,000 vessel movements in 1975.

B. Accidental groundings, collisions and resultant spills have not caused major environmental damages in Rhode Island. The recent Argo Merchant spill has demonstrated, however, that oil spill clean-up technology is not presently capable of controlling major spills in weather conditions that are common offshore. The technology does, however, permit the control and clean-up of spills in sheltered waters under most conditions. The environmental impacts of spills can be significant and are of great concern.

- The Council finds that growing traffic in petroleum products poses an increased risk of spills and resultant environmental damage.

- Traffic in liquified hydrocarbons also poses risks to life and property because of their highly flammable nature.

C. Regulation of marine commerce in navigable waters is the responsibility of the U.S. Coast Guard. The Coast Guard is also responsible for developing and enforcing vessel design standards and operational rules, and for enforcing federal laws regarding discharge of oily wastes, prevention, clean-up and mitigation of accidental spills of petroleum products. The Council has taken the following actions in cooperation with the Coast Guard.

- In April, 1977 the Council contracted with the University of Rhode Island to implement a program for "fingerprinting" all petroleum shipments bound for or originating from Rhode Island ports.

- Chemical analysis of stored samples taken from all vessels landing in the state allows for speedy identification of the source of any oil spill in state waters. The violator is responsible, under existing state and federal law, for damages resulting from a spill.

D. Regulations of the RI Department of Health prohibiting the discharge of oil or oily wastes into any waters of the state from any vessel are set forth under Title 46, Chapter 12 of the General Laws. Rhode Island's water quality criteria (see Table 3-1) under which all discharges are regulated through the Federal Water Pollution Control Act also prohibit floating oil in any waters of the state.

630.1-2 POLICIES AND REGULATIONS:

A. All vessels engaged in the transportation of petroleum products in the waters of the state shall comply with all applicable rules and regulations of the RI Department of Health and the U.S. Coast Guard and all provisions of the Federal Water Pollution Control Act.

B. It shall be the adopted policy of the Council to support the Coast Guard in the following actions:

1. Implementation of an oil spill contingency plan for southern New England in cooperation with appropriate bodies in other states;

2. Reevaluation and upgrading of vessel design standards especially as these relate to the prevention and/or mitigation of accidental spills of petroleum products;

3. Reevaluation and upgrading of operational rules relating to transport of petroleum products in nearshore waters and coastal embayments;

4. Formulation of standards for crew training and qualification of all vessels including barges utilized in the transport of petroleum products.

630.2 Transfer via Pipeline

630.2-1 FINDINGS:

A. According to the Environmental Impact Statement prepared by the Bureau of Land Management on Georges Bank oil and gas lease sales, Rhode Island's ocean shoreline or that of nearby Massachusetts provide the most likely landfalls for an OCS gas pipeline.

- Construction of a gas pipeline may begin at the very earliest seven years after the first lease sale and would be completed between five and seven years later.

- It appears unlikely that oil will be transported from OCS wells to shore through a pipeline and even less likely that OCS oil will be landed by tanker in southern New England. Crude oil, if it exists in expoitable quantitites, will most probably be transported outside the region for processing.

- There is consequently adequate time to further evaluate issues relative to OCS pipeline construction, routing and landfalls prior to adopting final Council policy and regulations.

B. Pipeline corridor routing and construction in nearshore waters and along the immediate shorefront involve a number of environmental issues and may further conflict with other uses of coastal waters and resources.

- Much data must be assembled on the physical processes that take place on the ocean floor especially in shallow nearshore waters where bottom processes appear to be most active to ensure that a pipeline will withstand erosion, will be adequately supported and will not cause undesirable changes to the character of the bottom.

- Pipelines are of great concern to commercial fishermen since exposed pipe and valves can be snagged by towed fishing gear such as otter trawls and shellfish dredges. Pipelines may preempt the use of a corridor by fishermen. It is essential that fishermen play an active role in selecting the route for a pipeline and manner in which is will be engineered.

- Pipelines may also have impacts upon navigation since anchors can snag the line and on-surface booster stations (if needed) may be an obstruction to navigation.

- The construction of a pipeline will cause short term impacts on the living environment. Route selection, construction timing and methods will require careful assessment to ensure minimal impacts.

- A marine pipeline landfall requires a right-of-way approximately 100 feet in width. A gently sloping shoreline is preferred, but not necessary. The pipeline must be buried to a sufficient depth to avoid seasonal changes in the nearshore seafloor. Careful planning and engineering will be required to ensure that any impacts on the shoreline will be temporary and/or sufficiently small to be acceptable.

- The construction of a pipeline landfall involves intensive short-term activity. Proper advanced planning, involving wide participation, will help to minimize environmental and social impacts.

630.2-2 POLICIES AND REGULATIONS:

A. The siting and construction of any pipeline in or across the land and/or tidal water bodies of the Rhode Island coastal region shall require a Council permit.

B. Applicants for such a permit shall demonstrate by a fair preponderance of evidence that the proposed action will not:

1. Conflict with any Council management plan or program;
2. Make any area unsuitable for any uses or activities to which it is allocated by a Council management plan or program; or
3. Significantly damage the environment of the coastal region.

C. In addition to those general permit requirements set forth under Section 610.2-2, above, it shall be further demonstrated by reliable and probative evidence that the coastal resources are capable of supporting the proposed activity including the impacts and/or effects related to:

1. Scheduling and duration of construction relative to recreational, wildlife, and fisheries use of affected areas;

2. The degree and nature, if any, of site reclamation proposed;

3. Exposure of the proposed pipelines to hazardous bottom conditions;

4. Impacts on public services and in-state employment.

630.3 Vessel to Vessel Transfer

630.3-1 FINDINGS:

A. The transfer of petroleum and petroleum products poses a potentially severe threat to the state's coastal resources.

- Accidental spills of petroleum products may adversely impact the marine and coastal environments, may endanger public health and safety and may damage other necessary and legitimate uses of the coastal region.

B. Minimum requirements and procedures to be followed during transfer of petroleum products from vessel to vessel must be set forth in order to insure that such transfers are carried out in a manner consistent with the Council's obligation to preserve and protect coastal resources.

C. Effective implementation of transfer regulations requires an ability to readily identify the source of any spilled petroleum.

- Technology exists to make such identifications through infrared spectroscopy ("fingerprinting").

630.3-2 POLICIES AND REGULATIONS:

DEFINITIONS:

A. Council: "Council" shall mean the Coastal Resources Management Council.

B. Council Representative: "Council Representative" shall mean a person appointed or employed as the Council's representative or agent.

C. Discharge: "Discharge" shall mean any spilling, leaking, pumping, pouring, emitting, emptying or dumping either directly or indirectly to the waters of the State of Rhode Island.

D. Oil: "Oil" means oil of any kind and in any form including, but not limited to petroleum, fuel, oil refuse, oil mixed with other wastes, crude oils and all other liquid hydro-carbons regardless of specific gravity.

E. Operate or Operator: "Operate or Operator" shall mean any person owning or operating an oil carrying tanker vessel with a capacity of more than 5,000 gallons whether by lease, contract or any other form of agreement.

F. Person: "Person" shall mean individual, partnership, joint venture, corporation or any group of the foregoing organized or united for a business purpose.

G. Transfer: "Transfer" shall include both on-loading and off-loading between vessels.

H. Vessel: "Vessel" includes every description of watercraft or other contrivance used or capable of being used as a means of transportation on water, whether self-propelled or otherwise and shall include barges and tugs.

A. Transfer operations for petroleum and petroleum products:

1. Pre-transfer Conference: No person shall commence or cause to be commenced or consent to the commencement of bulk oil transfer operations unless the following items have been reviewed, agreed upon and complied with by personnel of the vessels involved.

    a. A licensed officer or a licensed tankerman who has full knowledge of the vessel's tanks and cargo handling system shall be in charge of cargo handling for each vessel receiving or discharging oil at all times.

    b. A sufficient number of adequately trained men shall be assigned to be constantly on duty on the vessels during cargo transfer operations to keep the transfer operation under constant observation to insure immediate action in case of a malfunction.

    c. Cargo sequence for loading or discharging products and the proper baseline for each product has been established.

    d. The handling rate at which oil will be transferred has been established. (Reduced rates are required when commencing transfer, changing the lineup, topping off tanks or nearing completion of transfer). The amount of time to be given when the off-loading vessel desires to start, stop, or change the rate of flow has been determined.

    e. A positive communication and signal system shall be operable during all transfer operations.

    f. The emergency procedures to be followed in order to stop and contain any discharge shall have been established.

    g. Personnel responsible for transfer shall be clearly identifiable at all times, prior to transfer operations personnel responsible for transfer shall be made known to each other.

2. Transfer Procedures: No person shall transfer or cause to be transferred or consent to the transfer of any oil from any oil carrying vessel to any other oil carrying vessel unless:

    a. All equipment through which oil may pass during transfer operations has been inspected visually prior to each operation.

    Any hose used in the transfer shall be pressure tested annually and shall not be subjected to transfer pressures greater than 75 percent of the last pressure test or greater than the rated hose pressure, whichever is less.

All hoses used in the transfer of petroleum products from vessel to vessel shall be marked with a hose number. These markings shall be in color sharply contrasting with the color of the hose and shall be not less than one and one half inches high. The operator shall keep a log book of all tests conducted on the individual hoses. This log book shall contain the hose number, test pressure, date of test, place of test and the signature of the person conducting the test. This log book shall be available for inspection by a representative of the Coastal Resources Management Council.

b. Hoses are supported so as to avoid crushing or excessive strain. Flanges, joints and hoses shall be checked visually for cracks and wet spots.

c. Hose handling rigs are of a type which allow adjustment for vessel movement and hoses shall be long enough so that they will not be strained by any movement of the vessels.

d. Hose ends are blanked tightly when hoses are moved into position to be connected and also immediately after they are disconnected and drained into a drip pan.

e. Hoses are not permitted to chafe on vessels or to be in contact with hot surfaces such as steam pipes or to be exposed to other corrosive sources.

f. Mooring lines and lines securing the vessels to each other are tended to prevent excessive movement of the vessels.

g. The surrounding water shall be inspected frequently during transfer operations. A log of all such inspections shall be kept and signed by the person making the inspection and shall be available for inspection by a representative of the Coastal Resources Management Council.

3. Vessel to Vessel Transfer; Off-loading Requirements: No person shall transfer to cause to be transferred or consent to the transfer of any bulk oil from any oil carrying vessel to any other oil carrying vessel unless:

a. Sea valves connected to the cargo piping and stern loading connections are tightly closed and sealed with a numbered seal which is to be logged in the ship's log book.

b. Lines and valves in the pump rooms and on deck are checked by the ship's master, senior deck officer or deck officer on duty, or licensed tanker man to see that they are properly set for discharging cargo. An additional check must be made for the same purposes each time the setting is changed.

c. Full rate of discharge is not attained until lines of receiving vessel are proven clear.

d. On completion of transfer operations, hoses or other connecting devices shall be vented, blown down, or sucked out to drain the remaining oil. A drip pan shall be in place when breaking a connection and the end of the hose or other connecting devices shall be blanked off before being moved.

4. Vessel to Vessel Transfer; Receiving Requirements: No person shall transfer or cause to be transferred or consent to the transfer of any bulk oil from any oil carrying vessel to any other oil carrying vessel unless:

a. All sea valves connected to the cargo piping, stern discharge and ballast discharge valves are closed and sealed with a numbered seal which is to be logged in the ship's log book and with the responsible ship's officer.

b. Special attention is paid during the topping off process to the loading rate, the number of tanks open, the danger of air pockets and the inspection of tanks already loading. Notice of the slowdown for topping must be given to off-loading vessel personnel.

c. Upon completion of loading, all tank valves and loading valves are closed. After draining, hoses shall be disconnected and hose risers blanked.

5. Vessel Transfers While at Anchor: No vessel while at anchor shall transfer petroleum products while gale warnings, (wind velocity 35 knots or more) are in effect.

Vessel to vessel transfers may only be carried on in anchorage areas designated by the Coastal Resources Management Council.

The transfer of fuel for a vessel's own use may take place outside the designated anchorage area but in no case during gale warnings.

6. Spillage During Transfer: Transfer shall cease if a discharge of oil to the waters of the State occurs during such transfer. Transfer may be resumed when, in the judgement of the Coastal Resources Management Council's representative after consultation, if necessary, with the United States Coast Guard or Local Authority adequate steps have been taken to control the spill and to prevent further spillage.

7. Scuppers: No person shall transfer or cause to be transferred or consent to the transfer of any bulk oil from one oil carrying vessel to another oil carrying vessel unless the scuppers of any such vessel are plugged watertight during the oil transfer. However, it will be permissible to remove scupper plugs as necessary to allow runoff of water provided a vessel crew member stands watch to re-close the scuppers in case of an oil spill.

8. Illumination: No person shall transfer or cause to be transferred or consent to the transfer of any bulk oil after dark from one oil carrying vessel to another oil carrying vessel unless both vessels are adequately illuminated.

9. Open Hatch Transfer: Transfer of oil by means of a hose through an open hatch is prohibited. An exception will be made only when an emergency arises and this is the only means of moving flammable oil from one vessel compartment to another or of unloading the vessel for the purpose of reducing or preventing pollution or for preventing foundering and then only when all possible precautions to prevent discharge to the waters of the state have been taken.

10. Sample Collection: No person shall transfer in bulk nor cause to be transferred from any vessel to another vessel any petroleum product known as residual lube oils or middle distillate fuel until they have taken or cause to be taken a composite sample of such product of not less than one pint from such vessel. Such sample shall be labeled in a fashion prescribed by the Coastal Resources Management Council and retained by said person for use by the Coastal Resources Management Council for a period of not less than sixty (60) days.

B. Reports and Notifications:

1. Anticipated Transfer: The Council shall be notified at least 12 hours in advance of any transfer of bulk oil from one vessel to another.

    a. Names of vessels.

    b. Approximate amount of oil to be transferred.

    c. Product type.

    d. Expected time and date of vessels arrivals.

    Should unusual circumstances make it impossible to provide 12 hour notice, the operator shall notify the Council as soon as possible. Notification is not required for transfer of oil for a vessel's own use.

2. Oil Spill Reporting Procedure: In the event of any overboard discharge during vessel to vessel transfer, the person, firm or corporation responsible for the discharge shall immediately undertake to remove such discharge. Responsibility for removal shall remain with the person, firm or corporation responsible for the illegal discharge. For this purpose, the owner shall have readily available adequate essential equipment approved by the Council for the containment and removal of such a discharge and sufficient personnel to deploy and use such equipment. In addition to the existing procedures, the following actions are necessary:

    a. Initial Telephone Report: An initial telephone report of any discharge to the waters of the State shall be

made to the Council or Council's representative as soon as practicable but within two hours. The report shall include:

(1) Time of discharge

(2) Location of discharge

(3) Type and amount of oil

(4) Assistance required

(5) Name and telephone number of person making report

(6) Other pertinent information

b. Second Telephone Report: A second telephone report shall be made as soon as adequate information is available but not more than eight hours after the first report. The report shall include:

(1) Success of containment procedures

(2) Actions for removal and success of removal

(3) Estimate of area affected by such discharge

(4) Assistance required

(5) Other pertinent information

c. After removal of such discharge has been completed, the operator shall prepare a complete written report of the occurrence and submit such a report to the Coastal Resources Management Council within ten (10) days. If circumstances make a complete report impossible, a partial report shall be submitted. This report shall include, but not be limited to, the following information:

(1) Date, time and place of discharge

(2) Name of permitee, name of owner of vessel or other party(ies) involved

(3) Amount and type of oil discharged

(4) Complete description of containment and removal operation including costs of these operations

(5) Complete description of circumstances causing discharge

(6) Description and estimate of third party damages

(7) Procedures, methods and precautions instituted to prevent a similar occurrence from reoccurring

(8) Recommendations to the Coastal Resources Management Council for changes in regulations or operating procedures

(9) Name and address of any person, firm or corporation suffering damages from the discharge and an estimate of the cost of such damages.

d. Council Telephone: The Coastal Resources Management Council is available by calling (401) 277-2284.

C. Permit:

1. Transfer Permit: No person as defined in this Section shall transfer or cause to be transferred or consent to the transfer of any oil from one vessel to another unless said person holds a valid permit issued by the Coastal Resources Management Council and is abiding by all the conditions set forth in these regulations. Said permit shall be requested on such form as the Council shall from time to time so designate and shall contain such information as the Council shall deem necessary. Upon presentation of the completed request for a permit and the payment of a fee of $35.00 per discharge the Council is authorized to issue a valid permit.

2. Declaration of Inspection: A copy of the "Declaration of Inspection" required by the United States Coast Guard shall be in possession of the operator or his representative and shall be available to the Coastal Resources Management Council representative who shall, on demand, be given the opportunity to satisfy himself that the condition of the vessel is as stated in the "Declaration of Inspection."

3. Declaration of Understanding: A copy of the "Declaration of Understanding" shall be presented by the vessel's pilot to the master of the vessel when the former boards the vessel. No transfer of oil shall be undertaken until such time as the master of the vessel returns the signed Declaration of Understanding to the pilot who shall within five (5) days deliver said Declaration to the office of Coastal Resources Management Council. Said Declaration shall state that the master of the vessel is knowledgeable of these regulations and agrees to abide by same.

4. Other: Operators shall also complete such other forms, check lists and reports as the Council from time to time may require.

D. Bunkering and Lightering: Nothing in the foregoing regulations should be construed as to prohibit the function of bunkering vessels or when a demonstrated need is shown, the lightering of vessels at a place other than the area designated in these regulations. Such demonstrated need should be evaluated by the Council who is authorized to set temporary regulations for such procedures.

E. Designated Anchorage Areas: The area designated in Narragansett Bay East Passage for vessel-to-vessel transfer of oil is that area south of Gould Island and North of the Newport Bridge bounded by the following coordinates:

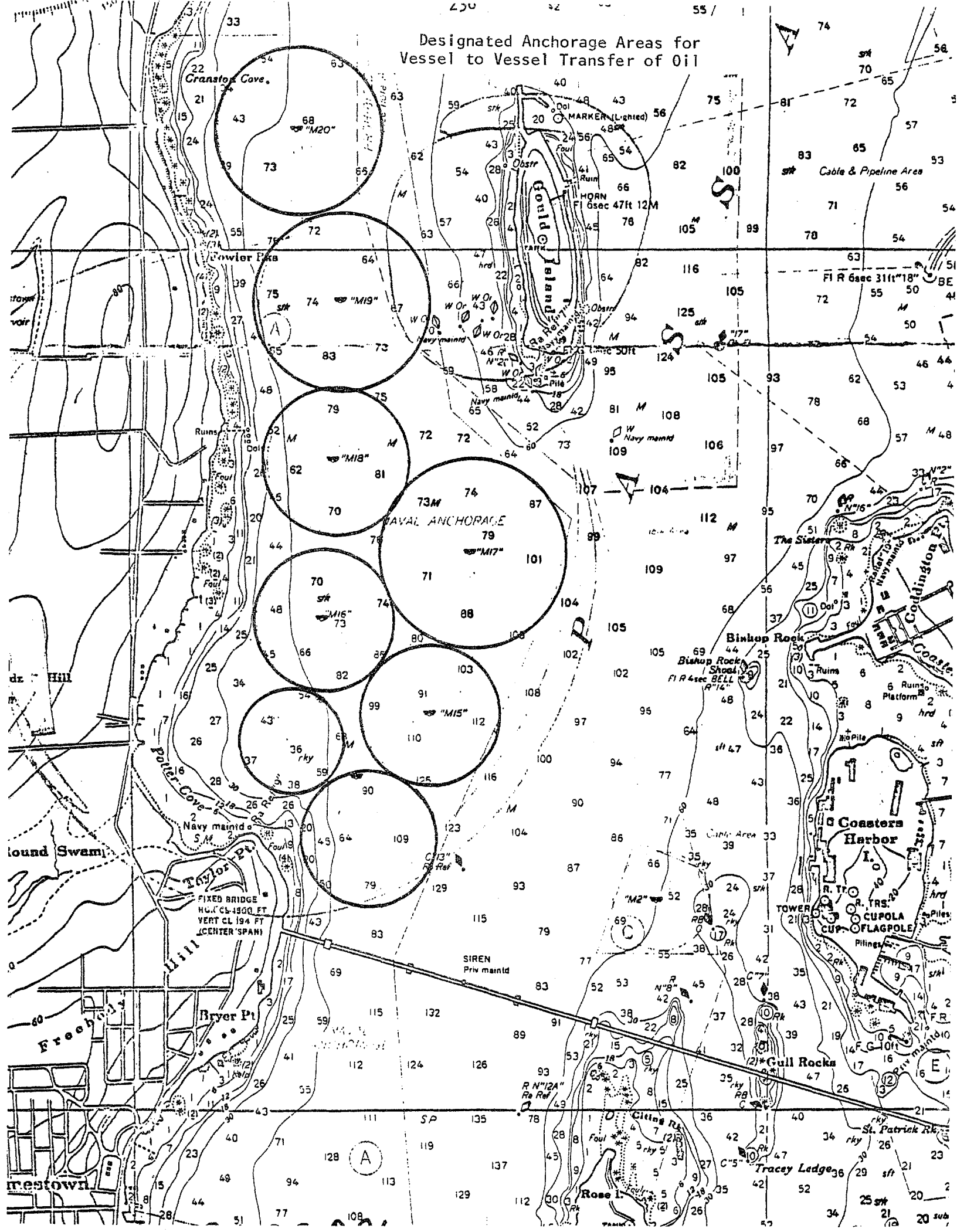
1. Latitude 41° 30' 41" North
   Longitude 71° 20' 57" West

2. Latitude 41° 31' 17" North
   Longitude 71° 20' 29" West

3. Latitude 41° 31' 42" North
   Longitude 71° 21' 05" West

4. Latitude 41° 30' 49" North
   Longitude 71° 21' 14" West

Designated Anchorage Areas for
Vessel to Vessel Transfer of Oil



630.4 Vessel to Shore Transfer

630.4-1 FINDINGS:

A. Transfer of petroleum products from barges and tankers to shorefront storage facilities located in upper Narragansett Bay has the potential to cause major environmental damage if not properly managed.

- As many as 10 million gallons of toxic material may be transferred in a single operation.
- Accidental spills due to human error or equipment failure could release massive amounts of petroleum into the marine environment.
- Petroleum may have persistent and wide ranging impacts on marine organisms and may accumulate in bottom sediments.
- If uncontained a spill could contaminate much of Narragansett Bay in a relatively short time, severely damaging its scenic and recreational values, commercial shellfishery and its natural environment.

B. Ship to shore transfers are not, however, a significant management problem in Rhode Island because of actions taken by the State Department of Health, the Coast Guard and the petroleum industry.

- The Department of Health promulgated rules and regulations to prevent the discharge or escape of petroleum products into state waters in 1957 under authority set forth in Title 46, Chapter 12 of the General Laws. These regulations, upon which Council vessel to vessel transfer regulations were modeled, address ship to shore transfers directly and in comparable detail.
- Under Section 154.300, 33 CFR the Coast Guard enforces regulations pertaining to petroleum products handling. Under this section all terminals are required to prepare a spill prevention and mitigation plan which must be approved by the Coast Guard. All Rhode Island terminals have received such approval.
- The Rhode Island petroleum industry in itself has been a major innovator in the prevention and containment of spills. In cooperation with the State Department of Health, the Rhode Island Petroleum Association established the nation's first port petroleum cooperative in 1966 (there are now over 100). The cooperative purchased 3,000 feet of containment boom at that time and another 3,000 feet in 1973. Booms are stored at terminals in the port area and on two radio dispatched trucks donated by the industry to the Providence and East Providence fire departments.

C. The Council concludes that existing prevention and mitigation procedures and requirements are adequate to prevent damage to the coastal environment and are consistent with its legal obligation to preserve, protect and restore the coastal resources of the state.

D. The Council finds a need, however, to be able to more readily identify the source of any spilled petroleum product in the state's tidal waters.

- Recognizing that the technology exists to make such identifications, the Council has provided funding to support an oil "fingerprinting" laboratory at the University of Rhode Island.

630.4-2 POLICIES AND REGULATIONS:

A. No person shall transfer nor cause to be transferred from any vessel to a shore installation any petroleum product known as residual, lube oils or middle distillate fuel until they have taken or cause to be taken a composite sample of such product of not less than one pint from such vessel. Such sample shall be labeled in a fashion prescribed by the Coastal Resources Management Council and retained by said person for use by the Coastal Resources Management Council for a period of not less than sixty (60) days.

B. Further, subsequent to the shore transfer of such petroleum product from a vessel to a shore installation the operator of such shore installation shall obtain or cause to be obtained a shore tank composite sample of such product so transferred and such sample be labeled in a fashion prescribed by Coastal Resources Management Council and retained by said person for use by the Coastal Resources Management Council for a period of not less than sixty (60) days.

630.5 Shore Transfer

630.5-1 FINDINGS:

A. Transfer of petroleum products from storage facilities in the coastal region to vehicles for transportation to retail and wholesale distributors has limited potential for significantly damaging the coastal environment.

- The potential for major spills is small due to the limited size of single transfers (8,000 gallons for a large tank truck) and utilization of automatic shutoffs on transfer equipment.

- The potential for chronic small spills or seepage is greater, but is controlled by the Department of Health regulations referenced under Section 630.4-1. These require that transfer areas be graded to channel runoff into oil/water separators and that all runoff water be filtered through these separators which remove hydrocarbon residues.

- Compliance with health regulations has been excellent and seepage is consequently not a significant management issue.

B. The Council concludes that existing prevention and mitigation procedures and requirements for the on-shore transfer of petroleum are adequate to prevent damage to the coastal environment and are consistent with its legal obligation to preserve, protect and restore the coastal resources of the state. It finds no need to promulgate additional Policies and Regulations at this time.

640 STORAGE OF PETROLEUM PRODUCTS

640.1 Petroleum Bulk Storage

640.1-1 FINDINGS:

A. Rhode Island is a major petroleum distribution center for the southern New England region(see Section 520.1-1).

- Nearly twice the state's annual consumption of petroleum products passes through the Port of Providence each year.

- Considerable quantities of fuel are transhipped by truck tanker to nearby Massachusetts and Connecticut.

B. Unlike other states in the region, Rhode Island has substantial excess bulk storage capacity.

- Existing facilities (see Figure 6 1) are capable of storing about 50% of the state's annual (1 billion gallon) consumption of petroleum fuels.

- Existing facilities have surplus capacity both in present storage tanks and room for new tanks.

- Additional storage capacity exists in deactivated tanks at surplus Navy holdings at Melville in the town of Portsmouth.

C. It appears unlikely that Rhode Island's excess storage capacity will be taxed by increased demands in the foreseeable future.

- Present trends indicate a diffusion of oil distribution patterns. As a result Rhode Island's significance as an import-export center is likely to diminish.

- Decreased export traffic will free up additional storage capacity in existing facilities. This will minimize or eliminate entirely the need for new tanks for domestic needs.

D. There appears no need to anticipate additional bulk petroleum storage facilities in the state's coastal region for the foreseeable future.

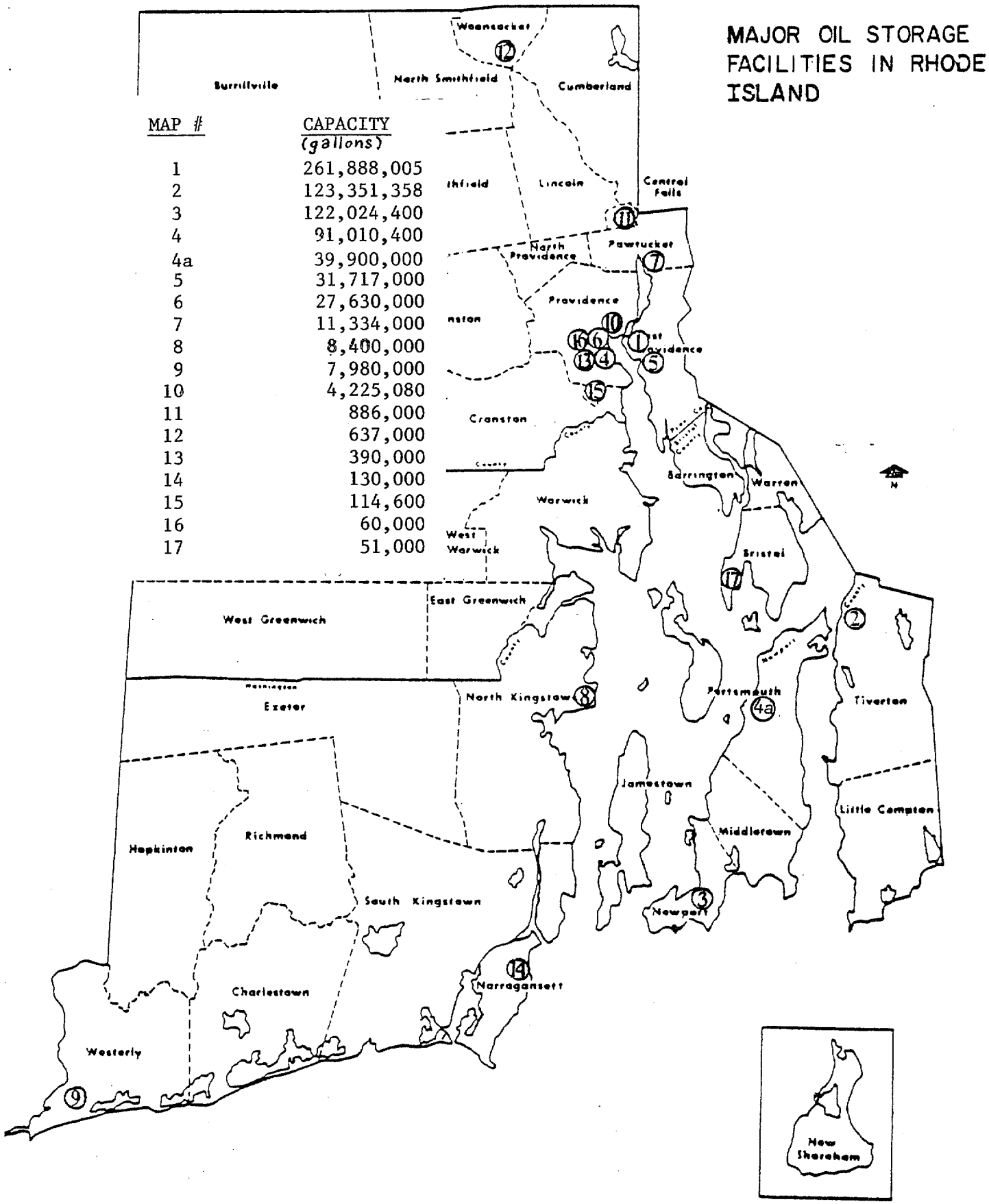
640.1-2 POLICIES AND REGULATIONS

A. The Council finds that shorefront siting of petroleum bulk storage facilities within the confines of existing tank farms is an acceptable use of the state's coastal zone.

Figure 6-1

MAJOR OIL STORAGE FACILITIES IN RHODE ISLAND

MAP #	CAPACITY (gallons)
1	261,888,005
2	123,351,358
3	122,024,400
4	91,010,400
4a	39,900,000
5	31,717,000
6	27,630,000
7	11,334,000
8	8,400,000
9	7,980,000
10	4,225,080
11	886,000
12	637,000
13	390,000
14	130,000
15	114,600
16	60,000
17	51,000



B. The Council shall require permits for such bulk storage facilities and shall require applicants for such permits to meet all evidentiary burdens set forth under general permit requirements (Section 610.2-2).

C. Pending completion of ongoing energy facility planning studies,[1] the Council shall not permit expansion of existing tank farms beyond their present bounds, nor shall it permit construction of new petroleum bulk storage facilities in the coastal region.

640.2 Storage and Processing of Liquified Gases

640.2-1 FINDINGS:

A. The Rhode Island coastal region contains one liquified natural gas (LNG) storage facility at Sassafras Point in Providence. Other facilities in the State are located in Exeter and Cumberland.

- Existing facilities are supplied by truck.
- Gas stored in liquified form is used to supplement piped supplies during peak winter consumption periods.

B. Increased demand for natural gas as a clean burning fuel for home heating may generate demands for additional LNG storage facilities.

- If local and regional demands continue to increase, it may become commercially attractive to import large volumes of LNG from foreign sources by tanker ship.
- Such imports would generate additional demands for storage facilities in the coastal region, especially in existing port areas such as Providence.

C. As with other forms of highly concentrated energy, special scrutiny must be given to the location, design and operation of LNG/LPG facilities. Accidental releases of LNG could pose a public safety hazard.

- LNG is a cryogenic material, remaining in a liquid state only when kept below -260°F.
- Containment and handling equipment must be specifically designed for service at these low temperatures.
- Should LNG accidentally spill on land or water it boils rapidly forming a cold plume of flammable natural gas.
- If ignited quickly LNG pools burn in a manner similar to gasoline. If ignition does not occur quickly a flammable (explosive if confined) vapor plume may be carried downwind until a source of ignition is encountered or until the gas vapor-to-total volume is less than 5%.

[1] See also energy planning regulations (610.1-2).

D. Technology and procedures exist to markedly reduce, but not totally eliminate the dangers associated with storage and handling of LNG. Stringent Federal regulations governing the design and operation of LNG facilities serve to minimize these dangers.

E. LNG storage may constitute a major coastal land use in terms of the acreage involved and potential impacts on surrounding land uses and development patterns.

- Site requirements for an LNG terminal are dependent upon the nature of its operations and the ambient site conditions. Such a facility may require substantial land area, perhaps up to 200 acres in a coastal location with access to channel depths of up to approximately 40 feet.

- Improper design and operation of such a facility could pose a safety hazard to surrounding land uses.

- Facilities may have visual impact on surrounding land uses and areas.

F. Little research has been completed on the long term environmental effects of an accidental release of LNG.

- Localized short term mortality of coastal and marine lifeforms exposed to the extremely cold gas can be anticipated.

- Regasification prior to release into distribution pipelines may involve once through heating by seawater with consequent impacts on marine organisms through rapid cooling, release of toxic antifoulants, and mechanical damage. Due to such environmental constraints, however, the preferred technique utilizes gas as the heating agent.

640.2-2 POLICIES AND REGULATIONS:

A. Transfer of liquified gases from vessels transporting such gases to bulk storage facilities located in the Rhode Island coastal region is subject to Coastal Guard control. General regulations for the transport and discharge of LNG and LPG in Narragansett Bay have been adopted and are in force (COTP Providence LNG/LPG Contingency Plan 8/1/75).

B. Siting, construction and operation of facilities for the transfer, bulk storage or regasification of liquified gases shall require a Council permit.

C. Applicants for such a permit shall be required to meet all permit and regulatory requirements set forth under Section 610.2-2 and to further demonstrate by a fair preponderance of evidence that facility siting and operation will be consistent with preservation of the health and safety of nearby populations.

D. It shall be further demonstrated by reliable and probative evidence that;

1. All applicable federal, state and local design, material and operating regulations, codes or other such requirements will be complied with;
   - Storage tanks will be constructed of proven materials and will be designed and operated within the design limits of pressure relief and emergency venting systems;
   - Storage tanks will be sited at sufficient distance from each other and so isolated by berms or containments that accidental release and combustion of gases from one cannot ignite or otherwise damage any other;
   - Storage tanks will be sited a sufficient distance from any stored corrosive material likely to damage or weaken such tanks; Each tank will be surrounded by a continuous berm or containment of sufficient diameter and height to contain the entire liquid contents of such tank;
   - Any pipeline for the transfer of liquified gas into or from such a facility or on the premises of such a facility will be provided with dikes or berms capable of containing the largest spill that might occur if such pipeline was ruptured and before it could be drained or shutdown;
   - Provision for installation and operation of automatic and continuous monitoring, alarm and shutdown devices must be made;
   - Provision for independent emergency power to maintain such emergency and essential operating equipment must be made;
   - Provision for fire protection and fire fighting including emergency plans, equipment and personnel must be made.

Vaporization of liquid gases utilizing fresh or marine water sources shall not be permitted unless such water is recycled. Release of process water to the coastal environment shall only be permitted upon demonstration that no significant environmental damage will result.

650 PROCESSING OF PETROLEUM PRODUCTS

650.0-1 FINDINGS:

A. Oil and gas refining share essentially similar characteristics in terms of site requirements, construction activities and operational impacts. Gas facilities, however, are typically considerably smaller with a consequent reduction in siting and operational impacts.

- Construction: Comparable to any major industrial construction project, construction activities would include excavation, clearing, operation of heavy equipment, noise and emissions over an extended time frame.

- Water use: Oil refineries in particular require considerable volumes of water for cooling and processing (between 5 and 12 million gallons/day for a 250,000 barrel/day facility). Cooling waters are discharged at elevated temperatures and may be contaminated with hydrocarbons, acids, and metallic compounds.

- Air emissions: Refineries are potential major sources of air pollutants including particulates, sulfur and nitrogen oxides, volatile hydrocarbons, hydrogen sulfide, and carbon monoxide. Even with best available technology emissions cannot be totally eliminated.

- Solid wastes: Toxic absorbents, oxides, scale, catalysts and sludge in large quantities are by-products of the refining process and their disposal can have major environmental impacts.

- Aesthetics: Refineries can be major visual intrusions due to size and around-the-clock operations.

- Land use: Refineries require large sites (between 1,000 and 1,500 acres for a 250,000 barrel/day oil refinery). Sites must be prime industrially serviced land. Siting may stimulate industrial growth in surrounding areas.

- Safety: The refining process involves the handling of highly toxic and flammable materials in large volumes. Appropriate safety precautions must be taken to contain these materials.

- Economic: Construction activity will have significant impacts on local employment opportunities for a limited period of time. Operational employment will vary with facility size, but will be much lower. Increased tax revenue will be generated. However, increased demands on public services - fire protection, water service, police, sewers, roads, schools and housing - should also be anticipated.

B. Siting of oil refineries and/or gas processing facilities in the Rhode Island coastal region is a management issue. It is unlikely that an oil refinery will be sited in Rhode Island. A gas processing facility, while more likely, would not be sited unless and until justified by production of OCS gas. These conclusions are based on the following factors:

- Environmental Impact Statements prepared on North Atlantic OCS lease sales indicate that oil will be refined at existing facilities in New Jersey.

- The Environmental Protection Agency has determined that siting of an oil refinery in Southeastern New England would have an unacceptable impact on air quality. It has publicly stated that it would not allow siting of major new emission sources including oil refineries in this area.

- Siting of gas processing facilities is dictated by pipeline routing. Since Rhode Island's ocean shoreline provides one likely landfall for an OCS gas pipeline, such facilities may be proposed. Construction should not be anticipated, however, until a pipeline is substantially completed, approximately 14 years after the first OCS lease sale.

650.0-2 POLICIES AND REGULATIONS:

See general permit and regulatory requirements (Section 610.2-2).

Chapter 7
Public and Governmental Participation

PUBLIC AND GOVERNMENTAL PARTICIPATION

FINDINGS:

A. Public and governmental participation is an essential element of the Rhode Island Coastal Resources Management Program.

- Public participation is necessary in all phases of program development and implementation. The most effective vehicle for participation is often different for each facet of the program.

- A variety of public participation programs ensures participation from the most diverse set of governmental bodies, interest groups and concerned individuals.

B. A traceable, open decision making process is critical if the public is to be a full partner in coastal management decisions.

- The Council has recognized the necessity for adopting formalized procedures which set forth the mechanisms through which public and governmental input can occur.

- All records on which regulatory decisions are made must be open to public inspection.

C. It is essential that the many groups and individuals with an interest in or who will be affected by the adoption of Council policies and regulations have the opportunity to participate in the development of such policies.

- Numerous mechanisms in addition to testimony at formal hearings can be used to encourage such participation. Such mechanisms include technical input, review of preliminary drafts, meetings, workshops and advisory committees.

D. Solving many of the complex issues facing the coastal region requires the cooperation and coordination of numerous state and federal agencies, municipal governments, private groups and individuals.

- Numerous state and municipal groups have adopted plans which are related to the use of the coastal region and its resources.
  . Opportunities exist for facilitating cooperation among these groups including staff interactions and workshops, the State Planning Council, the Council permit review procedures and the A-95 review process.

- Because of the significance of federal activities within Rhode Island's coastal region and the lack of an existing mechanism for effective state/federal cooperation on coastal issues, the Council finds that special coordinating efforts must be made with federal agencies with an interest in the Rhode Island coastal region.

E. A critical element in the effective implementation of coastal management plans and policies will be public awareness of the coastal environment, and the management issues relating to the coastal region.

- An informed public and a workable management program are synonymous.

- Numerous opportunities exist for increasing public consciousness of coastal issues including: media exposure, brochures and newsletters, exhibits, talks and audiovisual presentations, and public workshops.

- The Council finds it has a special responsibility to prepare Rhode Island's youngest citizens to deal intelligently and knowledgeably with the many coastal issues and decisions they will face as adults. Coastal awareness must be fostered in the state's schools at all levels.

POLICIES AND REGULATIONS:

A. It shall be the policy of the Council to promote the participation of federal, state and local governmental bodies, public and private organizations, and private citizens in the preparation of its plans, programs, policies and regulations.

B. The Council shall cooperate with other governmental agencies in all matters of mutual interest. The Council through its adopted procedures shall ensure a continuous flow of information among agencies in the development of its plans and studies before these are completed and adopted. The Council shall also solicit and consider the opinion of other agencies on any matter before the Council which significantly affects those agencies.

C. To ensure coordination between the Council and federal agencies, the Council has formed a Federal Advisory Committee. The purpose of the committee is to provide a forum for discussion and conflict resolution. The committee shall convene at least quarterly. Additional meetings will be held as necessary.

D. The Council shall work with local officials from Rhode Island's municipalities to facilitate the coordination of the Rhode Island Coastal Resources Management Program and local plans.

E. The Council finds that an open, traceable decision making process is essential for an effective coastal management program. The Council will therefore follow the procedures set forth in detail in Appendix B for all permit applications which come before it.

F. The Council finds that full participation by interested and/or affected groups is essential in the development of Council policies and regulations. The Council finds it can best foster such participation by adopting the following policies:

1. The Council will provide opportunities for public and governmental input in the development of its policies and regulations.
    a. The Council and its staff will consult with experts, professionals and interest groups in the preparation of technical reports upon which policies are based.
    b. Plans and reports upon which policies and regulations are based shall be made available to the public.
    c. The Council shall form advisory committees and hold meetings and workshops to formulate and discuss proposed policies as necessary.
2. The adoption of all policies and regulations by the Council will follow the procedures set forth in Appendix B.

G. The Council shall continue to sponsor public education programs. Such programs shall include:
- publication and widespread distribution of technical reports
- exhibits
- media releases
- quarterly newsletters (BRIEFINGS)
- a speakers bureau
- other activities that will foster public awareness
- special programs for senior citizens on coastal awareness, Rhode Island and offshore oil, and seafood consumer education.

H. The Council shall continue to sponsor educational activities for school age children. Such activities will include the preparation and dissemination of educational material, supplying speakers to school groups and sponsoring an annual essay contest.

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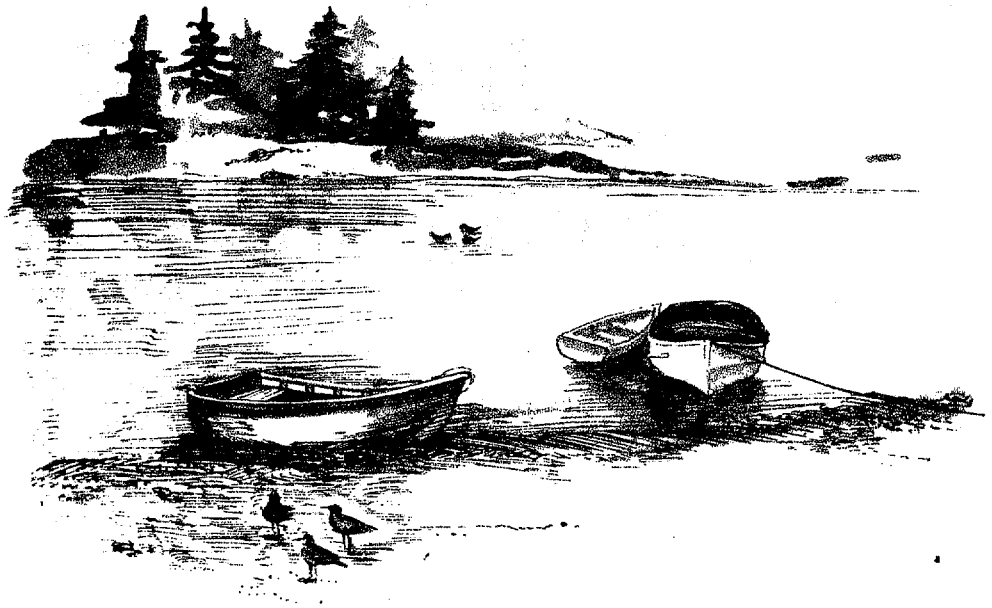

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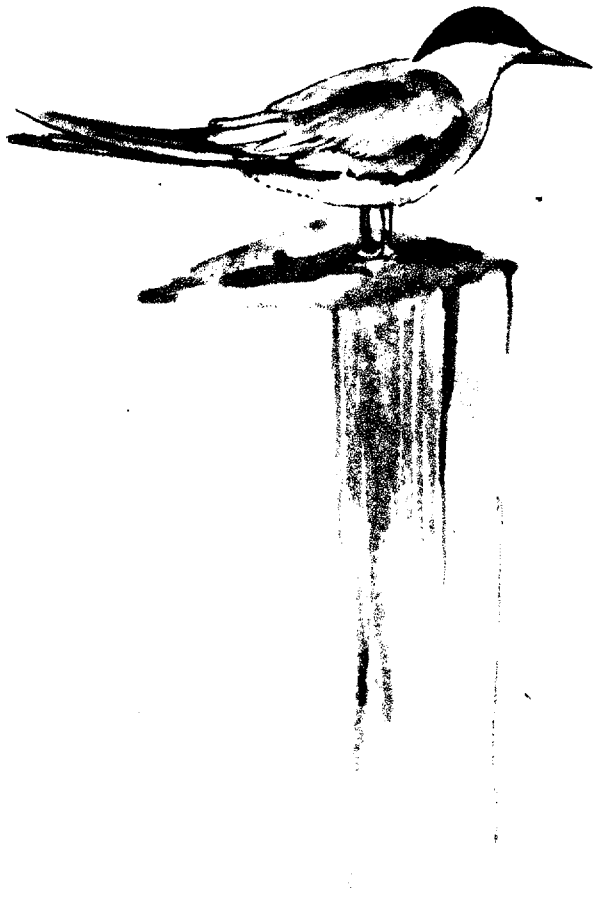
Appendices



APPENDIX A: LEGAL AUTHORITIES

I. Program Development, Organization and Implementation Authorities in Rhode Island

1.1 Legislative Findings:

In 1971 the General Assembly made four broad findings of issues and problems confronting the state's coastal region (46-23-1):

(1) The coastal resources of Rhode Island, a rich variety of natural, commercial, industrial, recreational, and aesthetic assets, are of immediate and potential value to the present and future development of this state.

(2) The sea and its adjacent lands are major sources of food and public recreation (and) are used by and for industry, transportation, waste disposal and other purposes.

(3) Unplanned and/or poorly planned development of this basic natural environment has already damaged or destroyed or has the potential for damaging or destroying the state's coastal resources and has restricted the most beneficial and efficient use of such resources.

(4) Demands on the state's coastal resources are increasing in number, magnitude and intensity.

The Rhode Island Coastal Resources Management Program derives its substance and direction from these findings, representing an effort to promote legislatively recognized values by addressing legislatively identified problems.

1.2 Legislative Goals:

In responding to its findings the Assembly went on to identify six basic goals for coastal resources management in Rhode Island (46-23-1):

(1) To preserve, protect, develop and where possible restore the state's coastal resources for this and succeeding generations.

(2) To provide adequate resource planning for the control and regulation of the use of natural resources and for the preservation, regeneration and restoration of the natural environment.

(3) To protect the social and economic well being of the people of Rhode Island.

(4) To protect the public health, safety and general welfare.

(5) To secure the rights of the people to the use and enjoyment of the natural resources of the state with due regard for the preservation of their values.

(6.) To allow the General Assembly to fulfill its duty to provide for the conservation of the air, land, water, plant, animal, mineral and other natural resources of the state.

These goals establish the Rhode Island program's central objective of directing resource use and development consistently with environmental preservation.

1.3 Legislative Policies:

The policies mandated by the Assembly to implement its goals for managing Rhode Island's coastal region, its resources and their use are of three basic types:

(1) Resource planning and program development policies;
(2) Organizational policies for implementing management plans and programs;
(3) Implementing policies and authorities.

(1) Resource Planning Policies:

These consist of specific technical/scientific, procedural and policy directives for evaluating the management requirements of coastal resources and for formulating appropriate management policies and use controls. Legislative policies regarding resource planning are set forth as follows under section 46-23-6 of the General Laws:

> 46-23-6 A. Planning and Management. The primary responsibility of the council shall be the continuing planning for and management of the resources of the state's coastal region. The council shall be able to make any studies of conditions, activities or problems of the state's coastal region needed to carry out its responsibilities.
>
> The resources managment process shall include the following basic phases:
>
> a) Identify all of the state's coastal resources, water, submerged land, air space, fin fish, shellfish, minerals, physiographic features, and so forth.

b) Evaluate these resources in terms of their quantity, quality, capability for use, and other key characteristics.

c) Determine the current and potential uses of each resource.

d) Determine the current and potential problems of each resource.

e) Formulate plans and programs for the management of each resource identifying permitted uses, locations, protection measures, and so forth.

f) Carry out these resources management programs through implementing authority and coordination of state, federal, local, and private activities.

g) Formulation of standards where these do not exist, and reevaluation of existing standards.

An initial series of resources management activities shall be initiated through this basic process; then each phase shall continuously be recycled and used to modify the Council's resources management programs and keep them current. Planning and management programs shall be formulated in terms of characteristics and needs of each resource or group of related resources. However, all plans and programs shall be developed around basic standards and criteria, including:

a) The need and demand for various activities and their impact upon ecological systems

b) The degree of compatibility of various activities

c) The capability of coastal resources to support various activities

d) Water quality standards set by the department of health

e) Consideration of plans, studies, surveys, inventories and so forth prepared by other public and private sources

f) Consideration of contiguous land uses and transportation facilities

g) Consistency with the state guide plan

The Council is directed by the General Assembly to plan for and manage the entire coastal region, not simply its marine or intertidal elements. There is an implicit legislative recognition that the marine and intertidal resources of the state can only be properly and effectively managed in a broader context. This context must incorporate lands whose use affects or is affected by proximity to coastal waters.

The legislature directed the Council to identify and evaluate all resources of the coastal region and to develop management plans and programs for the use and protection of each resource or group of related resources. This broad mandate reflects the breadth of legislative concern and recognition that individual resources cannot be effectively managed in isolation.

The legislature charged the Council to evaluate, make determinations regarding and manage coastal resources on the basis of the various factors enumerated under 46-23-6A, (a)-(d) and (a)-(g). The Council's charge to formulate management plans and programs which specify permitted uses and locations and necessary protection measures for these resources must consequently be exercised in this context. Since the legislature identified a wide range of specific management considerations and concerns, Council plans and management policies must address and respond to a correspondingly wide range of factors if they are to accurately reflect legislative intent.

(2) Organizational Policies:

In order to effectively implement its objectives regarding coastal management in Rhode Island the General Assembly set forth both general and specific organizational policies for the state's Coastal Resources Management Program.

General policies as set forth under section 46-23-1 of the General Laws are as follows:

1. (Legislative objectives shall be implemented) through comprehensive and coordinated long range planning and management designed to produce the maximum benefit for society from (the state's) coastal resources.

2. (Legislative objectives shall be achieved) by providing adequate resource planning for the control and regulation of the use of the natural resources of the state and for the preservation, regeneration and restoration of the natural environment of the state.

More specifically, the Legislature created the Coastal Resources Management Council as the state's lead coastal management agency:

> These (legislative) policies can best be achieved through the creation of a coastal resources management council as the principal mechanism for management of the state's coastal resources (46-23-1).

It set forth the Council's internal structure and procedures under sections 46-23-2-vet. seq. of the General Laws:

> 46-23-2. Coastal resources management council created - Appointment of members.--There is hereby created the coastal resources management council. The coastal resources management council shall consist of seventeen (17) members, two (2) of whom shall be members of the house of representatives, at least one (1) of said members shall represent a coastal municipality, appointed by the speaker, two (2) of whom shall be members of the senate each of whom shall represent a coastal municipality, appointed by the lieutenant governor, two (2) of whom shall be from the general public appointed by the speaker of the house for a term of two (2) years, two (2) of whom shall be from a coastal municipality appointed by the speaker of the house for a term of three (3) years. Four (4) appointed or elected officials of local government appointed by the governor, one (1) of whom shall be from a municipality of less than twenty-five thousand (25,000) population appointed to serve until January 31, 1972, one (1) of whom shall be from a coastal municipality of more than twenty-five thousand (25,000) population appointed to serve until January 31, 1973 and one (1) of whom shall be from a coastal municipality of less than twenty-five thousand (25,000) population appointed to serve until January 31, 1974 and one (1) of whom shall be from a coastal community of more than twenty-five thousand (25,000) population appointed to serve until January 31, 1975, said populations are to be determined by the latest federal census; all such members shall serve until their successors are appointed and qualified; during the month of January 1972 and during the month of January thereafter, the governor shall appoint a member to succeed the member whose term will then next expire for a term of four (4) years commencing on the first day of February then next following and until his successor is named and qualified; each such municipal appointment shall cease if the appointed or elected official shall no longer hold or change the office which he held upon appointment, and further, each such appointee shall be eligible to succeed himself. Three (3) members shall be appointed by the governor from the public, with the advice and consent of the senate, one (1) of whom shall serve until January 1, 1972, one (1) of whom shall serve until January 1, 1973 and one (1) of whom shall serve until January 1, 1974; said members and their successors shall represent a coastal community. All such members shall serve until their successors are appointed and qualified; during the month of January 1972 and during the month of January thereafter the governor shall appoint, with advice and consent of the senate, a member to succeed the members whose term will then next expire for a term of three (3) years commencing on the first day of February next following and until his successor is named and qualified. A member shall be eligible to succeed himself. No more than two (2) persons on said council shall be from the same community. Appointments shall first be made by the governor then by the lieutenant governor

and, then by the speaker. A vacancy other than by expiration, shall be filled in like manner as an original appointment but only for the unexpired portion of the term. The director of natural resources and the director of health shall serve ex officio.

In addition to the foregoing voting members, the council shall include a varying number of other members who shall serve in an advisory capacity without the right to vote and who shall be invited to serve by either the governor or the voting members. These advisory members shall represent the federal agencies such as the navy, coast guard, corps of engineers, public health service and the federal water pollution control administration and such regional agencies as the New England River Basins Commission and the New England Regional Commission and any other group or interest not otherwise represented. The council shall have authority to form committees of other advisory groups as needed from both its own members and others.

46-23-3. Qualifications of members.--Each appointed member of the council, before entering upon his duties, shall take an oath to administer the duties of his office faithfully and impartially, and such oath shall be filed in the office of the secretary of state.

46-23-4. Officers of the council; quorum and vote required for action.--The governor, upon the appointment of the appointed members of the council shall select from said appointed members a chairman and vice chairman. The council shall thereupon select a secretary from among its membership or staff. The council may engage such staff as it deems necessary. A quorum shall consist of nine (9) members of said council. A majority vote of those present shall be required for action.

46-23-5. Expenses of members.--The members of the council shall be paid fifty dollars ($50.00) per meeting as compensation and shall be reimbursed for their actual expenses necessarily incurred in the performance of duties.

46-23-12. Representation from coastal communities.--Upon the expiration of a term of a member appointed by the governor as an appointed or elected official of local government from a coastal municipality as set out in 46-23-2, the governor shall appoint an appointed or elected official of a coastal municipality which at the time of the governor's appointment has no appointed or ex-officio representation on said council.

The Council's staff was established within the Department of Natural Resources, but responsible through the Department Director (himself a Council member) to the Council:

> 42- 7.1-4. Within said department of natural resources there are hereby established the following divisions:
>
> d) A division of coastal resources which shall carry out those functions of the department relating to harbors and harbor lines, pilotage, flood control, shore development, construction of port facilities, and the registration of boats and such other functions and duties as may from time to time be assigned by the director, except that such division shall not be responsible for the functions of inspection of dams and reservoirs, approving plans for construction or improvement of dams, reservoirs and other structures in non-tidal waters, and the operation of stream-gauging stations in cooperation with the United States geological survey, and provided further that such division and its staff shall be responsible through the director of natural resources, to the coastal resources management council, and such chief and the staff of the division shall serve as staff to said council.

In setting forth specific standards for the Council's internal organization and membership the General Assembly provided for strong and direct municipal and public representation. While the Council is the state's principal coastal management agency, its membership is drawn predominantly from the general public and local government. By law only two of its seventeen voting members are state officials, while seven are citizen representatives, four are members of the legislature and four are municipal officials.

Creation of the Council's staff within the Department of Environmental Management and ex-officio membership on the Council of that Department's Director as well as the Director of the Department of Health ensures maximum coordination between the state's principal environmental management agencies.

(3) Implementing Policies and Authorities:

Under Title 46, Chapter 23, Section 1 of the General Laws the Assembly also set forth the central implementing objective of the state's coastal management program:

> Preservation and restoration of ecological systems shall be the primary guiding principle upon which environmental alteration of coastal resources will be measured, judged and regulated.

It then went on to prescribe the powers and duties the Council is charged to exercise in furtherance of this objective. These are of three fundamental types:

(1) Direct regulatory and management control over specified uses and areas;
(2) Coordination of federal, state, local and private actions in or affecting the Rhode Island coastal region;
(3) Administration of gifts, grants and donations.

1.4 Direct Council Management Responsibilities

Direct Council regulatory and management responsibilities, functions and authorities are set forth as follows in the General Laws:

> 46-23-6 A. Planning and Management. The primary responsibility of the Council shall be the continued planning for and management of the resources of the state's coastal region.
>
> 46-23-6 B. Implementation. The council is authorized to formulate policies and plans and to adopt regulations necessary to implement its various management programs.
>
> Any person, firm, or governmental agency proposing any development or operation within, above, or beneath the tidal water below the mean high water mark, extending out to the extent of the state's jurisdiction in the territorial sea shall be required to demonstrate that its proposal would not (1) conflict with any resources management plan or program; (2) make any area unsuitable for any uses or activities to which it is allocated by a resources management plan or program; or (3) significantly damage the environment of the coastal region. The council shall be authorized to approve, modify, set conditions for, or reject any such proposal.
>
> The authority of the council over land areas (those areas above the mean high water mark) shall be limited to that necessary to carry out effective resources management programs. This shall be limited to the authority to approve, modify, set conditions for, or reject the design, location, construction, alteration, and operation of specified activities or land uses when these are related to a water area under the agency's jurisdiction, regardless of their actual location. The council's authority over these land uses and activities shall be limited to situations in which there is a reasonable probability of conflict with a plan or program for resources management or damage to the coastal environment. These uses and activities are:
>
> (a) Power generating and desalination plants.
>
> (b) Chemical or petroleum processing, transfer, or storage.
>
> (c) Minerals extraction.

(d) Shoreline protection facilities and physiographical features, and all directly associated contiguous areas which are necessary to preserve the integrity of such facility and/or features.

(e) Coastal wetlands and all directly associated contiguous areas which are necessary to preserve the integrity of such wetlands. For the purpose of this chapter a coastal wetland shall mean any salt marsh bordering on the tidal waters of this state, whether or not the tidal waters reach the littoral areas through natural or artificial water courses, and such uplands directly associated and contiguous thereto which are necessary to preserve the integrity of such marsh. Marshes shall include those areas upon which grow one or more of the following: Smooth cordgrass (Spartina alterniflora), salt meadow grass (Spartina patens), spike grass (Distichlis spicata), black rush (Juncus gerardi), saltworts (Salicornia spp.), sea lavender (Limonium carolinianum), saltmarsh bulrushes (Scirpus spp.). high-tide bush (Iva frutescens), tall reed (Phragmites communis), tall cordgrass (Spartina pectinata), broadleaf cattail (Typha latifolia), narrowleaf cattail (Typha angustifolia), spike rush (Eleocharis rostellata), chairmaker's rush (Scirpus americana), creeping bentgrass (Agrostis palustris), sweet grass (Hierochloe odorata), wild rye (Elymus virginicus).

(f) Sewage treatment and disposal and solid waste disposal facilities.

46-23-6 D. Operations. The council shall be authorized to exercize the following operating functions, which are essential to management of coastal resources:

a) Issue, modify or deny permits for any work in, above, or beneath the areas under its jurisdiction, including conduct of any form of aquaculture.

b) Issue, modify or deny permits for dredging, filling, or any other physical alteration of coastal wetlands and all directly related contiguous areas which are necessary to preserve the integrity of such wetlands.

c) Grant licenses, permits and easements for the use of coastal resources which are held in trust by the state for all its citizens, and impose fees for private use of such resources. (Section 46-23-16 states that "The Council is authorized to grant permits, licenses and easements for any term of years or in perpetuity.")

d) Determining the need for and establishing pierhead, bulkhead, and harbor lines.

e) Developing, leasing, and maintaining state piers and other state-owned property assigned to the agency by the department of natural resources, the governor or the general assembly.

f) Investigating complaints alleging violations of state laws or riparian rights in the state's tidal waters.

46-23-6 E. Rights of way: The council shall be responsible for the designation of all public rights of way to the tidal water areas of the state, and shall carry on a continuing discovery of appropriate public rights of way to the tidal water areas of the state.

The council shall maintain a complete file of all official documents relating to the legal status of all public rights of way to the tidal water areas of the state.

The council shall, subject to the provisions of chapter 6 of title 37 of the general laws, as amended, have the power to designate for acquisition and development by the Department of Natural Resources land for tidal rights of way, parking facilities and other council related purposes.

In conjunction therewith every state department controlling state owned land close to or adjacent to discovered rights of way is authorized to set out such land, or so much thereof as may be deemed necessary for public parking.

46-23-17. Annual progress report on rights of way.--Within ninety (90) days after the end of each fiscal year, the council shall submit a written progress report on the development of public rights of way to the tidal water areas of the state to the state planning council, the department of natural resources, and the joint committee on the environment for review, evaluation and recommendation of the program's suitability, relevance to the recreation element of the state guide plan and impact on the natural resources of the state. The report shall also provide detailed records of expenditures and a proposed schedule of future projects.

46-23-7. Violations.

a) In any instances wherein there is a violation of the coastal resource management program or a violation of regulations or decisions of the council, the council shall have the power to order the violator to cease and desist or to remedy such violations. For the purposes of this section any development, operation, alteration or construction undertaken in any area under the council's jurisdiction as set forth in this chapter, without a valid permit of this council, shall be deemed to be a violation of a regulation or order of this council.

If the violator does not conform to the council's order then the council, through its chairman, may bring prosecution by complaint and warrant, and such prosecution shall be made in the district court of the state.

The chairman without being required to enter into any recognizance or to give surety for cost, may institute such proceedings in the name of the state. It shall be the duty of the attorney general to conduct the prosecution of all such proceedings brought by the council.

The chairman may delegate his authority to bring prosecution by complaint and warrant to such numbers of conservation officers as he may deem necessary, and said conservation officers shall not be required to enter into any personal recognizance or to give surety for cost.

The division of enforcement shall enforce the laws and regulations of the council and to this end:

(1) Verbal cease and desist orders may be given by conservation officers after it has been determined that no valid permit under this chapter exists.

(2) Conservation officers, council members and council staff shall have authority to enter on private land to investigate possible violations of this chapter

b) The chairman, at the direction of the council, may obtain relief in equity or by prerogative writ whenever such relief shall be necessary for the proper performance of the council's duties hereunder. The superior court shall have the jurisdiction in equity to enforce the provisions of this chapter and any rule or regulation or order made by the council in conformity therewith. Proceedings under this section shall follow the course of equity and shall be instituted, and prosecuted in the name of the chairman and council by the attorney general, but only upon the request of the chairman, at the direction of the council.

c) Any person in violation of an order of the council shall be guilty of a misdemeanor and upon conviction thereof shall be fined not more than three hundred dollars ($300) or shall be imprisoned for not exceeding three (3) months, or both so fined and imprisoned for each such offense; and each day such violation, omission, failure or refusal continues shall be deemed a separate offense.

d) The chairman or vice chairman of the council is hereby empowered to apply to any court of competent jurisdiction for an injunction to prevent the unlawful posting or blocking of any tidal water public right of way.

46-23-9. Subpoena. The Council is hereby authorized and empowered to summon witnesses and issue subpoenas.

46-23-13. Application and hearing fees. The council shall be authorized to establish reasonable fees for applications and hearings.

46-23-14. Expert testimony. The council shall be authorized to engage its own expert and outside consultants and the council shall be empowered to use such testimony in making its decision.

To enable the Council to implement its mandated responsibilities as the state's "principal mechanism" for management of the resources of the coastal region the legislature vested it with requisite regulatory and permitting authorities to achieve this goal.

At the state level, the Council has clear and final regulatory and permitting authority over all uses and activities within, above or beneath the tidal waters of the state. Specific legislative burdens of proof for applicants proposing developments or operations within this area are set forth. These broadly defined burdens are incorporated into the Coastal Resources Management Program through the more specific burdens and considerations contained in Council Policies and Regulations.

The legislature further charged the Council to plan for and manage the resources of the entire coastal region and uses and activities which impact those resources. It identified six types of use, activity and natural resource (see 46-23-6 B (a)-(f), above) over which the Council was charged to implement its management responsibilities through regulations and permits. These were found to be of such immediate and vital importance to effective coastal management that direct Council control was necessary wherever there existed a reasonable probability of conflict with Council Management Policies pertaining to the coastal region or of damage to its environment. Upon finding such a reasonable probability the council is authorized and directed to modify, set conditions for or reject the proposal in question.

1.5 Coordinating Responsibilities:

Coordinating relationships between the Council as the state's principal coastal management agency and other units and levels of government are set forth under sections 46-23-6 and 10 of the General Laws:

46-23-6 A (f). (The Council shall) carry out these (its) management programs through implementing authority and coordination of state, federal, local and private activities.

46-23-6 C. Coordination. The council shall have the following coordinating powers and duties:

a) Functioning as a binding arbitrator in any matter of dispute involving both the resources of the state's coastal region and the interests of two (2) or more municipalities or state agencies.

b) Consulting and coordinating actions with local, state, regional and federal agencies and private interests.

c) Conducting or sponsoring coastal research.

d) Advising the governor, the general assembly, and the public on coastal matters.

46-23-10. Cooperation of departments. All other departments and agencies and bodies of state government are hereby authorized and directed to cooperate with and furnish such information as the council shall require.

To ensure full and effective implementation of resources management plans and programs for the entire coastal region the legislature empowered and directed the Council to coordinate the activities of state, regional, federal and local agencies as these relate to and affect coastal resources (see 46-23-6 (A), (f) as referenced above). To enable the Council to implement this responsibility in an effective and expeditious manner the legislature has further directed all other departments, agencies and bodies of state government to cooperate with the Council. The clear intent implicit in these related charges is to insure the coordinated and consistent planning for and management of the resources of the state's coastal region cited by the legislature as the principal objective of coastal management in Rhode Island through the vehicle of a lead management agency (the Council) with whose duely promulgated plans and policies all agencies of state government are mandated to cooperate. Cooperation, to be effective in the manner envisioned by the legislature, therefore, requires these other agencies to exercise their respective planning, regulatory, permitting and/or management functions in a manner consistent with Council Policies and Regulations as set forth in the Coastal Resources Management Program.

To ensure such consistency and to achieve the legislature's goal of "comprehensive and coordinated long range planning and management" the Council has sought and received as is indicated in its Findings the voluntary cooperation and advice of its sister agencies during its five years of existence. It has further established, again as described in Findings, procedures for Council review of agency actions in or affecting the coastal

region for consistency with the Coastal Resources Management Program. Such actions include relevent developments, plans, regulations, permits and management programs. In the event that the above review reveals an inconsistent action or proposed action or a disagreement between two or more state and/or local agencies affecting the state's coastal resources the Council is charged by specific legislative mandate under its coordinating and binding arbitration powers to direct the involved agency or agencies to correct the inconsistency or to resolve the disagreement in a manner consistent with adopted Management Policies.

The Council is authorized by the legislature to initiate consulting and coordinating actions with local government and charged to coordinate the activities of local government in or affecting the coastal region and its resources. It is further charged to consider public plans among the other factors enumerated under 46-23-6(A) in developing coastal resources management plans and programs. The Council has found that the majority of actions undertaken by local governments pursuant to presently adopted comprehensive plans and zoning ordinances are of purely local concern and do not conflict with Policies and Regulations set forth in the Coastal Resources Management Program. However, the Council further finds that certain local actions and land use decisions by their nature, size or consequences are, or may be, of more than local significance for purposes of the comprehensive and coordinated long range management of coastal resources. In enacting Title 46, Chapter 23 the legislature set forth clear standards for identifying such actions. They:

a) are inconsistent with water quality standards set by the Department of Health; or

b) are inconsistent with the State Guide Plan; or

c) involve tidal waters below the mean high water mark or any of the six specific land uses or areas identified under 46-23-6 B (a) - (f); or

d) conflict with plans or programs for management of coastal resources; or

e) make an area unsuitable for uses or activities to which it is allocated by such a plan or program; or

f) cause significant damage to the environment of the coastal region.

Where a reasonable probability exists that any of the above consequences will result the legislature has provided for intervening and overriding state action in any of the following forms:

a) Council permitting actions under 46-23-6 B and D;

b) regulatory, permitting or management actions by other state agencies directed by legislative mandate to exercise these actions consistently with Council plans and programs for coastal resources management;

c) mandatory municipal conformity with applicable state plans or elements thereof as contained in the State Guide Plan (Title 45, Chapter 22).

1.6 Administration of Grants:

Grant and gift administering authorities, the final area of Council responsibility prescribed by legislative action, are as follows:

46-23-8. Gifts, grants and donations. The council is authorized to receive any gifts, grants or donations made for any of the purposes of its program, and to disburse and administer the same in accordance with the terms thereof.

46-23-15. Federal and interstate relations. The council is authorized to accept any federal grants. It is further given the power to administer land and water use regulations and to acquire fee simple and less than fee simple interests under any federal or state program. The council (is) authorized to coordinate and cooperate with other states in furtherance of its purposes. The council may expend such grants and appropriations.

2. RELEVANT CONSTITUTIONAL PROVISIONS AND JUDICIAL DECISIONS RELATING TO COASTAL ZONE MANAGEMENT PROGRAM IN RHODE ISLAND

The State of Rhode Island has long since constitutionally guaranteed its citizens use and enjoyment of the shore. This is expressed in Article I, Section 17 of the Rhode Island Constitution. On November 3, 1970 the General Assembly adopted Article 37 of the Rhode Island Constitution which expanded public rights to the shore and the state's other natural resources:

> ARTICLE XXXVII - CONSERVATION
>
> SECTION.
> 1. Preservation of natural resources
>
> §1. Preservation of Natural Resources - Article I, § 17 of the state constitution is hereby amended by striking out this said section as it now appears and inserting in place thereof the following new section:
>
> "§17. The people shall continue to enjoy and freely exercise all the rights of fishery, and the privileges of the shore, to which they have been heretofore entitled under the charter and usages of this state; and they shall be secured in their rights to the use and enjoyment of the natural resources of the state with due regard for the preservation of their values; and it shall be the duty of the general assembly to provide for the conservation of the air, land, water, plant, animal, mineral and other natural resources of the state, and to adopt all means necessary and proper by law to protect the natural environment of the people of the state by providing adequate resources planning for the control and regulation of the use of the natural resources of the state and for the preservation, regeneration and restoration of the natural environment of the state."

Constitutionality of the Rhode Island Coastal Resources Management Program: Article 37 demonstrated an enhanced awareness of and concern for the preservation and conservation of the state's natural resources. This awareness and the expanded legislative responsibilities entailed in Article 37 subsequently reflected themselves in the 1971 creation of the Coastal Resources Management Council as the principal mechanism for comprehensive and

coordinated long range planning and management of the State's coastal resources. The Coastal Resources Management Council Act (46-23, G.L.R.I.) has been held to be constitutional by the Superior Court of the State of Rhode Island (Nancy B. Filmore vs. John Lyons, et al., Providence Superior Court C.A. No. 73-2373, Decision by Bulman, J. dated June 5, 1974, citing decision by Carralas, J., Nancy B. Filmore vs. John Lyons).

The State Supreme Court as the highest judicial authority within the State of Rhode Island has yet to issue any decision involving the Coastal Resources Management Council although a case is now pending (East Greenwich Yacht Club vs. Coastal Resources Management Council, 75-190 MP; 75-280 MP). This matter was heard on oral arguments on March 7, 1977 and is presently awaiting decision. However, substantive issues of constitutionality, legislative delegation and authority of the Coastal Resources Management Council were not briefed nor were they raised before the Court, the issue rather involving Council procedures.

Since the Supreme Court has not addressed itself to the Coastal Resources Management Council's enabling legislation, one must look to Superior Court rulings on substantive issues concerning the Coastal Resources Management Council and related statutes. The case of J.M. Mills, Inc. vs. Dennis Murphy, Director of the Department of Natural Resources, ____ RI ____ (1976); 352 A.2nd 661, specifically upheld the Rhode Island Fresh Water Wetlands Act as a valid delegation of Legislative Power not in violation of the Rhode Island Constitution nor in violation of the equal protection and due process clause of the 14th Amendment to the U.S. Constitution.

The dicta in the Mills case also alludes to proper delegation by the Legislature for regulation of salt water wetlands; an authority specifically vested in the Coastal Resources Management Council (46-23-B, G.L.R.I.). The Court, in addressing the Coastal Wetlands Act, which is the forerunner of the Coastal Resources Management Council's enabling legislation, specifically stated that:

> "The Coastal Wetlands Act envisions affirmative action on the part of the Department of Natural Resources to the end of establishing a state wide plan for protection of wetlands...the difference (between the Coastal Wetlands Act and the Fresh Water Wetlands Act) overall approach is susceptible to a variety of reasonable explanations; the greater development pressures on coastal wetlands suggest a need for immediate State action where the situation regarding fresh water wetlands might facilitate centralized action while almost exclusively private ownership of fresh water wetlands would tend to hinder such an approach; the probable interdependence and interaction of coastal wetlands could necessitate unitary State action while the more random pattern of fresh water wetlands might thwart such an attempt.: Mills vs. Murphy, (Supra) at page 668.

Further, Mr. Justice Kelleher in his partial dissent and partial concurrence specifically state in the Mills case, "It is obvious that (the Freshwater Wetlands Act) is a manifestation of the General Assembly's concern for a property owner whose interest must give way to the public interest and the preservation of the environment" (Mills (Supra) at 674).

In a Superior Court case entitled Charles Trefes vs. Edward Hayes, Director of the Department of Natural Resources, C.A. No. 72-1610, dealing directly with the Intertidal Salt Marsh Act (11-46 .1-1 G.L.R.I.) which is a direct predecessor to a portion of the Coastal Resources Management Act, the court specifically stated,

> "The General Assembly has declared in Title 11, Chapter 46.1-1 that salt marshes are necessary to both finfish and shellfish to flourish if the constitutional right of fishery is to be enjoyed by our people. To give effect to this constitutional right, it is within the police power of the state to regulate the filling of such marshes and to prescribe a penalty for the violation of such regulations. (Citing, J.M. Mills, Inc. vs. Murphy, 352 A. 2d 661 (1976)) ... It is the opinion of the Court that the legislature, notwithstanding the delegation of any other power or duty to the defendent, may properly provide a penalty for an unpermitted filling of an intertidal salt marsh so long as the landowner's rights of due process are in some fashion preserved." Decision - Trefes vs. Hayes, C.A. No. 72-1610, Giannini, J. Page 4.

The Council has promulgated specific regulations dealing with intertidal salt marshes which require permits prior to and set standards for alteration thereof. These regulations will continue and be modified to apply to all coastal wetlands as of July 1, 1977.

The Taking Issue: The Council in promulgating various regulations pertaining to areas under its direct regulatory control has often been faced with "the taking issue." Our Supreme Court has stated in an analogous case involving pollutants being introduced into public waters that:

> "Eminant domain applies only to a taking and not a regulation with use of private property. There is sometimes a nice distinction between the two but in this instance the distinction is plain. There is not taking of private property involved. The right to pollute public waters and endanger public health cannot be acquired as a private property right. Neither a town nor an individual can acquire prescriptive right to endanger public health by discharging sewage into public waters ... (The law prohibiting pollution of public waters) relates to the exercise of police power and neither a municipal corporation nor an individual can validly protest that the carrying of

> the act into effect imposes a greater cost upon it or him than upon someone else, if the act can be fairly considered to be in protection of the public health and welfare." Board of Purification of Water vs. East Providence, 47 R.I. 431 at 435.

In light of the reasoning in the East Providence case as well as in light of decisions in sister jurisdictions, the Council in promulgating regulations has actively and emphatically weighed all relevant issues. Where finding that an activity subject to these regulations could harm the public and need therefore exists to restrain the injurious private action, then and only then has the Council sought to prohibit this action. See Sibson vs. New Hampshire, NH (1975); 336 A.2d 339 which specifically states, "An owner of land has no absolute and unlimited right to change the essential, natural character of his land so as to use it for a purpose for which it was unsuited in its natural stand and which it injures the rights of others." Also see Just vs. Marinette County, 56 Wisconsin 2nd 7, 201 Northwest 2nd, 7 61 (1972); Candlestick Property, Inc. vs. San Francisco Bay Conservation Development Commission, 11 Cal. App. 34d, 557, 89 Cal. Reporter 38; (1970).

In the case of Sherman vs. The Coastal Resources Management Council, Superior Court C.A. No. 72-1890, Mr. Justice Lagueux in his decision of remand back to the Coastal Resources Management Council has in dicta stated that the Council in applying original barrier beach regulations dated 1972 retroactively to plaintiff's land denied the plaintiff the right to construct a summer home and was in effect taking for public purpose without just compensation. The Superior Court Justice went on to state that an inverse condemnation problem existed in this case in that there was a showing made by the owner that he was deprived of all reasonable, beneficial use of the property by application of the regulation. This case has not been appealed to the Supreme Court by the Council for the reason that the regulation addressed by the Superior Court Judge in that decision was extensively revised, rewritten and duly adopted by the Council some months prior to the decision in the Sherman case. The Barrier Beach Regulations presently in force for developed beaches do not flatly prohibit building but they specifically set forth certain areas of these very fragile complexes upon which building will be prohibited. Further, these revised regulations are based on Findings of Fact that indicate specific harm to the general public which would result if prohibited alterations were permitted. These revised barrier beach regulations have not been addressed by any court of law. The Council, however, feels confident that they will be upheld if challenged.

Seaward Jurisdiction: As was previously set forth, the Council's jurisdiction over water areas extends from the mean high water mark seaward to the limits of the territorial sea. It is well settled law in the State of Rhode Island that the State holds legal fee to all lands below mean high water mark at common law (Allen vs. Allen, 19 RI 114; Ings vs. Peckham, 11 RI 210; Brown vs. Godder, 13 RI 76; Nugent vs. Valone, 91 RI 145). This right of the State is held by virtue of its sovereignty in trust for all the inhabitants. The public rights secured by this trust are the rights of passage of navigation and of fishery to extend to all land below high water unless the land has been so used, built upon or occupied as to prevent passage of boats in a natural ebb and flow of tide. This area of law clearly sets forth the State's right to regulate the water area over which the Council has direct regulatory jurisdiction.

Other Relevant Legal Actions: Of the remaining court cases which are pending or have been decided by the Superior Court of the State, none address substantive issues dealing with constitutional provisions, Council authority or delegation of authority set forth in the enabling legislation of the Council. Of the thirty (30) or so cases which have been before the Superior Court of the State of Rhode Island involving the Coastal Resources Management Council since the Council's inception approximately seven (7) have been remanded to the Council for procedural defects. The majority of these cases remanded dealt with specific decisions on applications rendered by the Council which were not supported by the requisite probative evidence required under the Rhode Island Administrative Procedures Act. These cases were remanded back to the Council for further findings. The remaining cases have either been dismissed voluntarily by agreement of the parties or are still pending in the courts of this State. Approximately seven to ten of the voluntarily dismissed cases were voluntarily remanded back to the Council by agreement of the parties in that new regulations had been adopted by the Council which would substantively effect the prior decisions on appeal.

Summary: There is little law on point dealing directly with the Council's enabling legislation. However, there exists sufficient law on analagous legislation both in Rhode Island and sister jurisdictions to give the Council guidance in its rule making process. Although some early Council decisions led the courts to find procedural faults in the handling of individual applications, these procedures have been extensively revised and reviewed in light of these decisions (see Procedures in Appendix B of this document). Several court decisions further relate to the fact that the Council in its early days of operation enforced regulations absent of an overall management plan or program as required by its enabling legislation. Such plans and programs have now been promulgated by the Council as required by State law and are the subject matter of Federal approval under Section 306 of the Coastal Zone Management Act of 1972. These plans and programs (see Chapters 1-6) set forth the basis upon which individual Council decisions will be made for review both by interested citizens or reviewing courts.

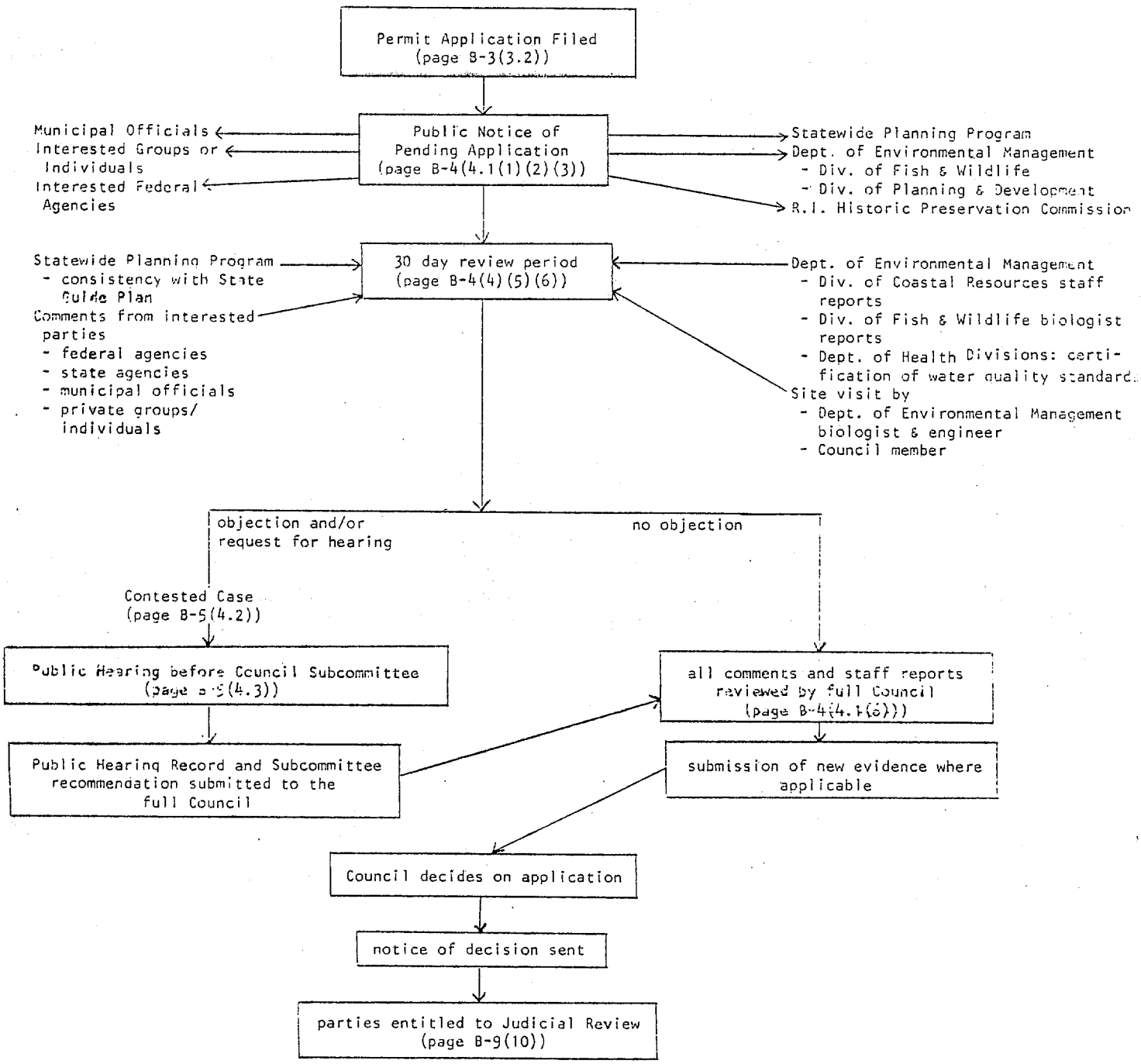
APPENDIX B: MANAGEMENT PROCEDURES

Procedures for processing applications for Council permits are set forth in this Appendix. The path of an application from the time of submission to the time of Council action is illustrated in Figure B-1. The application process can be expected to take about 45 days if the case is uncontested. Contested cases will take longer, the amount of time being proportional to the complexity of the case.

All staff reports and comments on any permit application are part of the public record and as such may be reviewed by any interested party. The Council's staff, (the Division of Coastal Resources, Department of Environmental Management) assists potential applicants in the preparation of their application when possible and appropriate.

Figure B-1

CRMC PERMIT APPLICATION PROCEDURES



1. Definitions

1.1 Agency: includes boards, commissions, departments or officers thereof other than the legislature or the courts authorized by law to make rules, determine contested cases or issue permits.

1.2 Contested case: means a proceeding in which the legal rights, duties or privileges of a specific party are required to be determined by the Council after an opportunity for hearing. A proceeding before the Council shall be considered contested when a formal written objection and/or request for hearing is received by the Council from any interested party. Further, a proceeding shall be considered contested upon request for hearing by any member of the Council.

1.3 License: includes the whole or part of any agency permit, certificate, approval, registration, charter or similar form of permission required by law, but it does not include a license required solely for revenue purposes.

1.4 Licensing: includes the agency process respecting the grant, denial, renewal, renovation, suspension, annulment, withdrawal or amendment of a license.

1.5 Parties: A person, agency or organization is a party to a proceeding before the Council if:

(1) he or it is entitled to the status of a party under 42-35-1 of the General Laws or any other provision of law; or

(2) upon application for leave to intervene, he or it is allowed to do so by the Council on the ground that

(a) such applicant is entitled by law to the status of a party; or
(b) such applicant could have been a complainant in such proceeding; or
(c) such applicant has a complaint or a defense which has a question of law or fact in common with the main proceeding; provided that an application by an applicant described in (2) or (3) shall be subject to the discretion of the Council.

1.6 Person: means any individual, partnership, corporation, association, governmental subdivision, or public or private organization of any character other than an agency.

1.7 Rule: means each agency statement of general applicability that implements, interprets, or prescribes law or policy or describes the organization, procedure, or practice requirements of any agency. The term includes the amendment or repeal of a prior rule, but does not include (1) statements concerning only the internal management of an agency and not affecting private rights or procedures available to the public, or (2) declaratory rulings issued pursuant to 42-35-8, or (3) intra-agency memoranda.

1.8 Council: means the Rhode Island Coastal Resources Management Council or, when the context permits, to individual members, subcommittees, its staff, agents or employees.

1.9 Council Office: refers to the offices of the Council at the Division of Coastal Resources, Department of Natural Resources, 83 Park Street, Providence, Rhode Island or any such address as may from time to time be the location of the principal office of the Council.

1.10 Council meeting: means any meeting of the full Council or a subcommittee.

1.11 Priority of Use: as used in the Council shall reflect the Council's assessment of those uses deemed most likely to be consistent with adopted Council Policies and Regulations. However, all applications shall be reviewed on their individual merits and designation as a high priority use shall not in any manner relieve an applicant for such a use or activity of any burden of proof set forth under applicable Council Policies and Regulations.

2. Meetings

The Council shall meet on the second Tuesday of each month or at the call of the Chairman or Vice-Chairman. A quorum consists of nine members. A majority vote of those present is required for action. The Council is divided into subcommittees with varying functions as approved by the Council and as set out by the Council in authorizing such subcommittees. All meetings of the Council shall be open to the public and the public shall have a reasonable opportunity to be heard.

The Council shall have subcommittees for hearings as appointed by the chairman.

3. Application for Council Permits

3.1 Proposed actions requiring a Council permit:

(1) All developments or operations within, above or beneath tidal waters below the mean high water mark extending out to the extent of the state's jurisdiction in the territorial sea.

(2) The design, location, construction alteration of:

(a) Power generating and desalination plants;
(b) Chemical or petroleum processing, transfer or storage facilities;
(c) Minerals extraction facilities;
(d) Shoreline protection facilities;
(e) Sewage treatment and disposal (see Page 131) and solid waste disposal facilities whether residential, municipal or industrial;

where the Council finds a reasonable probability of conflict with adopted Management Regulations and Policies or damage to the coastal environment.

(3) Alteration of shoreline physiographical features or coastal wetlands and all directly associated contiguous areas thereto necessary to preserve the integrity of said wetland.

3.2 Information requirements, application forms and fees:

(1) Application forms (CRMC 8-1/74) may be obtained from the Coastal Resources Division, 83 Park Street, Providence, Rhode Island 02903 or by calling (401) 277-2476.

(2) An application checklist/instruction sheet will be forwarded to each applicant together with required forms.

(3) Applicants must complete two (2) forms and return them together with a $35.00 processing fee to the Coastal Resources Division.

(4) Applicants shall be required to obtain and certify that they have in their possession current approvals from municipal bodies which are otherwise required for the proposed action. Municipal approval shall be construed to mean compliance and conformity with all applicable comprehensive plans and zoning ordinances and/or the necessary variance, exception or other special relief therefrom.

Applicants shall further be required to obtain and certify that they have in their possession current approvals from all other agencies os state government which are otherwise required for the proposed action.

The above required municipal and state approvals shall be construed as a prerequisite for any application before the Council. The Council may, in its sole discretion, wave any of the required approvals for good cause or in the event the proposal is of more than purely local concern.

4. Notification and Review of Permit Applications

4.1 Notification

(1) Upon receipt of complete applications including necessary plans and attachments thereto which meet all the prerequisites of the Council as set forth herein, the Council shall cause to place public notice of the pendency of said application and a brief description of the proposed activity.

(2) Public notice shall be sent to appropriate municipal agencies in the area or areas so affected by the activity, appropriate quasi-municipal and state agencies which may be affected by the proposed activity, appropriate citizen interest groups, as well as state and local officials in the area or areas of the proposed activity.

(3) It further shall be the policy of this Council that anyone interested in receiving notice of the pendency of any application or matter pending before this Council which would be the subject matter of this notification procedure, request to the Council in writing his desire to receive such notification. This request may address itself to receipt of notification of a single application, a group of applications affecting an area or subject matter or a general request of notifications of all applications and/or matters subject to notification procedure, pending before the Council.

(4) The date of this notification shall commence a thirty (30) day comment period whereby comments concerning the application shall be received by the Council.

(5) In the event that during this thirty (30) day period formal written objection and/or request for hearing is received by the Coastal Resources Management Council from an interested party and said formal written objection and/or request for hearing is substantiated by genuine and material reason therefore, the matter shall then become a contested case under the rules and regulations of this Council.

(6) Upon the expiration of the thirty (30) day period, the Council shall consider the application including staff reports and recommendations thereon, reports and recommendations from other state and local agencies thereon,and comments thereon.

(7) The Council shall further investigate and review the site of the proposed activity through one or more of its own members.

(8) Thereafter, before a meeting of the Council, the application shall be considered and acted upon.

4.2 Contested Cases

(1) In the event an application or matter pending before this Council becomes a contested case as defined herein, the Council shall then schedule a public hearing before a duly authorized and appointed Sub-Committee on the matter.

(2) Notice of this public hearing shall be in conformity with Title 42 Chapter 35 of the General Laws of the State of Rhode Island to insure all parties be afforded an opportunity to be heard.

4.3 Hearings

(1) Hearings required or permitted shall be conducted in accordance with appropriate rules of law and these rules and regulations. Hearings may be before a duly appointed subcommittee or before the Council as a whole, as designated by the Chairman in his sole discretion.

(2) In the case of hearings before a duly appointed subcommittee, the full hearing shall be before such subcommittee. A record shall be kept as provided herein. The subcommittee shall then report its recommendations to the full Council. The record shall be available to the full Council and all parties of record. After the subcommittee recommendation is formally submitted to the full Council, parties may request to be heard before the full Council. Said requests shall be in writing at least seven (7) days prior to the full Council meeting, setting forth the reason why the interested party feels they should be heard before the Council and a brief description of the type of evidence and/or matters to be covered by the interested party.

(3) Upon hearing all of the facts and reviewing the record in its entirety, the Council shall render its decision in accordance with Chapter 42-35 of the General Laws.

(4) In any contested case, all parties shall be served with such notice as may be provided for by law, or, in the absence of such provision, as may be ordered by the Council.

(5) In the event formal withdrawal of pending written objection(s) to a contested matter is received and/or requested by the objector and/or interested party or representive, it shall be within the sole discretion of the Council to withdraw the matter as a contested case.

4.4 Pleadings

(1) Forms. All pleadings (including complaints, answers, motions and petitions) shall be on white paper, 8 1/2" x 11" in size.

(2) Filing. Whenever a pleading or other document or paper is required to be filed with the Council, it shall be filed in quadruplicate.

(3) Pleading. Any person (including the Council) filing a pleading complaint or other document shall adhere to the following form for such purpose:

At the top of the page shall appear the wording "Before the Rhode Island Coastal Resources Management Council." On the left side of the page below the foregoing shall be set out: "In the Matter of (name of applicant)." Opposite the foregoing shall appear the type of pleading offered or other properly labeled title.

The body of the pleading or other document shall be set out in numbered paragraphs which (1) identify the parties by name and address and (2) concisely state the facts which form the basis for the pleading or other pleading or documentation.

All pleadings (except those filed by and in the name of the Council) shall be in writing and sworn to.

Upon the filing of an application and/or complaint the Council, if it has not already done so, shall assign a file number or docket number to the proceeding and shall enter said number on the original of the pleading.

4.5 Consolidation; Separate Hearings

(1) When matters involving a common question of law or fact are pending before the Council, it may order a joint hearing of any or all the matters at issue in the proceedings; it may order all the proceedings consolidated; and it may make such orders concerning proceedings therein as may tend to avoid unnecessary costs or delay.

(2) The Council, in furtherance of convenience or to avoid prejudice, may order a separate hearing of any matters or allegation against any person or of any separate issue.

4.6 Prehearing Conference Rule

(1) In any proceeding the Council upon its own motion, or upon the motion of one of the parties or their qualified representatives, may in its discretion direct the parties or their qualified representatives to appear at a specified time and place for a conference to consider:
   (a) the simplification of the issues;
   (b) the necessity of amendments to the pleadings;
   (c) the possibility of obtaining stipulations, admissions of facts and of documents;
   (d) the limitation of the number of expert witnesses;
   (e) such other matters as may aid in the disposition of the proceedings.

(2) The Council shall make an order or statement which recites the action taken at the conference, the amendments allowed to the pleadings or application and the agreements made by the parties or their qualified representatives as to any of the matters considered, including the settlement or simplification of issues, and which limits the issues for hearing to those not disposed of by admissions or agreements; and such order or statement shall control the subsequent course of the proceeding unless modified for good cause by subsequent order.

4.7 Submission of Documentary Evidence in Advance

When practicable the Council may require:

(1) That all documentary evidence which is to be offered during taking of evidence be submitted to the Council and to the other parties to the proceeding sufficiently in advance of such taking of evidence to permit study and preparation of cross-examination and rebuttal evidence.

(2) That documentary evidence not submitted in advance, as may be required by subdivision (1), may not be received in evidence in the absence of a clear showing that the offering party had good cause for his failure to produce the evidence sooner.

(3) That the authenticity of all documents submitted in advance in a proceeding in which such submission is required, be deemed admitted unless objection thereto is filed prior to or at the time of the hearing, except that a party will be permitted to challenge such authenticity at a later time upon a clear showing of good cause for failure to have filed such objection.

4.8 Excerpts from Documentary Evidence

When portions only of a document are to be relied upon, the offering party shall prepare the pertinent excerpts, adequately identified and shall supply copies of such excerpts, together with a statement indicating the purpose for which such materials will be offered, to the Council and to the other parties. Only the excerpts, so prepared and submitted, shall be received in the record. However, the whole of the original document shall be made available for examination and for use by all parties to the proceeding.

4.9 Continuances

Any party who desires a continuance shall, immediately upon receipt of notice of a hearing, or as soon thereafter as facts required such continuance come to his knowledge, notify the Council of said desire, stating in detail the reasons why such continuance is necessary. The Council in passing upon a request for continuance, shall consider whether such request was promptly and timely made. For good cause shown, the Council may grant such a continuance and may at any time order a continuance upon its own motion. During a hearing, if it appears in the public interest or in the interest of justice that further testimony or argument should be received, the Council may in its discretion continue the hearing and fix the date for introduction of additional evidence or presentation of argument. Such oral notice shall constitute final notice of such continued hearing.

4.10 Rules of Evidence

(1) Subject to the provisions of law and to the other provisions of these rules, all relevant evidence is admissible which, in the opinion of the Council, is the best evidence reasonably obtainable, having due regard for its necessity, availability and trustworthiness. In passing upon the admissibility of evidence, the Council shall give consideration to, but (except to the extent required by law) shall not be bound to follow, the rules of evidence governing civil proceedings, in matters not involving trial by jury, in the Superior Court of the State of Rhode Island.

(2) When objection is made to the admissibility of evidence, such evidence may be received subject to a later ruling. The Council may in its discretion, either with or without objection, exclude inadmissible evidence or order cumulative evidence discontinued. Parties objecting to the introduction of evidence shall state the precise grounds of such objection at the time such evidence is offered.

4.11 Reopening of Hearing

At any time after a hearing has been closed but prior to filing of decision, the Council may, on its own initiative or upon motion by any party, reopen the proceeding to receive further evidence and/or to hear further agrument.

4.12 Transcripts

Transcripts of testimony shall be available at the Council's office for examination by any party to the proceeding until expiration of the time during which any appeal or petition for judicial review authorized by law may be filed. Thereafter such a transcript shall not be available for examination by any person except with the approval of the members of the Council after notice to all parties to such proceeding. If any party files proceedings for judicial review, the Council shall, upon request by any party, supply to such party a copy or copies of the transcript of the proceedings before it at such reasonable charge as the Council shall establish.

4.13 Findings of Fact

Any party may, at the conclusion of a hearing or within such later time as may be fixed by the Council, submit to the Council proposed findings of fact, copies thereof to be served upon each party to the proceeding.

5. Practice Before the Council

5.1 Any person may appear before the Council in his own behalf. Any person or party who has an interest in any matter before the Council may appoint an attorney to represent him before the Council. The appointment must be made prior to the Council meeting.

5.2 All persons appearing in proceedings before the Council in a representative capacity shall conform to the standards of conduct required of attorneys before the courts of Rhode Island. If any such person does not conform to such standards, the Council may decline to permit such person to appear in a representative capacity in any proceeding before the Council.

6. Preliminary Investigations

6.1 Whenever authorized by law, the Council may conduct preliminary investigations into matters under its jurisdiction. Upon the completion of such investigations:

(1) if the Council shall make a determination that a violation probably has not been or is not being engaged in, the Council shall proceed no further;
(2) if the Council shall make a determination that a violation probably has been or is being engaged in, the Council shall proceed as provided by law.

7. Final Decisions of the Council

7.1 Final decisions or orders adverse to a party in a contested case shall be in writing and made part of the record. The final decisions shall include findings of fact and conclusions of law separately stated.

7.2 Findings of Fact

If set forth, the statutory language shall be accompanied by a concise and explicit statement of the underlying facts supporting the findings. These facts shall be based exclusively upon the record and matters officially noticed. The parties shall be notified of the decisions and owners and upon request a copy of the decision and order shall be mailed or delivered forthwith to each party and to his attorney of record.

8. Service of Process

8.1 By Whom Served. The Council shall cause to be served all orders, notices and other papers issued by it, together with any other papers which it is required by law to serve. Every other paper shall be served or caused to be served by the party filing it.

8.2 By Whom Served. All papers served by either the Council or any party shall be served upon all representatives of record at the time of such filing and upon parties not represented by counsel or upon their agents designated by them or by law. Any representative entering an appearance subsequent to the initiation of the proceeding shall notify all other representatives then of record and all parties not represented of such fact.

8.3 Service Upon Parties. The final order, and any other paper required to be served by the agency upon a party, shall be served upon such party or upon the agent designated by him or by law to receive service of such papers, and a copy shall be furnished to representatives of record.

8.4 Method of Service. Service of papers shall be made personally or, unless otherwise provided by law, by first class registered or certified mail, or telegraph.

8.5 When Service Complete. Service upon parties shall be regarded as complete: by mail, upon deposit in the United States mail properly stamped and addressed; by telegraph, when deposited with a telegraph company properly addressed and with charges prepaid.

8.6 Filing with Council. Papers required to be filed with the Council shall be deemed filed upon actual receipt by the Council at the Council's office.

9. Declaratory Rulings

9.1 Petitions

As prescribed by section 42-35-8, G.L. 1956, as amended, any interested person may petition the Council for a declaratory ruling. Within a reasonable time, and at the discretion of the Council, the Council shall:

(1) issue a binding declaratory rule; or

(2) issue a non-binding declaratory ruling; or

(3) notify the petitioner and interested parties of record that no declaratory ruling is to be issued.

10. Judicial Review of Contested Cases

10.1 Any person who has exhausted all administrative remedies available to him within the agency, and who is aggrieved by a final decision in a contested case is entitled to judicial review under this chapter. This section does not limit utilization of or the scope of judicial review available under other means of review, redress, relief, or trial de novo provided by law. Any preliminary, procedural, or intermediate agency act or ruling is immediately reviewable in any case in which review of the final agency decision would not provide an adequate remedy.

10.2 Proceedings for review are instituted by filing a complaint in the superior court of Providence County within thirty (30) days after mailing notice of the final decision of the agency or, if a rehearing is requested, within thirty (30) days after the decision thereon, provided, however, that any person who is aggrieved by a final decision concerning the assessment or determination of any tax, interest or penalty made by the tax administrator must pay the amount of such tax, interest or penalty to said administrator as a prerequisite to the filing of such complaint. Copies of the

complaint shall be served upon the agency and all other parties of record in the manner prescribed by applicable procedural rules.

10.3 The filing of the complaint does not itself stay enforcement of the agency decision. The agency may grant, or the reviewing court may order,a stay upon appropriate terms.

10.4 Within thirty (30) days after the service of the complaint, or within further time allowed by the court, the agency shall transmit to the reviewing court the original or a certified copy of the entire record of the proceeding under review. By stipulation of all parties to the review proceedings, the record may be shortened. Any party unreasonably refusing to stipulate to limit the record may be taxed by the court for the additional costs. The courts may require or permit subsequent corrections or additions to the record.

10.5 If, before the date set for hearing, application is made to the court for leave to present additional evidence, and it is shown to the satisfaction of the court that the additional evidence is material and that there were good reasons for failure to present it in the proceeding before the agency, the court may order that the additional evidence be taken before the agency upon conditions determined by the court. The agency may modify its findings and decision by reason of the additional evidence and shall file that evidence and any modifications, new findings or decisions with the reviewing court.

10.6 The review shall be conducted by the court without a jury and shall be confined to the record. In cases of alleged irregularities in procedure before the agency, not shown in the record, proof thereon may be taken in the court. The court, upon request, shall hear oral argument and receive written briefs.

10.7 The court shall not substitute its judgement for that of the agency as to the weight of the evidence on questions of fact. The court may affirm the decision of the agency or remand the case for further proceedings, or it may reverse or modify the decision if substantial rights of the appellant have been prejudiced because the administrative findings, inferences, conclusions or decisions are:

(1) in violation of constitutional or statutory provisions;
(2) in excess of the statutory authority of the agency;
(3) made upon unlawful procedure;
(4) affected by other error of law;
(5) clearly erroneous in view of the reliable, probative, and substantial evidence on the whole record; or
(6) arbitrary or capricious or characterized by abuse of discretion or clearly unwarranted exercise of discretion.

11. Adoption of Management Policies

11.1 Adoption of Management Policies and rule making shall be in accordance with Title 42 Chapter 35 of the General Laws of the State of Rhode Island and further in accordance with the rules and regulations and procedures set forth herein.

11.2 In addition to other rule making requirements imposed by law, the Council shall:

(1) adopt as a rule a description of its organization, stating the general course and method of its operations and the methods whereby the public may obtain information or make submissions or requests;

(2) adopt rules of practice, setting forth the nature and requirements of all formal and informal procedures available, and including description of all forms and instructions used by the agency;

(3) make available for public inspection all rules and all other written statements of policy or interpretations formulated, adopted, or used by the agency in the discharge of its functions;

(4) make available for public inspection all final orders, decisions and opinions.

11.3 No Council rule, order, or decision is valid or effective against any person or party, nor may it be invoked by the Council for any purpose, until it has been made available for public inspection as herein required, except that this provision is not applicable in favor of any person or party who has actual knowledge thereof.

11.4 Prior to the adoption, amendment, or repeal of any rule the Council shall:

(1) give at least thirty (30) days' notice of its intended action. The notice shall include a statement of either the terms or substance of the intended action or a description of the subjects and issues involved, and of the time when, the place where, and the manner in which interested persons may present their views thereon. The notice shall be mailed to all persons who have made timely request of the Council for advance notice of its rule-making proceedings, and published in a newspaper or newspapers having aggregate general circulation throughout the state, provided, however, that if said action is limited in its applicability to a particular area, then said publication may be in a newspaper having general circulation in said area.

(2) afford all interested persons reasonable opportunity to submit data, views, or agruments, orally or in writing. In case of substantive rules, opportunity for oral hearing must be granted if requested by twenty-five (25) persons or by a governmental subdivision or agency, or by an association having not less than twenty-five (25) members. The Council shall consider fully all written and oral submissions respecting the proposed rule. Upon adoption of a rule, the Council, if requested to do so by an interested person, either prior to adoption or within thirty (30) days thereafter, shall issue a concise statement of the principal reasons for and against its adoption, incorporating therein its reasons for overruling the considerations urged against its adoption.

11.5 If the Council finds than an imminent peril to the public health, safety or welfare requires adoption of a rule upon less than thirty (30) days' notice, and states in writing its reasons for that finding, it may proceed without prior notice or hearing or upon any abbreviated notice and hearing that it finds practicable, to adopt an emergency rule. The rule so adopted may be effective for a period of not longer than one hundred twenty (120) days renewable once for a period not exceeding ninety (90) days.

11.6 No rule hereafter adopted is valid unless adopted in substantial compliance with this section, but no contest of any rule on the ground of non-compliance with the procedural requirements of this section may be commenced after two (2) years from its effective date.

11.7 Filing and Taking Effect of Rules

(1) The Council shall file forthwith in the office of the secretary of state a certified copy of each rule adopted by it. The secretary of state shall keep a permanent register of the rules open to public inspection.

(2) Each rule hereafter adopted is effective twenty (20) days after filing, except that:
   (1) if a later date is required by statute or specified in the rule ,the later date is the effective date;
   (2) subject to applicable constitutional or statutory provisions, an emergency rule may become effective immediately upon filing with the secretary of state, or at a stated date less than twenty (20) days thereafter, if the Council finds that this effective date is necessary because of imminent perils to the public health, safety, or welfare. The Council's finding and a brief statement of the reasons therefor shall be filed with the rule in the office of the secretary of state. The Council shall take appropriate measures to make emergency rules known to the persons who may be affected by them.

11.8 Petition for Adoption of Rules

Any interested person may petition the Council requesting the promulgation, amendment or repeal of any rule. The Council shall prescribe by rule the form for petitions and the procedure for their submission, consideration, and disposition. Upon submission of a petition, the Council within thirty (30) days shall either deny the petition in writing (stating its reasons for the denials) or initiate rule-making proceedings.

11.9 Declaratory Judgement on Validity or Applicability of Rules

The validity or applicability of any rule may be determined in an action for declaratory judgement in the superior court of Providence County, when it is alleged that the rule, or its threatened application, interferes with or impairs, or threatens to interfere with or impair, the legal rights or privileges of the plaintiff. The Council shall be made a party to the action. A declaratory judgement may be rendered whether or not the plaintiff has requested the Council to pass upon the validity or applicability of the rule in question.

11.10 Declaratory Rulings

The Council shall provide for the filing and prompt disposition of petitions for declaratory rulings as to the applicability of any statutory provision or of any rule or order of the agency. Rulings disposing of petitions have the same status as Council decisions or orders in contested cases.

***Consistent Federal Actions has been moved to Appendix C.

APPENDIX C: HOW RHODE ISLAND ADDRESSES THE REQUIREMENTS OF THE FEDERAL COASTAL ZONE MANAGEMENT ACT

1. Determination of Use Permissibility and Priorities

1.1 Federal Requirements:

Under section 305(b)(2) of the Federal Act the state is obligated to develop and apply a procedure for defining permissible land and water uses in the coastal zone. This procedure must be based on an inventory and assessment of coastal resources, the environmental impacts associated with their use and a definition of direct and significant impact on coastal waters. Permissible uses are to be identified from among those uses exercising such direct and significant impacts. Permissibility may be dealt with in a variety of ways including the setting forth of specific policies, performance standards, lists or conditions.

Under section 305(b)(5) of the Federal Act the state is required to develop broad policies or guidelines governing relative priorities of permissible use. Such priorities must apply to the entire coastal zone, specific resource types and specific geographic areas. In association with determinations of permissibility they are to establish the direction and provide the foundation for coastal management policies and regulations. Priorities must reflect state and local needs, use impacts, management objectives, consideration of the national interest and water dependency.

1.2 Resource Inventorying and Assessment:

Rhode Island's coastal inventory effort involves the compilation and evaluation of information on the state's coastal and marine resources gathered from a number of sources including three universities, state and federal agencies and laboratories. Evaluation of this data base began in 1971 and is still underway. Where existing information has been found deficient for management purposes the Council has sponsored needed research projects including evaluation of the state's barrier beaches, commercial fisheries, marine sand and gravel deposits, coastal natural areas, and the Bay Islands Park.

Rhode Island's coastal ecosystems, including both natural and human dominated systems, have been identified. The sensitivities of these to various uses and activities has been assessed as have the limitations and/or opportunities each system presents for use. The major conclusions of this inventory are reflected in Findings of Fact which serve as the basis for Council Management Regulations and Policies.

1.3 Definition of "Direct and Significant Impact":

In describing the Council's management responsibilities, the General Assembly sets forth three basic criteria for identifying uses having direct and significant impacts on the state's coastal resources (46-23-6B, G.L.R.I.; see App. A). Such uses meet any or all of the following tests:

(1) They affect or are affected by (coastal) resource management plans or programs;

(2) They affect the suitability of particular areas for uses or activities to which they are allocated by such coastal resources management plans or programs;

(3) They significantly affect the environment of the coastal region.

1.4 State Criteria for Identifying Permissible and Prohibited Uses:

Under 46-23-6A(e) G.L.R.I. (see App. A) the Council is charged to develop management plans and programs on the basis of its inventory and assessment efforts. These plans and programs must "identify permitted uses, locations, protection measures and so forth." Seven specific legislative criteria for identifying such uses, locations and measures are also set forth under this section.

The Council's response to the above charge has been to promulgate Policies and Regulations. Each area for which these have been adopted specifies permissible and prohibited uses or, as is more appropriate in many instances, the specific considerations the Council will weigh in determining the permissibility of a given use in a particular situation. These considerations, or burdens of proof, reflect the ten above referenced legislative criteria as interpreted by the Council through Findings of Fact.

1.5 Broad State Priorities for Managing the Coastal Region:

The General Assembly set forth the underlying priorities for managing the coastal region (see App. A). Highest priority is given to environmental protection with preservation and restoration of ecological systems set forth as the principal objective against which environmental alteration of coastal resources "will be measured, judged and regulated." However, the legislature also recognized the commercial, industrial and recreational value of the coastal region and provided, therefore, that all proposed uses be measured against other social priorities including protection of public health, safety and economic welfare.

The Coastal Region Priority Use Map (see Foldout Map 1) provides a visual bridge between these broad legislative priorities, the State Guide Plan and specific Council Policies and Regulations. The 13 broad categories of lands and tidal waters indicated on the map identify lands which because of the nature or public value of their present use are preempted (not available for other activities) and broad priorities of use for those lands and waters that remain. Map preparation methodology and techniques are described in greater detail in Figure C-1 and Table C-1).

The map provides an overview of the geographic application of Council Policies and Regulations. In itself, however, it cannot be used to determine the permissibility of specific actions in particular geographic areas. Such determinations can only be made on the basis of the various standards and criteria, set forth in Council regulations. In order to facilitate the readers appreciation of the correlation between mapped use categories and specific regulations this relationship has been indicated in Table C-2 which also summarizes broad permissibility standards and use priorities as reflected in these regulations.

Appreciating the context within which Rhode Island's Coastal Resources Management Program will be implemented also requires that the limitations of the Coastal Region Priority Use Map be clearly recognized. It is a computer product and deals with land use in uniform ten acre grid cells. Many coastal features and uses are too small to show up in these cells. Since land uses within individual grid cells sometimes vary, the priority use designation made by the computer often does not accurately reflect all uses within the cell. While hand corrections have been made where possible, all such inconsistencies have not been eliminated.

1.6 Use Priorities for Specific Coastal Resources and Areas:

Use priorities are an integral component of Council Policies and Regulations. As incorporated in the Policies and Regulations in this document, priorities bear the same relationship to legislative criteria as do permissibility considerations, reflecting the Council's assessment (indicated in Findings of Fact) of relevant management problems, issues and needs.

Figure C-1

MEHTODOLOGY FOR PREPARATION OF PRIORITIES OF USE IN RHODE ISLAND'S COASTAL REGION MAP (FOLDOUT MAP 2)

The"Priorities of Use in Rhode Island's Coastal Region Map" was drawn using the Statewide Planning Program's Environmental Inventory. The Environmental Inventory utilizes computer technology to systematically compile information on the state's natural and man-made environment. A standardized coding format based on the Universal Transverse Mercator coordinate system is used. The basic coding unit used for information storage in the inventory is a grid cell measuring 200 x 200 meters and having an area of 4 hectares (approximately 10 acres). Presently 20 elements have been inventoried and coded for computer storage. This system allows the easy manipulation of inventory elements to determine land capability. Hand corrections are then added as necessary.

A. Methodology for Map Preparation

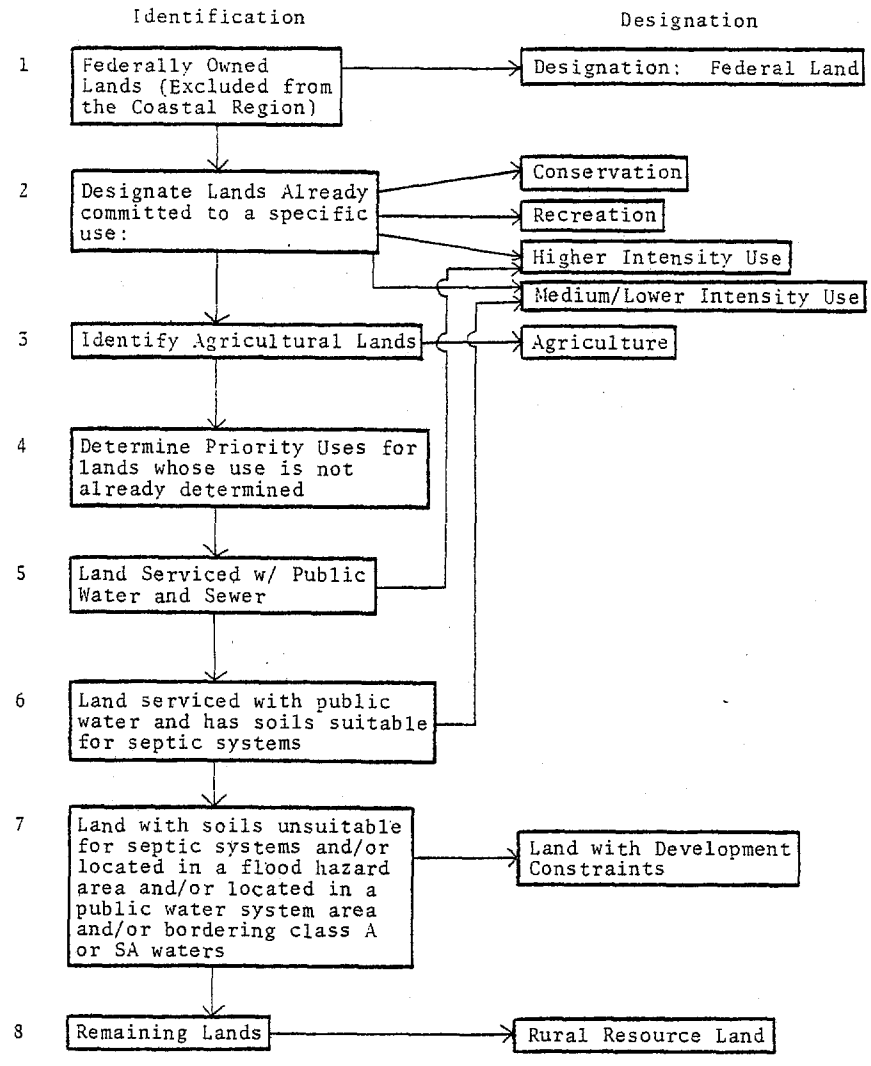


TABLE C-1

CATEGORIES OF PRIORITY USES

CONSERVATION (19,097 acres)

Category 1
- salt water and freshwater wetlands
- wildlife refuges
- coastal natural areas

RECREATION (6,180 acres)

Category 2
- recreation areas listed in the state Recreation Plan
- land designated for inclusion in the Bay Islands Park

AGRICULTURAL LANDS (12,460 acres)

Category 3
- tilled or tillable land upon which a crop is being or has recently been produced
- actively managed orchards and nurseries

HIGHER INTENSITY DEVELOPMENT (32,030 acres)

Category 4

. Existing Land Uses
- dense residential areas
- industrial and commercial areas
- transportation
- mining lands
- waste disposal sites (landfills, junkyards, and filter beds)

. Lands Suitable for Higher Intensity Development
- areas serviced by public water and sewers
- industrial sites identified in the state Land Use Plan

MEDIUM/LOWER INTENSITY DEVELOPMENT (44,650 acres)

Category 5

. Existing Land Uses
- low and medium residential

. Lands Suitable for Medium/Lower Intensity Development
- areas serviced with public water with soils suitable for septic systems

LANDS WITH DEVELOPMENT CONSTRAINTS (13,910 acres)

Category 6
- flood hazard areas
- soils that are poorly drained or shallow to bedrock
- land within 400 feet of a public water supply well
- land adjacent to water bodies classified A or SA

RURAL/RESOURCE LAND (44,240 acres)

Category 7
- all other open land in the Coastal Region

FEDERALLY OWNED LANDS (6,690 acres)

Category 8
- lands excluded from the Rhode Island Coastal Zone

Category 9 **TIDAL WATERS***

- Conservation/lower intensity use
- Multiple Use Recreation
- High Intensity Recreation
- Multiple Use
- Urban

* See Findings and Policies in Estuaries and Coastal Ponds for a description of how priority uses were determined.

TABLE C-2

SUMMARY OF PERMISSIBLE AND PRIORITY USES

Policy Category	Section Ref.	Permissibility Standards*	Priorities of Use
1. Conservation (1) Conservation and Management Areas (2) Historic Preservation (3) Research (4) Coastal Wetlands (5) Cliffs and Bluffs (6) Freshwater Wetlands (7) Undeveloped Beaches and Barrier Beaches	430 450 460 120.4 120.3 250.3 120.2	Permissibility of contiguous uses will be evaluated on the basis of likely interference with or damage to: - Conservation and habitat management objectives; - Historic sites; - Data acquisition programs; - Unique, fragile and/or highly productive natural features and areas.	Uses consistent with maintenance or enhancement of the conservation, historical, cultural, aesthetic and educational value of coastal resources have highest priority.
2. Recreation (1) Public Access to the Shore (2) Public Beaches & Parks (3) Recreational Boating Facilities (4) The Bay Islands Park	410 420 440 470	Permissibility of contiguous uses will be evaluated on the basis of likely interference with or damage to public recreational use and enjoyment of public waters, shorelands and scenic natural resources.	Uses consistent with the aesthetic quality of, increased public access to, use and enjoyment of recreational facilities consistent with environmental preservation shall have highest priority.

*Permissibility standards are reflected in specific tests and criteria and/or prohibitions incorporated in Council Management Regulations and Policies. Note appropriate page references.

Policy Category	Section Ref.	Permissibility Standards*	Priorities of Use
3. Higher Intensity Development		Permissibility will be evaluated on the basis of: - Demonstrated need for a waterfront location; - Suitability of proposed sites; - Effects on surrounding uses and areas; - Availability of and demands on public services; - Economic impacts; - Compliance with applicable local, federal & state environmental and safety regulations; - Consistency with the State Guide Plan & other relevant plans.	A high priority shall be the concentration of intensive or large scale developments in areas already provided with public services such as sewers, water and transportation links. Low priorities shall be non-water dependent development of the shoreline and extention of intensive development into areas not already committed to it.
(1) Urban Waterfront & Ports	520		
(2) Minerals Extraction	530		
(3) Commerce & Industry	540		
(4) Residential Development	510		
(5) Siting & Operation of Electrical Generating plants	620		
(6) Transfer of Petroleum Products	630		
(7) Storage of Petroleum Products	640		
(8) Processing of Petroleum Products	650		
(9) Transportation Routes & Facilities	550		
4. Medium & Lower Intensity Developments			
(1) Residential Development	510	Permissibility will be evaluated on the basis of consistency with Council Management Regulations and Policies applicable to: - Affected sites or areas (see in particular Conservation & Recreation, 1 and 2 above). - Flood hazard and erosion prone areas - Sewage treatment & disposal - Major facility siting	A high priority use shall be residential development consistent with maintenance of high recreational, scenic and environmental quality. Low priorities shall be intensive or large scale development and/or development of flood or erosion prone areas.

Policy Category	Section Ref.	Permissibility Standards*	Priorities of Use
5. Agricultural Lands	250.1	See 4 above.	Highest priority shall be production of food or nursery products. Lowest priority shall be irreversible conversion of agricultural lands to other uses.
6. Land With Development Constraints (1) Flood Hazard Areas (2) Coastal Erosion Areas (3) Public Water Supplies	130	Development will only be permitted where and to an extent consistent with such natural constraints as vulnerability to coastal flooding and erosion and maintenance of high water quality.	High priority uses are conservation & recreation. Low priority uses include structural developments of any kind.
7. Rural Resource Lands (1) Forest & Forest Transition Lands	140	See 4, above.	High priority uses are conservation of scenic natural resources and open space.
8. Federal Lands	250.2	Excluded from the coastal region.	Excluded from the coastal region.
9. Conservation/Low Intensity Use Waters	110	Permissibility will be evaluated on the basis of interference with or damage to: -Conservation and habitat management objectives; -Unique, fragile and/or highly productive natural features and areas; -SA waters.	Uses consistent with maintenance or enhancement of conservation, aesthetic, wildlife and fisheries values shall have high priority. Low priority uses shall include lower/medium and higher intensity shoreline development, dredging and filling.

Policy Category	Section Ref.	Permissibility Standards*	Priorities of Use
10. Multiple Use Recreational Waters (1) Designated estuaries (2) Designated coastal ponds	110	Permissibility will be evaluated on the basis of likely interference with or damage to: - The multiple use recreational value of these waters; - SA water quality.	Uses consistent with the aesthetic quality of, increased public access to, use and enjoyment of these water bodies shall have highest priority to the extent that no one use dominates. Low priority uses shall include intensive shoreline development, dredging & filling.
11. High Intensity Recreational Estuaries	110	Permissibility will be evaluated on the basis of likely interference with or damage to recreational boating use & enjoyment of these waters.	Uses consistent with the maintenance and support of recreational boating shall have highest priority to the maximum extent compatible with environmental quality.
12. Multiple Use Waters	110	Permissibility will be evaluated on the basis of compatibility with and nonpreemption of other uses and maintenance of state water quality standards and goals.	No single use shall have high priority to the exclusion of others. Preemptive uses of any sort shall have lowest priority.
13. Urban Estuaries	110	Permissibility will be evaluated on the basis of contribution to the state's economy and the effectiveness of proposed efforts to mitigate adverse environmental impacts.	Commercial navigation and water dependent commercial industrial development of appropriately zoned & serviced shorelands shall have high priority. Expansion of commercial-industrial uses into areas of recreational or conservation value shall have low priority.

2. Designation of Geographic Areas of Particular Concern, Areas to be Preserved and Restored

2.1 Federal Requirements:

Under section 305(b)(3) of the Federal Coastal Zone Management Act the state is required to inventory and designate geographic areas of particular concern. This is to be accomplished on the basis of a resources inventory and assessment, with reference to eight area types specified in federal regulations (15 CFR 120.13)*, and in light of state criteria. Management policies which express the state's interests, concerns and objectives in the areas designated must be adopted.

The state is further required under section 306(c)(9) to develop and apply standards and criteria for designation of areas of conservation, recreation, ecological or aesthetic values for purposes of preserving or restoring them.

2.2 Resources Inventory and Assessment:

See A-2 for description.

2.3 Consideration of Federal Designating Criteria:

Council Policies and Regulations are the regulatory expression of the Council's management concerns and objectives. Correlations between Council regulations and federal criteria are indicated in Table C-3.

2.4 State Designating Criteria:

Criteria for designating geographic areas of particular concern as an element of the Rhode Island Coastal Resources Management Program are set forth at three levels of increasing specificity. Broad policies for such designation have been taken from among those ten legislatively mandated criteria referenced under Permissible Uses. These policies indicate that a geographic area of particular concern must have the following characteristics:

(1) Existing or proposed uses of the area or of contiguous areas are inconsistent with resource characteristics, capability or potential.

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* See Table C-3

TABLE C-3

STATE CONSIDERATION OF FEDERAL CRITERIA FOR

DESIGNATING GEOGRAPHIC AREAS OF PARTICULAR CONCERN *

Federal Criteria	Council Policies & Regulations	Section Reference
(1) Areas of unique scarce, fragile or vulnerable natural habitat, physical feature, historical significance, cultural value and scenic importance	1. Conservation & Management Areas	430
	2. Historic Preservation	450
	3. The Bay Islands Park	470
	4. Conservation/Low Intensity Use Estuaries	110
	5. Multiple Use Recreation Estuaries	110
	6. High Intensity Recreation Estuaries	110
	7. Multiple Use Estuaries	110
	8. Beaches	120.1
	9. Coastal Wetlands	120.4
	10. Cliffs and Bluffs	120.3
	11. Marine Fish and Fisheries	210
	12. Agriculture	250.1
	13. Freshwater Wetlands	250.3
	14. Coastal Ponds	110
	15. Barrier Beaches	120.2
(2) Areas of high natural productivity or essential habitat for living resources, including fish, wildlife and the various trophic levels in the food web critical to their well-being	1. Conservation & Management Areas	430
	2. Estuaries (including all types)	110
	3. Coastal Wetlands	120.4
	4. Block Island & Rhode Island Sounds	110
	5. Marine Fish and Fisheries	210

* Where Council Policies & Regulations apply to more than one federal designating criteria this is so indicated.

Federal Criteria	Council Policies & Regulations	Section Reference
(3) Areas of substantial recreational value and/or opportunity	1. Public Access to the Shore	410
	2. Beaches and Parks (public)	420
	3. Conservation and Management Areas	430
	4. Recreational Boating & Boating Facilities	440
	5. Historic Preservation	450
	6. The Bay Islands Park	470
	7. Conservation/Low Intensity Use Estuaries	110
	8. Multiple Use Recreation Estuaries	110
	9. High Intensity Recreation Estuaries	110
	10. Multiple Use Estuaries	110
	11. Beaches	120.1
	12. Commercial Fishing & Recreational Ports	520.2
	13. Marine Fish and Fisheries	210
	14. Multiple Use Coastal Ponds	110
	15. Barrier Beaches	120.2
(4) Areas where developments and facilities are dependent upon the utilization of, or access to coastal waters	1. Public Access to the Shore	410
	2. Beaches and Parks (public)	420
	3. Recreational Boating & Boating Facilities	440
	4. Residential Docks and Piers	440
	5. Research	460
	6. General Cargo and Petroleum Ports	520.1
	7. Commercial Fishing and Recreational Ports	520.2
	8. Federal Surplus Port Facilities	520.3
(5) Areas of unique geologic or topographic significance to industrial or commercial development	1. General Cargo and Petroleum Ports	520.1
	2. Federal Surplus Port Facilities	520.3
(6) Areas of urban concentration where shoreline utilization and water uses are highly competitive	1. Urban Estuaries	110
	2. General Cargo and Petroleum Ports	520.1
	3. Commercial Fishing and Recreation Ports	520.2

Federal Criteria	Council Policies & Regulations	Section Reference
(7) Areas of significant hazard if developed due to storms, slides, floods, erosions, settlement, etc.	1. Beaches	120.1
	2. Coastal Wetlands	120.4
	3. Cliffs and Bluffs	120.3
	4. Flood Hazard Areas	130
	a. Altered or Developed Areas	
	b. Undeveloped Areas	
	c. Other Flood Prone Areas	
	5. Coastal Erosion & Erosion Prone Areas	140
	6. Freshwater Wetlands	250.3
	7. Barrier Beaches	120.2
(8) Areas needed to protect, maintain or replenish coastal lands or resources, including coastal flood plains, aquifer recharge areas, sand dunes, coral and other reefs, beaches, offshore sand deposits and mangrove stands	1. Beaches	120.1
	2. Coastal Wetlands	120.4
	3. Cliffs and Bluffs	120.3
	4. Flood Hazard Areas	130
	5. Minerals Extraction	230
	6. Freshwater Wetlands	250.3
	7. Barrier Beaches	120.2

(2) As a result, either or both of the following are likely to result:
- loss of or damage to a natural or manmade coastal resource;
- inappropriate, wasteful or preemptive use of a coastal resource.

In interpreting and applying these legislative designating criteria the Council has found it desirable to focus particular concern on those geographic areas where the pressure for inconsistent or inappropriate use is highest. It is in these areas that a delayed state response would most quickly lead to irrevocable and undesirable commitments of coastal resources.

At the most specific level of designation, Council Findings of Fact, the Council sets forth its assessment of the use problems of specific areas or resource types and the pressing nature of those problems. Council Policies and Regulations, then, express the state's response to identified problems and the specific procedures and actions necessary to implement that response.

2.5 Designating Criteria For Areas to be Preserved and Restored:

Areas to be preserved and restored are geographic areas of particular concern. Designation, therefore, follows the same three step process set forth above. As areas of particular concern, however, areas to be preserved and restored have unique management problems and requirements. Candidate areas must be found to be of significant value for purposes of recreation, conservation or habitat preservation and must be subject to pressures inconsistent with preservation of these values. Council assessment of both values and pressures is reflected in Findings of Fact relative to specific areas or resource types. As with geographic areas of particular concern, Findings reflect themselves in Council Policies and Regulations.

2.6 Designated Geographic Areas of Particular Concern:

The following four areas have been designated as indicated in Foldout Map 2.

(1) Developed Barrier Beaches ..... Chapter 1
(2) The Bay Islands Park ..... Chapter 4
(3) Conditionally Closed Shellfish Beds In Upper Narragansett Bay ..... Chapter 1
(4) Erosion Prone Bluffs ..... Chapter 1

2.7 Designation of Areas to be Preserved or Restored;*

The following nine areas have been designated as indicated in Fouldout Map 2:

(1) Undeveloped Barrier Beaches ..... Chapter 1
(2) Coastal Ponds ..... Chapter 1
(3) Coastal Wetlands ..... Chapter 1
(4) Conservation/Low Intensity Use Estuaries ... Chapter 1
(5) Sea Cliffs ..... Chapter 1
(6) Public Beaches and Parks ..... Chapter 4
(7) Conservation and Management Areas ..... Chapter 4
(8) Public Rights-of-Way to the Shore ..... Chapter 4
(9) Historic Sites ..... Chapter 4

* Small coastal wetlands, historic sites and rights-of-ways to the shore are not shown on the GAPC/APR Map because of their small size.

3. Boundaries of the Coastal Region

3.1 Federal Requirements:

Under section 305(b) (1) of the Federal Coastal Zone Management Act the state is required to identify the boundaries of its coastal zone. This zone must extend inland only to the extent necessary to control lands whose use has a direct and signifcant impact on coastal waters. It must include transitional and intertidal areas, salt marshes, wetlands, beaches and the state's territorial waters. It does not include federally owned lands which, however, must be identified.

3.2 The Inland Boundary of the Rhode Island Coastal Region:

The Council finds that in defining the Coastal Region to include both land and water elements the General Assembly recognized that marine and intertidal resources can only be properly and effectively managed in a context which incorporates lands whose use effects or is affected by proximity to coastal waters. The Council concludes that for planning purposes such a land area is best described by drawing a line which extends one mile inland from the coastline or to the next inland census tract analysis zone boundary where this is greater (see foldout map 2). A coastal region thus defined has the following virtues:

(1) It has a strong biophysical basis in that it encompasses nearly all of the state's coastal watersheds.

(2) It has a strong geopolitical basis in that it encompasses in most cases entire cities and towns. This provides for a minimum of confusion in administering coastal management programs.

(3) It allows for convenient use of socio-economic data compiled by the Bureau of the Census in the formulation of management programs.

(4) It is compatible with land units utilized in other state planning studies and information retrieval systems such as shoreline land use maps and computerized land suitability models developed by the Statewide Planning Program. It therefore allows for the use of this valuable information. For ease of permit review procedures, the coastal region includes all the municipalities that border the Rhode Island shoreline. This area is slightly larger than the planning area.

3.3 Transitional and Intertidal Areas:

Transitional and intertidal areas subject to Council permitting authority have been legislatively defined as including shoreline physiographical features and coastal wetlands and all

directly associated contiguous areas necessary to preserve their integrity. In implementing its mandated planning and management responsibilities regarding these areas the Council has further defined shoreline physiographical features to include the following:

(1) Beaches

(2) Barrier beaches and dunes

(3) Coastal ponds

(4) Coastal cliffs and bluffs

3.4 The Territorial Sea:

The General Assembly has defined waters subject to the provisions of the Coastal Resources Management Program as "tidal water below the mean high water mark, extending out to the extent of the state's jurisdiction in the territorial sea". The Council has further interpreted such waters to extend to the limit of tidal influence up rivers and streams discharging into tidal waters.

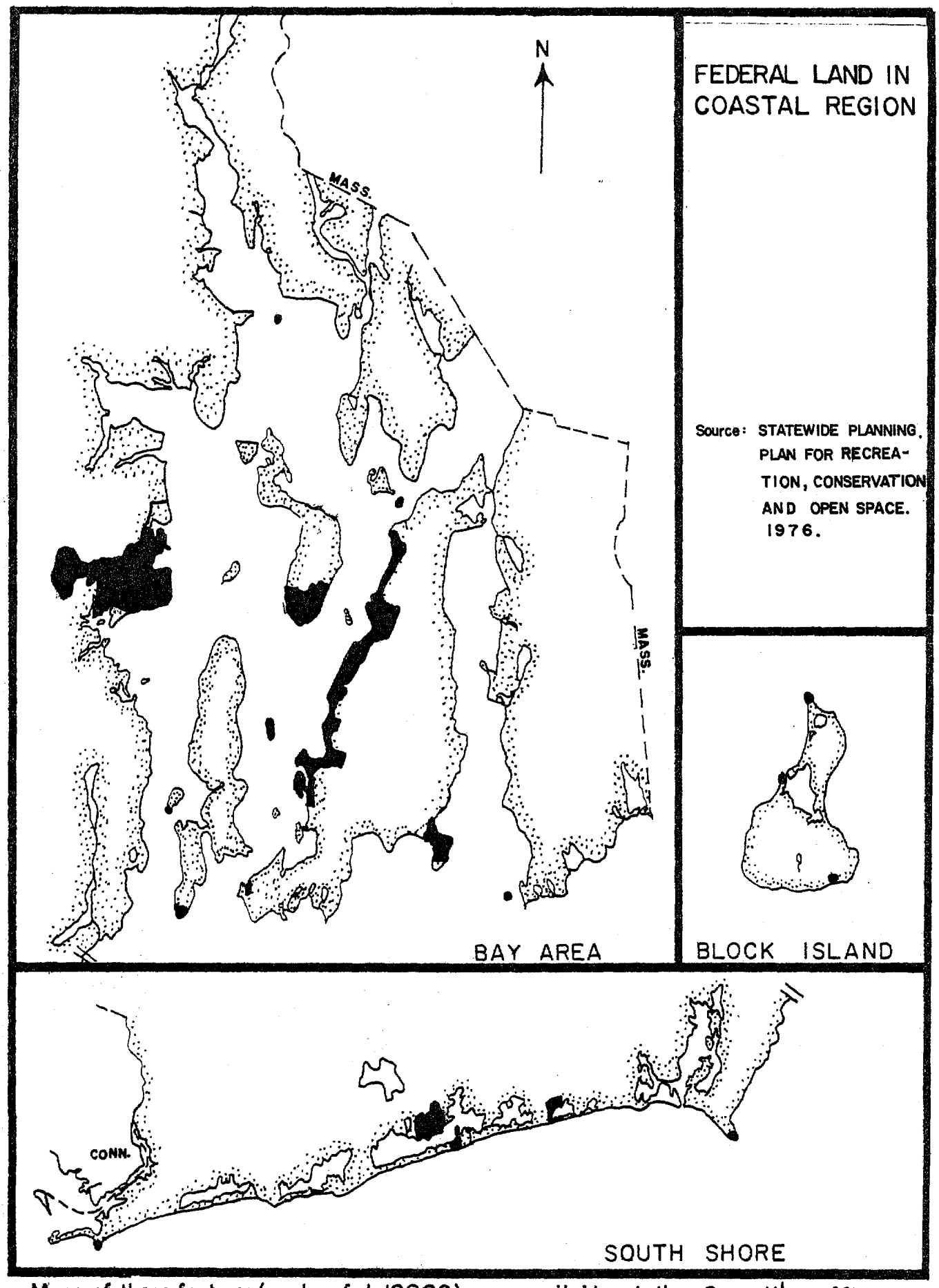
The Federal government and the State through the Governor's Office are now in the process of resolving state-federal differences as to the delimitation of offshore boundaries. Pending completion of these negotiations the Council shall accept federal boundaries for purposes of the Coastal Resources Management Program.

3.5 Excluded Federal Lands:

Federal lands excluded from the Rhode Island Coastal Region as required by law are shown in Figure C-2.

Developments or projects of a nongovernmental nature by or for a private or nonfederal user within these excluded lands, however, shall be subject to all applicable provisions of the Rhode Island Coastal Resources Management Program whether they result from lease hold agreement between a federal agency, the state and/or the private sector.

Figure C-2



Maps of these features (scale of 1:12000) are available at the Council's offices

4. Consideration of the National Interest

4.1 Federal Requirements: Sections 306 and 307 of the Federal Coastal Zone Management Act impose extensive obligations on the state to coordinate its program development efforts with affected federal agencies and to reflect consideration of national interest in that program. Specifically, the state is required to document a process of state-federal consultation and coordination, coordination with other federally funded planning programs, and to describe in some detail how the national interest has been considered, and how competing national interests have been weighed in the substance of the management program. Federal air and water pollution requirements must be incorporated into the program. An ongoing mechanism for conflict resolution and federal participation must be established.

4.2 Federal Consultation and Coordination in Program Development: Consultation and coordination between the Council, its staff and numerous federal and regional agencies has been a characteristic of the Rhode Island Coastal Resources Management Program since its inception in 1971. Council staff have frequently called upon the expertise of these agencies to assist in data collection, information processing and management strategy formulation (see Table C-4).

As Rhode Island moved towards completion of its initial program development effort throughout the latter part of 1975 and into the summer of 1976, however, it became clear that more intensive federal-state interaction was essential to mutual understanding and conflict resolution. The Council consequently initiated a formal federal participation program in August, 1975. A series of four state-federal workshops were held between November of that year and February of 1976.

Workshop #1, held on November 6, 1975, was attended by representatives of 16 federal and regional groups. Council members and staff presented an overview of the state's program development efforts to date and solicited agency assessments of interests in the Rhode Island Coastal Region. Workshop #2 (December 1, 1975) was dedicated to a detailed description of proposed draft elements of the evolving management program with both written and verbal comments received from the 40 agency representatives present. Workshop #3, held on January 15, 1976, followed essentially the same format with additional draft program elements reviewed in detail. The final workshop in this initial series was held on February 18, 1976 and was reserved for the receipt and discussion of draft program revisions (see Table C-4).

TABLE C-4

Public Participation Efforts

	Council Formation						Policy & Regulation Development						Public Information and Education												Spring 1976 Draft			Summer 1977 Workshops																Workshops				Summer 1977 Draft		
	Governor's Comm. on Coastal Zone	Questionnaire	Information Meeting	Governor's Expanded Committee	Information Meeting	Advisory Committee	Barrier Beaches	Sand & Gravel	Commercial Fisheries	Coastal Natural Areas	Resource Inventory		Newspaper Articles	Newspaper Advertisements	Television & Radio	CRMC Exhibit	Briefings	5 Workshops Brochure	CRMC Slide/Tape	CRMC Speakers Bureau	Direct Mailing	CRMC Brochure		CRMP Draft Review	Attend Forums & Workshops	Attend Public Hearing		Coastal Ponds Comments on Draft	2/22 Attend Workshop	The Nat. Environ. Comments on Draft	3/15 , 3/16, 3/31 Attend Workshops	Coastal Develop. Comments on Draft	4/11, 4/13 Attend Workshops	Exp. Nat. Res. Comments on Draft	5/17, 5/18 Attend Workshops	Maj. Facility Stng. Comm. on Draft	6/1, 6/2 Attend Workshops	Pollution Comments on Draft	6/13, 6/16 Attend Workshop	Summary of CRMP Comments on Draft	6/23 Attend Workshop		Dredge Spoil Disp. Conf.	Shoreline Erosion Conf.	Aquaculture Conf.	R.I. & Offshore Oil		Received Summer 1977 Draft	Attended Public Hearing	Comments on Draft
FEDERAL AGENCIES																																																
Council on Environmental Quality																	X	X	X		X	X		X	X																					X		
Department of Agriculture																																																
Soil Conservation Service										X	X						X	X	X		X	X		X	X			X		X		X		X			X							X		
Department of Commerce																																															
Economic Development Admin.																	X	X	X		X	X		X	X							X												X		
NOAA																																																
Nat'l. Sea Grant Program											X						X	X	X		X	X		X	X																				X		
Nat'l. Marine Fisheries Service									X		X						X	X	X		X	X		X	X	X				X		X		X									X		
Nat'l. Ocean Survey																	X	X	X		X	X		X	X																				X		
Environmental Data Service																	X	X	X		X	X		X	X																				X		
Department of Health, Educ. & Wel.		X															X	X	X		X	X		X	X																				X		
Department of Housing & Urban Dev.																	X	X	X		X	X		X	X																				X		
Flood Insurance Administration																	X	X	X		X	X		X	X					X														X		
Department of Interior																																																
Bureau of Mines																	X	X	X		X	X		X	X	X										X								X		
Fish and Wildlife Service		X								X							X	X	X		X	X		X	X					X		X				X		X						X		
Ninigret N.W.R.																	X	X	X		X	X		X	X			X	X															X		
Bureau of Outdoor Recreation																	X	X	X		X	X		X	X					X														X		
U.S. Geological Survey										X	X						X	X	X		X	X		X	X																				X		
National Park Service																	X	X	X		X	X		X	X																				X		
Bureau of Land Management																	X	X	X		X	X		X	X					X		X		X		X								X		
Department of Justice																	X	X	X		X	X		X	X																				X		
Department of Transportation																	X	X	X		X	X		X	X																				X		
U.S. Coast Guard		X	X		X	X				X							X	X	X		X	X		X	X																				X		
Department of Defense																	X	X	X		X	X		X	X																				X		
Defense Fuel & Supply Center																X	X	X	X		X	X		X	X																				X		
Navy		X	X		X	X				X							X	X	X		X	X		X	X					X														X		
Air Force																	X	X	X		X	X		X	X																				X		
Corps of Engineers		X	X		X	X	X			X							X	X	X		X	X		X	X	X				X		X		X		X		X						X		
Energy Research & D v. Admin.																	X	X	X		X	X		X	X																				X		
Environmental Protection Ag.		X			X						X						X	X	X		X	X		X	X																				X		
Federal Power Commission																	X	X	X		X	X		X	X																				X		
Federal Energy Administration																	X	X	X		X	X		X	X																				X		
Federal Maritime Administration																	X	X	X		X	X		X	X																				X		
General Services Administration																	X	X	X		X	X		X	X																				X		
Nuclear Regulatory Commission																	X	X	X		X	X		X	X																				X		

It was, however, recognized during this initial intensive phase of state-federal interaction that group workshops alone did not provide suitable forums for detailed input from individual federal agencies. Staff time was therefore committed for consultation with individual agency representatives who requested such meetings. Meetings were subsequently scheduled with the Department of the Navy (November 12 and December 2, 1975), the Federal Energy Administration (March 19, 1976), the Environmental Protection Agency (April 1 and June 7, 1976), the National Flood Insurance Program (April 19, 1976), the Bureau of Outdoor Recreation (May 11, 1976) and the Department of the Interior (June 1, 1976).

The Council has and will continue to utilize such regional agencies as the New England River Basins Commission and the New England Regional Commission as focal points and forums for addressing regional issues and coordinating coastal management policy with neighboring states. Rhode Island is already deeply involved in regional fisheries and OCS oil related studies through the Regional Commission and has cooperated with the River Basins Commission in the recently completed Southeastern New England Study. The Coastal Zone Liaison Office of the River Basins Commission has provide continued interaction with other coastal management efforts in the region.

To further ensure that federal agency interests received prompt and careful consideration, the Council created the position of state-federal coordinator and notified all designated federal representatives of this individual's availability on February 1, 1977. Since that time the coordinator has served as the central clearinghouse for all contacts with federal agencies, ensuring that interested agencies received drafts of proposed program policy elements and that their comments, whether verbal or written, were recorded and reflected in subsequent draft revisions.

To augment the above described consulting efforts the Council in the Spring of 1976 invited all federal and regional agencies interested in Rhode Island's coastal region to participate as members of a newly established Federal Advisory Committee (FAC). The purpose of this Committee was to provide an open forum for federal agency comment on and participation in Rhode Island's program development and implementation efforts and a mechanism for identification and resolution of state-federal differences.

The first formal meeting of the FAC was called by the Council on February 24, 1977, to solicit agency reactions to and suggestions for the state's ongoing program development effort. Council members and staff described the proposed program development strategy, format and schedule and initiated extensive dialogue with participants as to how agency interests and comments could most effectively be integrated into the program.

As a result of this dialogue and at the suggestion of agency representatives it was decided that all participants should be given an early opportunity to review and comment on individual program elements while still in a draft stage, but that further group meetings should be deferred until all program elements were completed and the state had responded to agency comments.* A list of proposed state policy areas was circulated on February 28 and agencies indicated those areas in which they were interested and wished an opportunity to review drafts. Table C-5 summarizes the major points raised by federal agencies during the process of Program development. A total of 31 federal agencies have been contacted of which 24 have actively commented on the Program as it has developed.

4.3 Coordination with Federally Supported Planning: As described in Appendix A, coordination between federally supported in-state planning programs and the state's Coastal Resources Management Program is mandated by legislative enactment (46-23-6 and 10, G.L.R.I.). Specific procedures for effecting this coordination are also set forth. These are of four principal types.

(1) The Council is authorized and directed to coordinate planning and program implementation efforts with local, state, regional and federal agencies (46-23-6c(b)).

(2) The Council is directed to function as a binding arbitrator in any matter of dispute between two or more state agencies or municipalities where such dispute involves the state's coastal region and its resources (46-23-6c(a)).

(3) All other departments, agencies and bodies of state government are directed to exercise their planning and management responsibilities consistently with Council Policies and Regulations as set forth in the Coastal Resources Management Program (46-23-5A(f) and 46-23-10).

*A workshop on program mapping was, however, held on May 26 in Boston to familiarize interested agencies with the map types and techniques proposed for inclusion in the state program and to be used by the Council in the permit application review process.

TABLE C-5

SUMMARY: CONSIDERATION OF FEDERAL COMMENTS*

Agency/Contact	Federal Comments**	Rhode Island Response**	Unresolved Issues
(1) National Marine Fisheries Service	(1) Goals for future of RI fisheries should be set forth. (2) Council should cooperate with New England Fisheries Management Council in implementing state management programs. (3) Should provide for interstate cooperation & coordination of fisheries management programs; include state & federal agencies. (4) Coastal Energy Impact Program should not put pressure on state to permit non-water dependent development of coastline. (5) Impacts on fisheries should be specific management concern for uses likely to affect marine waters. (6) Endorses proposed permit evaluation & impact assessment methods; recommends including water dependency as a consideration.	(1) Expansion potential of R.I. fishing industry recognized policies to protect fishery are set forth (Sections 2.1, 5.2.2). (2) Policies to this effect incorporated in redraft of Section 2.1. (3) See (2). (4) Agreed, water dependency is basic siting criteria for commercial-industrial development in coastal region (Section 5.4). (5) Incorporated in policies for all uses under "damage to coastal environment." Incorporated specifically for uses most likely to affect fisheries in particular (Sections 2.1, 2.3, 3.2, 5.3, 5.5, 6.3). (6) See (4).	

* A log of all correspondence, telephone and personal communications between Council staff and federal reviewers has been maintained by the State Federal Coordinator.

** This table will require periodic updating as new federal comments are received and considered by the state. Comments on several important policy areas have not yet been received. All comments received by June 15, 1977 have been summarized.

TABLE C-5 (con't)

Agency/Contact	Federal Comments	Rhode Island Response	Unresolved Issues
(2) Fish & Wildlife Service	(1) Believes that federal surplus port facitities should be developed if this would cause less environmental damage than expansion of Port of Providence even if competition resulted. (2) Believes that a less environmentally harmful alternative to filling at Wilkeberry Pier could be found. (3) Suggests that estuarine categories be more completely defined and the reason for placing individual estuaries in these categories be explained. (4) Suggests that Regulatory Policies for Conservation/Low Intensity Use Estuaries be adopted.	(1) Policies as set forth in Section 1.1 and 5.2.1 impose specific environmental constraints on any port area. (2) Permit to expand this pier was granted only after careful evaluation of environmental impacts and alternatives. (3) This has been done as part of expansive redrafting of Sections 1.1 and 1.2. (4) See (3)	
(3) Bureau of Land Management	(1) Suggest cross-reference of policies & their application so intent would be clearer. (2) Clarify relationship between various policies. (3) Explain how priorities will be implemented (4) Define criteria for implementing policies. (5) Policies on minerals extraction will cause delays and increased costs to operators which should be considered in program EIS.	(1) This has been done where appropriate. (2) General redrafting and inclusion of summary permissibility/priority table in Appendix C.1 addresses this. (3) See (2) (4) See (2) (5) Findings and research leading to adoption of policies under Section 2.3 indicate no marine mining likely for next 20 yrs. State finds no impacts.	

Table C-5 (cont.)

Agency/Contact	Federal Comments	Rhode Island Response	Unresolved Issues
(4) Bureau of Mines	(1) Feels importance of mineral extraction in the coastal zone is inadequately considered.	(1) The Council has adopted policies regarding mineral extraction (Sections 2.3 and 2.4)	The Council recognizes a basic difference of opinion on mineral extraction in the R.I. coastal region.
(5) Department of the Navy	(1) Should clearly indicate that some areas designated for inclusion in the Bay Islands Park, for Historic Preservation and for Recreational Boating are Navy owned and are excluded from the coastal zone. (2) Should describe positive solutions to dredge spoil disposal requirements.	(1) This has been done in Appendix C.3. (2) See amended policies on dredging and dredged material disposal (Section 5.3).	
(6) Department of Agriculture	(1) State efforts to inform & involve public in program development improving. (2) Finds Commercial Fishing and Recreation Ports Policies excellent. (3) Suggests referencing information sources. (4) Shouldn't include construction noise as management consideration because it is temporary. (5) Endorses Council research & public education efforts.	(3) This has been done as suggested. (4) While the duration of any impact is an important consideration, the Council believes that temporary impacts must be recognized.	
(7) Economic Development Administration	(1) Pleased with mechanisms for state-federal coordination. (2) Believes R.I. "well on its way to developing an effective CZM Plan"!	(1)(2) Thank you	

(4) The Council is directed by law to develop management plans and programs consistent with the State Guide Plan (46-23-5A(g)). It has developed close formal and informal coordinating arrangements with the State agency (the Statewide Planning Program) responsible for developing and maintaining this Plan and for developing Plan elements relating to long range transportation planning,* comprehensive outdoor recreation planning**, housing and land use planning and "A-95" review of federally funded programs***.

The Statewide Planning Program through its planning responsibilities as the state's "A-95" review clearinghouse, therefore, provides a vital coordinating link between the Coastal Resources Management Program and federally supported programs and planning efforts****.

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* Transportation planning is supported by financial assistance from the US Department of Transportation in the form of Federal Highway Administration Highway Planning and Research Grants, general planning grants; Urban Mass Transportation Administration Planning Grants; Federal Aviation Administration Airport System Planning Grants.

** Preparation of State Comprehensive Outdoor Recreation Plan is supported by financial assistance from the Bureau of Outdoor Recreation, US Department of Interior under the provisions of the Land and Water Conservation Fund Act of 1965.

*** The US Department of Housing and Urban Development provides financial assistance to the state for housing and land use planning and "A-95" application review under section 701 of the Housing Act of 1954, as amended (Comprehensive Planning Assistance Program).

**** In a memorandum of understanding between the Council and the Statewide Planning Program dated March 22, 1976, the program states that it ".... shall review all proposals, programs and other governmental actions or requests subject to its A-95 review responsibilities for conformity with the plans, programs, policies, management standards and criteria of the Coastal Resources Management Council. Further, Statewide Planning Program will submit all such proposals, programs, acts and requests to Coastal Resources Management Council for review and comment."

(5) Opportunities for Ongoing Federal Participation and Review:

The Federal Advisory Committee shall function as the principal mechanism for conflict resolution and direct federal agency - Council coordination and consultation during implementation of the Coastal Resources Management Program. To this end it shall meet at a minimum of every three months, although special sessions will be convened as necessary.

Other opportunities for federal participation and review are set forth in detail under Procedural Policies (see Appendix B) and include:

1. Routine notification of and opportunity to review proposed Council policy and/or permitting actions;
2. Opportunity to present written comments and/or verbal testimony at public hearings pertaining to the above actions;
3. State consistency proceedings and procedures relating to federal activities, licenses and federally funded programs.

(6) Identification and Consideration of Federal Agency Interest in Rhode Island's Coastal Region:

One of the Council's principal information sources for identifying and incorporating consideration of the national interest into the various Policies and Regulations set forth in this document has been the mission descriptions and policy statements submitted to it by affected federal agencies. These provide the baseline against which the Council has measured its national interest obligations in formulating draft regulations and policies which have subsequently been modified in response to specific agency comments and suggestions. As is made clear below, federal legislation and Presidential Executive Orders have also been consulted in defining the national interest. Because of the significance of federal agency policy statements in the development of the Rhode Island Coastal Resources Management Program they have been summarized in Table C-6.

(7) Consideration and Weighing of Various National Interests as These Relate to the Rhode Island Coastal Resources Management Program:

The following summary statements address those facilities, the planning for and siting of which may be in the national interest. The manner in which each topic has been defined and described and the process of weighing competing national interests are described. Facilities which Rhode Island defines as being in the national interest are identified.

TABLE C-6

SUMMARY OF FEDERAL AGENCY MISSION DESCRIPTIONS/POLICY STATEMENTS

Agency	Mission/Policy Summary
RECREATION	
(1) Bureau of Outdoor Recreation	Develops national comprehensive recreational plans. Evaluates potential park and recreation areas, scenic trails, wild and scenic rivers. Provides technical assistance to state, local, private recreational planners. Administers Land and Water Conservation Fund which provides monies for acquisition of recreation areas and for state level recreational planning.
(2) National Park Service	Responsible for managing national natural, historic and recreational areas, for preserving and promoting compatible public use and enjoyment of these areas. Designates and manages National Landmarks. Provides grants-in-aid to state Historic Commissions.
(3) Fish & Wildlife Service	Administers management programs for sport fish, waterfowl and other birds. Provides technical assistance, research and enforcement related to developing and maintaining sport fisheries.
HISTORIC/CULTURAL AESTHETIC/CONSERVATION	
(1) National Park Service	Ensures that natural, scenic and cultural values including historical, archeological and architectural significance are adequately protected in federally funded projects.
(2) Fish & Wildlife Service	Undertakes research and monitoring programs related to habitat alteration, pollution and other factors affecting ecosystems. Responsible for protecting endangered species. Provides technical support to agencies involved in water development projects. Must approve federal programs affecting wildlife under provisions of Fish & Wildlife Coordination Act. Provides financial assistance to state wildlife management programs.

Agency	Mission/Policy Summary
(3) National Marine Fisheries Service	Recognizes habitat conservation as an essential part of resource management and utilization. Responsible for protection and conservation of living marine resources, prevention of unnecessary degradation of marine habitats.
FOOD & FIBER	
(1) Soil Conservation Service	Plans and finances watershed conservation projects, flood prevention programs. Encourages states to maintain/increase production of foodstuffs on suitable acreage. Provides technical services including soil mapping to prevent erosion. Promotes conservation and best utilization of water resources.
(2) Fish and Wildlife Service	Operates fish hatcheries for breeding and distribution of sport fish.
(3) National Marine Fisheries Service	Undertakes research on commercial fish species, provides technical assistance regarding gear, management and economics of commercial fishery.
(4) Army Corps of Engineers	Undertakes and/or finances improvements to harbors and navigation channels utilized by commercial fishery.
DEFENSE & AEROSPACE	
(1) Department of Defense	Conduct of military activities on and over coastal lands; on, over and under coastal waters including research, training and patrol missions. Responsible in association with other defense agencies with promoting the national defense. Rhode Island functions relate principally to training and research (Navy, Air National Guard, Army Reserves).
ENERGY PRODUCTION & TRANSMISSION	
(1) Federal Power Commission	Regulates and licenses electric power and natural gas production and transmission. Encourages efficient use and conservation of energy. Projects power and gas requirements.

Agency	Mission/Policy Summary
(2) Federal Energy Administration*	Primary energy policy office for federal government. Promotes energy conservation and development of both conventional and alternative fuel sources. Responsible for implementing fuel allocation and price control programs.
(3) Bureau of Land Management	Responsible for leasing OCS oil and gas reserves, supervising their exploration and development, including the preparation of environmental impact statements. Conducts baseline and monitoring studies of lease blocks. Regulates OCS pipeline construction and siting.
(4) Geological Survey	Provides technical services related to coastal and marine processes, sediments and mapping. Responsible for the Resource and Land Investigations Program, an effort to develop a methodology for siting onshore OCS oil and gas related facilities.
(5) Department of Transportation	Regulates siting and development of deepwater ports, transportation of petroleum products, prevention and cleanup of oil spills (Coast Guard), construction and operation of pipelines (Office of Pipeline Safety).
(6) Energy Research* and Development Administration	No policy statement.
(7) Nuclear Regulatory Commission	Assure public and occupational health and safety and environmental compatibility in siting and operation of nuclear facilities. Exercises extensive regulatory authority over siting, construction and operation of nuclear power plants.
INTERSTATE TRANSPORTATION	
(1) Department of Transportation -Coast Guard -Federal Aviation Administration	Responsible for developing a balanced national transportation system including well articulated and integrated modes through both direct federal actions and assistance (technical & financial) to state and local government. The Department sees a national interest in the "fast, safe, efficient and convenient access

*Incorporated in newly created Energy Department.

Agency	Mission/Policy Summary
-Federal Highway Administration -Federal Railroad Administration -Materials Transport Bureau -Urban Mass Transportation Administration -National Highway Traffic Safety Administration	via one or more modes of transportation for the movement of people, goods and services to, from, along and through the coastal zone."
(2) Army Corps of Engineers	Responsible for the maintenance, improvement and development of navigation channels harbors, breakwaters and related developments for commercial and recreational vessels. Responsible for protecting the environmental quality of navigable waters, adjacent wetlands and marine ecosystems by regulating discharges into them.
(3) Maritime Administration	Responsible for development of ports and related commercial transportation facilities. Coastal management concerns include need for deepwater terminal development, expansion and operation of national port system, channel and harbor improvements including landside port development to accomodate heavy industry, petroleum, bulk storage and container needs, environmental protection through proper waste reception, separation and recycling.
(4) Interstate Commerce Commission	Responsible for ensuring the public an adequate and efficient transportation system under private ownership. Has rate setting service standard and practice regulatory functions.

Agency	Mission/Policy Summary
MINERAL RESOURCES	
(1) Bureau of Mines	Responsible for mineral resources development through research and technical support. Concerned with assuring the conservation and adequate supply of domestic mineral resources and the provision of related handling and transportation facilities.
(2) Geological Survey	Responsible for identification of the nation's natural resources through technical and scientific research including mapping of physical, hydrologic and cultural features, topography and geology.
(3) Army Corps of Engineers	Responsible for identifying and testing of offshore sand and gravel and other borrow materials for use in construction and maintenance of civil works projects The availability of low cost construction materials is recognized as an essential factor in the economic feasibility of shore protection, beach nourishment, flood protection and navigation projects.
PRESERVATION OF LIFE AND PROPERTY	
(1) Federal Insurance Administration	Administers the National Flood Insurance Program which provides subsidized flood insurance to homeowners living in communities participating in the program. Is responsible for ensuring that participating communities implement required land use controls.
(2) National Ocean Survey	Collects and assesses data on tides, currents, storms. Goals are to provide basic geodetic control network for accurate mapping, charting, etc., to contribute to better understanding of the nearshore marine environment.
(3) Army Corps of Engineers	Supports National Flood Insurance Program by mapping flood prone areas. Provides technical assistance to states and municipalities for preparation of flood plain management regulations. Builds flood and storm protection structures.

ENERGY PRODUCTION AND TRANSMISSION

In determining the national interest in energy production and transmission, the following legislation and federal agencies were consulted:

- The National Energy Plan, April 29, 1977
- The Federal Power Commission
- The Federal Energy Administration
- The Bureau of Land Management
- The Maritime Administration
- The U.S. Geological Survey
- The Department of Transportation
- The U.S. Army Corps of Engineers
- The Energy Research and Development Administration
- The Nuclear Regulatory Commission

The most useful articulation of the national interest in energy is found in the National Energy Plan. There are three overriding objectives:

- as an immediate objective that will become even more important in the future, to reduce dependence on foreign oil and vulnerability to supply interruptions;
- in the medium term, to keep U.S. imports sufficiently low to weather the period when world oil production approaches its capacity limitation; and
- in the long term, to have renewable and essentially inexhaustible sources of energy for sustained economic growth. (Plan Overview, p. IX)

The salient features of the National Energy Plan are:

- conservation and fuel efficiency,
- national pricing and production policies,
- reasonable certainty and stability in Government policies,
- substitution of abundant energy resources for those in short supply; and
- development of nonconventional technologies for the future (Plan Overview, PP IX-X)

Elements of the R.I. Coastal Resources Management Program that are particularly applicable to the national interest in energy may be summarized as follows:

- The Council has jurisdiction over power generating plants and petroleum processing, transfer or storage (Chapter 6).
- The Program recognizes that conservation must be an essential component of any energy plan (Section 240).
- The Council shall cooperate with the Governor's Office of Energy Conservation.
- The program recognizes that oil and gas under Federal ownership on the Outer Continental Shelf (OCS) are important national assets.

Rhode Island has already contributed to the possible development of this resource by providing land at Davisville for OCS support industries involved in exploratory drilling on Georges Bank and in the Baltimore Canyon. Section 540.2 of this Program discusses the detailed planning already accomplished in anticipation of OCS oil and gas support bases in Rhode Island. OCS related industries and activities are designated as a high priority use for the excessed Navy lands at Davisville.

- "Due to its extremely high costs and safety problems, LNG is not a long-term secure substitute for domestic natural gas. It can, however, be an important supply option through the mid 1980's and beyond, until additional gas supplies may become available," (p. 57 of the National Energy Plan). Section 640.2 of this Program discusses LNG storage and processing. Detailed policies and regulations over LNG will be developed by September 30, 1978; broad policies and concerns, however, have been set forth. LNG facilities have not been excluded from the shoreline or coastal region.
- "The United States will need to use more light water reactors to help meet its energy needs. The Government will give increased attention to light water reactor safety licensing and waste management so that nuclear power can be used to help meet the U.S. energy deficit with increased safety." (p. 70 of the Plan). Section 620 of this Program discusses nuclear power plants but detailed findings, policies and regulations will not be developed until September 30, 1978. Nuclear power plants are not excluded from the shoreline or coastal region. A nuclear power plant is being considered for Charlestown in southern Rhode Island.
- Section 630 of this Program also sets forth findings, policies and regulations for the transfer of petroleum products and the bulk storage of petroleum. The topics to be considered in meeting the requirements of Section 305 (b)(8) of the Coastal Zone Management Act are described in Section 610.
- Section 240 of this Program treats native energy resources.

In balancing the national interest in energy production and transmission other resources and facilities in the national interest, this program has designated valuable natural features and habitats for preservation and restoration (see foldout map). However, the Program recognizes that coastal wetlands may have to be disturbed if the proposed activity is clearly in the public interest and no reasonable alternative exists (Section 120.0-2). In considering the placement of subsea pipelines, policies and regulations have been set forth that ensure that every practicable effort is made to protect fishing grounds and minimize impact to the coastal environment. The Program sets forth burdens of proof for applicants proposing alterations to the coastal region to ensure that environmental concerns are fully considered and that all practicable steps are taken to protect the integrity of the coastal ecological systems.

RECREATION

In determining the national interest in Recreation, the following documents, legislation and federal agencies were consulted:

- The Nation-Wide Outdoor Recreation Plan
- Historic Preservation Act-Public Law 89-665
- Land & Water Conservation Fund Act
- State Comprehensive Outdoor Recreation Plan (SCORP)
- Bay Islands Park Plan
- Bureau of Outdoor Recreation
- National Parks Service
- Fish and Wildlife Service

Major objectives of the national interest in recreation are:

- Recreation should be considered as an equal among competing uses of the coastal region.
- To provide high quality recreational opportunities to all people of the United States while protecting the coastal environment.
- Increase public recreation in high density areas
- Improve coordination and management of recreation areas
- Protect existing recreation areas from adverse contiguous uses
- Accelerate the identification and no-cost transfer of surplus and under-utilized federal property.

The Rhode Island Coastal Resources Management Program has incorporated the national interest in the following manner:

- The Rhode Island Coastal Resources Management Program has incorporated the State Comprehensive Outdoor Recreation Plan (SCORP), which is consistent with the National Outdoor Recreation Plan.
- Rhode Island recognizes that certain of it recreational facilities, especially its beaches, parks and historic sites and districts greatly contribute to the national interest in recreation.
- Public beaches and parks and historic sites have been designated as areas to be preserved and restored (see Foldout map).
- Goal 4 for the management of the Rhode Island coastal region expresses the Council's commitment to recreation.
- The Council has designated three of Rhode Island's estuaries - the Kickamuit, Sakonnet and Pettaquamscutt Rivers - as Multiple Use Recreation Estuaries and two Rhode Island estuaries - Pawcatuck River Estuary and Little Narragansett Bay and the Warren River - as High Intensity Recreation Estuaries.
- The Council has adopted specific priorities, policies and regulations for the above designated estuaries to insure that their recreational values are preserved and enhanced (Section 110.0-2).
- The Council has adopted findings, policies and regulations on Public Beaches and Parks (Section 420) which require that proposed activites on or contiguous to such areas will not significantly interfere with or damage the recreational use or value of the affected beach or park.
- The Council has endorsed the concept of a Bay Islands Park System in Narragansett Bay (Section 470). The realization of this concept depends on the acquisition of several parcels of excessed Navy property. This system is designed to provide high quality recreational opportunities to the state's large urban population.

NATIONAL DEFENSE AND AEROSPACE

To determine the national interest in national defense and aerospace the following agencies and entities were consulted among others: [1]

- Commandant, First Naval District
- Office of the Assistant Secretary of Defense

Major objectives of the national interest in national defense and aerospace are:

- To ensure the sovereignty of the nation and protect its citizens against physical harm or expropriation.
- To establish and maintain those facilities necessary to carry out the first objective.

The clearcut and overriding importance of national defense is recognized by the Rhode Island program. Although the Naval presence has declined in recent years, military commands are located in the Rhode Island coastal region, and the establishment of new defense facilities for national security reasons remains a possibility. The Rhode Island program excludes from its jurisdiction federally owned, or leased land and facilities (See Figure C-2).

The Rhode Island program will not question national security as a justification for new or expanded defense facilities. Rhode Island will make every effort, however, to ensure maximum conformance with the Rhode Island program through investigation of alternative sites and mitigation methods. It is Rhode Island's understanding that defense agencies conform to the Rhode Island Coastal Resources Management Program to the maximum extent practicable. Federal consistency mediation procedures will be used as necessary.

REGIONAL WATER TREATMENT PLANTS

In determining the national interest in regional water treatment plants, the following Acts and federal agencies have been consulted:

- Federal Water Pollution Control Act of 1972
- U.S. Environmental Protection Agency

The major objective of the national interest in regional water treatment plants is to provide adequate funds for sewage treatment facilities so that the pollution of our nation's waters can be abated.

In addressing this objective, the Rhode Island Program recognizes that concomitant with the Program's support of the attainment of national water quality goals (See Air and Water above), adequate sewage treatment plants must be accomodated in the coastal region.

[1] The federal agencies listed do not include all agencies with an interest in each subject, rather the list includes the agencies that contributed substanitive input on a particular subject during the development of the Rhode Island Program.

- The Council has express jurisdiction over sewage treatment and disposal (46-23, G.L.R.I.)
- The Council is cooperating with the Rhode Island Areawide Water Quality Management Planning Program which is identifying alternatives for meeting wastewater treatment needs.

The national interest in sewage treatment plants is balanced with national interests in water quality and living marine resources by the Council's adoption of specific rules and regulations for sewage treatment and disposal (Section 310.0-2C). These regulations require that the applicant demonstrate that the coastal resource is capable of supporting the proposed treatment plant by meeting a number of specific burdens of proof (See Section 310.0-2.C.2)

TRANSPORTATION:

In determining the national interest in transportation the following documents and Federal Agencies were consulted:

- Department of Transportation Act (49 U.S. 1651, et. seq.)
- Railway Safety Act of 1970 (45 USC 421)
- Coast Guard, Primary Duties (14 USC 2)
- Department of Transportation
- Maritime Administration
- Interstate Commerce Commission
- U.S. Army Corps of Engineers

The major objectives of the national interest in transportation are:

- To develop a balanced national transportation system including well articulated and integrated surface, air, water, and subsurface modes.
- To provide fast, safe, efficient and convenient access via one or more modes of transportation for the movement of people goods and services to, from, and through the coastal region.

These objectives relate to the Rhode Island Coastal Resources Management Program in the following manner:

- Facilities for the various modes of transportation presently exist in the Rhode Island coastal zone. Plans for expansion, improvement or development of new facilities, with the associated impacts these may have, been considered in the framing of the findings and policies in this document (see Sections 520 and 550).
- The program states (Section 520.1-2) that port related industrial-commercial development is the highest priority use of the Providence and East Providence shorelines within the Port of Providence. The highest priority uses of the Port of Galilee are those related to commercial fishing. Several uses are listed as priority items for the Port of Newport (Section 520.2-2).
- The Council has recognized the crucial importance of dredging navigation channels (Sections 520.1-2 and 530) to maintain and expand port related activities.
- Existing major roads, airports and transit plans have been examined (Section 550) and burdens of proof have been defined to insure that new transportation facilities do not significantly damage the coastal

environment or conflict with Council plans or programs for the coastal region.

- The Council shall cooperate with agencies preparing environmental impact statements for transportation facilities to ensure that coastal issues and impacts are fully considered (Section 550.0-2).

PRIME AGRICULTURAL LANDS AND FORESTS

In determining the national interest in prime agricultural lands and forest the following legislation and federal agencies were consulted.

- Soil Conservation Act of 1935 (P.L. 74-46)
- Watershed Protection and Flood Protection Act of 1955 (P.L. 93-566)
- Food and Agricultural Act of 1962 (P.L. 87-703)
- The Soil Conservation Service
- The Fish and Wildlife Service
- The National Forest Service

The major objectives of the national interest in prime agricultural lands and forests are:

- To maintain and develop food and fiber production in light of the growing worldwide importance of foodstuffs
- To plan and finance watershed conservation projects as a protection against soil erosion
- To manage forest resources in a manner that ensures their continuing availability and productivity

There are no prime agricultural lands or forests of national significance in the Rhode Island coastal zone.

LIVING MARINE RESOURCES

In determining the national interest in living marine resources the following documents, specific legislation, and agencies were consulted:

- A Compilation of Federal Laws relating to Conservation and Development of our Nation's Fish and Wildlife Resources, Environmental Quality, and Oceanography. The Library of Congress, Congressional Research Service. January, 1975.
- A Marine Fisheries Program for the Nation. U.S. Department of Commerce. July 1976.
- Fishery Conservation and Management Act of 1976. (P.L. 94-265)
- Fish and Wildlife Service
- Army Corps of Engineers
- National Marine Fisheries Service

The major objectives of the national interest in living marine resources as expressed are as follows:

> To conserve, enhance and manage in a rational manner commercial fishing which constitutes a major source of employment and contributes significantly to the food supply, economy and health of the nation.
>
> To strengthen the contribution of marine resources to recreation and other social needs.
>
> To develop and protect all species of wildlife, resources thereof and their habitat, and to control losses by damage to habitat areas through coordination with other features of water resource development programs.

The salient features of the national interest in living marine resources are, therefore:

- emphasis on commercial fisheries
- relationship of marine resources to recreation
- protection of marine resources
- protection of wildlife habitat

Elements of the national interest in living marine resources with particular application to the Rhode Island Coastal Resources Program are as follows:

1) Emphasis on Commercial Fisheries

The Rhode Island Coastal Resources Management Program strongly supports a vigorous fishing industry.

- The Council has adopted specific policies and regulations on the state's major fishing ports - Pt. Judith and Newport (Section 520.2-2) which clearly give highest priority to uses and activities necessary to support the state's flourishing commercial fishing industry.
- The Council has adopted policies on marine fish and fisheries (Section 210.0-2) which clearly give priority attention to the protection of fishing grounds.
- The Council has designated commercial fishing as a high priority use of all SA waters (Section 210.0-2A).
- The Council through its policies and regulations for tidal waters and coastal ponds (Section 110.2-2) works to preserve and protect habitats essential to the maintenance of important fish populations.

2) Relationship of Marine Resources to Recreation

- The Rhode Island Coastal Resources Management Program emphasizes the importance of public use and enjoyment of its varied marine resources.
  - . The Council has adopted policies and regulations to protect the public's Rhode Island constitutional right of access to the shore (Section 410.0-2)
  - . The Council has endorsed the Bay Island Park System concept which will make many previously unavailable marine resources accessible to a multitude of Rhode Islanders and visitors from the rest of the nation (Section 470.0-2)

3) Protect Marine Resources

- The Council requires that any applicant for a Council permit for any development or activity within their jurisdiction meet a number of burdens of proof. Among them is that the proposed action will not significantly damage the coastal environment; more specifically that the proposed activity shall not adversely impact the productivity and commercial value of prime fishing grounds (Section 210.0-2.B.3).

4) Protect Wildlife Habitat

- The Rhode Island Coastal Resources Management program recognizes the need for the protection of wildlife habitat.
  - . The Council has adopted policies and regulations which give protection to important wildlife habitats - Shoreline Systems (Section 110.0-2); Tidal Waters and Coastal Ponds (Section 120.0-2) and Conservation and Management Areas (Section 430.0-2).

Other national interests in energy production and transmission and transportation are weighed against national interests in living marine resources with the result that the planning for and siting of such national interest facilities must avoid damage to the coastal environment. An applicant must demonstrate that the Coastal Resources are capable of supporting the proposed activity including the potential impacts and/or effects on:

- bottom communities, fishing grounds, shellfish beds, marine spawning and nursery grounds (Section 550.0-2.H.3)
- public access to and recreational enjoyment of public parks and beaches (Section 550.0-2.E.1)
- uses or activities to which a resource is allocated by a Council Plan or Program (Section 610.2-2.A)

ENDANGERED FLORA AND FAUNA

In determining the national interest in endangered fauna and flora, the following legislation was considered: The Endangered Species Act of 1973 (P.L. 93-205). The major objectives of the national interest in endangered flora and fauna are:

- to provide a means whereby the ecosystems upon which endangered and threatened species depend may be conserved.
- to provide a program for the conservation of such endangered and threatened species.
- to take steps as may be appropriate to achieve the purposes of treaties and conventions in which the United States has pledged its support for the conservation of wild flora and fauna worldwide.

Elements of the national interest in endangered species with particular application to the Rhode Island Coastal Management Program are as follows:

- Many recognized important habitats are protected through the designation of Areas for Preservation and Restoration (See page 305)
- Council policies and regulation for tidal waters and coastal ponds (Section 110.0-2), Shoreline Systems (Section 120.0-2) insure the protection of important coastal habitats
- The Rhode Island Program found that important terrestrial habitats were adequately regulated by existing state laws and management programs.

WETLANDS

In determining the national interest in wetlands the following documents and federal agencies were consulted:

- Section 404 of the Federal Water Pollution Control Act,
- The National Environmental Policy Act of 1969 (42, U.S.C. 4321)
- The May 24, 1977 Executive Order - Protection of Wetlands
- Fish and Wildlife Service
- U.S. Army Corps of Engineers
- Soil Conservation Service

The major objectives of the national interest in Wetlands are:

- To protect basic values of wetlands as habitat and food sources for waterfowl and aquatic life;
- To protect the functioning of wetlands for flood prevention, storm buffering, water supply, nutrient exchange, and as a recreational resource.
- To regulate alteration of wetlands and the disposal of dredged materials in U.S. waters and associated wetlands.

Elements of the national interest in coastal and freshwater wetlands as these apply to the Rhode Island Coastal Management Program are as follows:

- The preservation of Rhode Island's nearly 4000 acres of coastal wetlands is clearly in the national interest. Rhode Island's marshes contribute to the productivity of the Northeastern coastal ecosystem and are especially important to migrating birds.
- The many values of wetlands are recognized by the Council in their findings on coastal wetlands (Section 120.4) and in the designation of coastal wetlands as areas for preservation and restoration.
- Development or alteration of coastal wetlands or areas contiguous thereto require a Council permit (Section 120.4)

Wetland alterations are permitted only if the applicant can demonstrate that the proposed alteration will not significantly damage the biologic and/or hydrologic processes within or affecting the wetland. These regulations are balanced against other national interests as follows:

- The Council may permit disturbances to biologic and hydrologic processes within or affecting a coastal wetlands only where it is demonstrated by clear and convincing evidence that a bona fide benefit to the public welfare will result and that no other reasonable alternative exists (Section 120.4)
- The Council's commitment to coastal wetland preservation is clear in their permit granting record. Since its inception in 1971, only one permit to alter a wetland has been granted (for an aquaculture operation) and the permit stipulated that the marsh must be restored when the project is terminated.

Rhode Island's freshwater wetlands are protected and managed primarily through the Freshwater Wetland Act of 1971 (20-1-18 to 25, G.L.R.I.) as administered by the Department of Environmental Management. The Council reviews all applications for alterations to freshwater wetlands in the coastal region.

HISTORIC SITES AND DISTRICTS

In determining the national interest in historic sites and districts the following documents and federal agencies were consulted:

- The Antiquities Act of 1906 (34 STAT 225)
- Historic Sites Act of 1935 (49 STAT 666)
- Archaeological and Historical Preservation Act of 1974 (P.L. 93-291)
- National Historic Preservation Act of 1966 (Executive Order 11593)
- National Environmental Policy Act of 1969
- National Park Service

The major objectives of the national interest in historic sites and districts are:

- To afford protection to designated historic and archaeological sites from adverse impacts.
- To consider cultural resources in assessing the environmental impacts of proposed activities.

Elements of the national interest in historic sites and districts as these apply to the Rhode Island Coastal Resources Management Program are as follows:

- Rhode Island's coastal region is rich in historic sites and districts which clearly contribute to the national interest
- The Council has adopted specific policies and regulations which give high priority to the preservation and restoration areas and sites of historical and archeological significance. The Council requires modification to proposed alterations contiguous to designated historic sites which have a reasonable probability of causing structural damage to the site (Section 450.0-2.B).
- The Council evaluates all proposals subject to its review or permitting authorities including national interest facilities for their impact on historic sites, buildings, or districts (Section 450.0-2.C).
- Historic sites and districts are designated as geographic areas of particular concern designated for preservation and restoration (page 305).
- The Council has developed coordinating procedures with the Rhode Island Historic Preservation Commission whereby the Council routinely sends all permit applications to the Commission for review and comment, and the Commission notifies the Council of all additions of historic and cultural features to the Federal or State Registry.

AREAS OF UNIQUE CULTURAL SIGNIFICANCE

See Historic Site and Districts

FLOOD PLAINS, EROSION HAZARD AREAS AND BARRIER BEACHES

In determining the national interest in flood plains the following documents, legislation and federal agencies were consulted:

- Flood Disaster Protection Act (P.L. 93-234)
- National Flood Insurance Act of 1968 (P.L.
- Water Resources Development Planning Act of 1974 (P.L. 93-251)
- The President's Executive Order on Floodplain Management (May 24, 1977)
- The Federal Insurance Administration
- Department of Housing and Urban Development
- U.S. Army Corps of Engineers

The major objectives of the national interest in these areas is to avoid the long and short term adverse impacts associated with the occupancy and modificiation of floodplains.

The Rhode Island Coastal Resources Management Program has incorporated the national interest in floodplains, erosion hazard areas and barrier beaches through the adoption of specific policies and regulations,

- The state's barrier beaches are the areas most subject to damage from flooding (located in theV-zone) and erosion (Sections 130.0-1 and 140.0-1).
- The Council has restricted development on barrier beaches (Section 120.0-2)
- The Council has adopted regulations more stringent than those set forth by the Federal Flood Insurance Program for the construction of structures located on developed barrier beaches (Section 130.0-2.A.2)
- All Rhode Island communities subject to flooding are in the emergency or regular phase of the National Flood Insurance Program
- Through the adoption of specific regulations (Section 140.0-2), the Rhode Island Program clearly favors non-structural over structural measures for the control of erosion and flood control (140.0-2.A; 130.0-2.A and B).

AIR AND WATER

In determining the national interest in both air and water, the following acts and federal agency have been consulted:

- Federal Water Pollution Control Act (1972)
- Federal Clean Air Act (P.L. 93-319)
- U.S. Environmental Protection Agency

The major objectives of the national interest in air and water is to provide the citizens of the United Stated with air and water quality that will enhance their quality of life.

The Rhode Island Coastal Resources Management Program has considered the national interest in air and water by:

- incorporating federal air and water pollution control standards into the Rhode Island Coastal Resources Management Program (The Council is required by its enabling legislation 46-23-6A(d)) to develop Management programs consistent with water quality standard set by the Department of Environmental Management (see Sections 310.0-2 and 330.0-2).
- adopting policies which ensure coordination between the Council and the Rhode Island Departments of Environmental Management and Health, the '208' Regional Waste Water Treatment Planning Program and Region I of the U.S. Environmental Protection Agency

WILDLIFE REFUGES AND RESERVES

In determining the national interest in wildlife refugees and reserves the following agencies and specific legislation were consulted:

- Federal Aid to Wildlife Restoration Act of 1938 (Pittman-Robertson).
- U.S. Department of Interior - Fish and Wildlife Service

The major objectives of the national interest in wildlife refuges and resources are as follows:

- To protect and manage all species of wildlife and to control losses to habitat areas
- To strengthen the contribution of wildlife resources to recreation and other social needs.
- To provide for the acquisition and management of suitable wildlife conservation and managment areas where research investigation, and other wildlife programs can be facilitated.

Elements of the national interest in wildlife refuges and reserves which specifically apply to the Rhode Island Coastal Management Program are as follows:

- Federally owned refuges and wildlife preserves are excluded as federal lands from the provisions of the Rhode Island program
- Many coastal locations of significant value as wildlife habitat have been designated in the Rhode Island Program as Areas of Preservation or Restoration. These include coastal wetlands, coastal ponds, and all Conservation and Management areas within the coastal region (Page 305).
- The Council's Policies and Regulations state that proposals to alter lands or waters within or contiguous to an area committed to conservation or wildlife management purposes must demonstrate that the primary values for which the area was designated will not be significantly affected (Section 430.0-2B).

- The Council has determined that the Rhode Island Department of Environmental Management is the primary management agency relative to wildlife resource programs, and that no additional Council regulations specific to wildlife were needed at this time.
- As part of its '306' program the Council will in cooperation with the Department of Environmental Management investigate the need for additional conservation and wildlife management areas in the coastal region and identify appropriate sites (See Appendix D).
- The Council recognizes the importance of wildlife as a recreational resource in its findings on Wildlife (Section 250.4).

MINERALS

In determining the national interest in Minerals and Mineral extraction the following legislation and federal agencies were consulted:

- Mineral Leasing Act of February 25, 1920 (41STAT. 437)
- Bureau of Mines
- U.S. Geological Survey

The major objectives of the national interest in this area is: to stimulate private industry, to provide for the nation's mineral needs in a manner that best protects the public interest and to provide scientific and technical assistance in defining the nation's mineral resources.

These objectives relate to the Rhode Island Coastal Resources Management Program in the following manner:

- Rhode Island has abundant sand and gravel resources both on land and in its coastal waters; only on-land resources are presently exploited commercially (Section 230.0-1)
- The state's only other known potentially important mineral resource is coal (Section 240.0-1B)
- The Council has adopted specific policies and regulations for minerals extraction which balance the national interest in mining with the national interests in the protection of wetlands and other shoreline systems and living marine resources. More specifically the Council:
  - requires notification of all mineral extraction activities in the state and requires permits for all such activities where it finds a reasonable probability of impacts on adopted resource management plans or programs and/or damage to the coastal environment
  - The Council has prohibited the mining or quarrying of any material from cliffs, bluffs, wetlands or beaches abutting tidal waters (Section 230.0-2.B)

- The Council has placed a moratorium on the mining and extraction of minerals from the territorial waters of Rhode Island until such time as sufficient technical and research data is shown to the Council to demonstrate under what conditions said mining and extracting may be carried out without adversely altering the marine environment or conflicting with other uses of tidal waters (Section 230.0-2C.1)
- The Council enacted this moratorium in 1975 after lengthy consultation with representatives of the industry; marine sand and gravel mining is not expected to become a reality in Rhode Island within the next 10-20 years.
- The Council continues to sponsor research on the impacts of marine mining on the coastal environment.

C.5 Consistent Federal Actions

12.1 Federal Activities and Development Projects:

(1) Federal agencies shall provide the Council routine and timely notification of all proposed activities and development projects located or proposed to be located in the Rhode Island coastal region (defined as the state's 21 coastal municipalities).

(2) They shall further provide the Council such notification of all proposed direct federal activities and development projects likely to directly affect (as defined in 930.32 Federal Register, Vol. 42, No. 167) but not actually located in the state's coastal region. Such activities and projects include, but are not limited to:
   a. OCS oil and gas leasing actions;
   b. Planning, construction or modification of major facilities (see page 132) or installations within the state of Rhode Island but not within the coastal region.

(3) The Council shall construe "timely notification" as follows:
   a. Notification must be in writing and submitted at the earliest practicable time, at a minimum, 90 days prior to the stage at which alternatives to the proposed action may no longer reasonably be considered.
   b. Notification should be submitted directly to the Council.
   c. Notification must indicate the involved agency's assessment of its consistency or lack therof with applicable provisions of the Rhode Island Coastal Resources Management Program. Such assessment must address effects and consistency with specific Council Management Regulations and Policies.
   d. Notification shall describe the proposed action or project in sufficient detail, including as appropriate facility development plans, maps,engineering drawings, or other data and information, that the Council may independently evaluate its consistency with specific Management Regulations and Policies and the various permissibility standards and criteria contained therein.

(4) The Council shall notify in writing federal agencies proposing activities and development projects, under this section, of its agreement or disagreement with their consistency determination within 45 days of receiving said determination and supporting documentation as described under (3), c and d, above; provided that the Council may where necessary request an additional 30 days to evaluate and respond to federal agency determinations pursuant to 930.42(b) of proposed NOAA regulations.

(5) Where the Council disagrees with an agency determination of consistency it shall indicate the nature of its objection with specific reference to applicable Management Regulations and Policies as contained in the Coastal Resources Management Program. It shall further recommend alternatives to or modifications of the proposed action that would render it consistent with said applicable provisions. A copy of such notification shall be forwarded to the Associate Administrator for Coastal Zone Managment.

(6) It shall be the Council's policy to resolve state-federal disagreements on the consistency of proposed actions and developments through direct negotiation and consultation with the affected agency. It is the Council's belief that the majority of disagreements can be amicably resolved in this manner. The Council may also utilize the Federal Advisory Committee as a forum for cooperatively resolving federal consistency disagreements.

12.2 Federally licensed and Permitted Activities:

(1) Federal agencies shall not approve any license or permit for which requisite state permits or licenses required under the various provisions of the Rhode Island Coastal Resources Management Program have not been obtained. For purposes of said Program, such state permits and/or licenses alone shall be deemed valid state certification of consistency for actions likely to affect land or water uses in the Rhode Island coastal region. Failure to obtain such state permits and/or licenses and to forward copies thereof to the federal licensing or permitting agency shall in itself be deemed conclusive evidence of inconsistency with the Rhode Island Coastal Resources Management Program.

(2) "Requisite state permits and/or licenses" as referenced under (1) above shall include all Council permits and/or other state permitting actions which under the provisions of Title 46, Chapter 23 of the General Laws must be undertaken consistently with the Management Regulations and Policies set forth in the Rhode Island Coastal Resources Management Program.

(3) "Requisite state permits and/or licenses" shall further specifically apply to the following categories of federally licensed or permitted activities proposed for areas outside the coastal region where the Council finds a reasonable probability of conflict with any applicable provision of the Coastal Resources Management Program and/or damage to the coastal environment:

Design, location, construction, alteration and operation of
a. Power generating and desalination plants;
b. Chemical or petroleum processing, transfer or storage;
c. Minerals extraction;
d. Sewage treatment and disposal and solid waste disposal facilities.

(4) The Council,however, reserves the right to review the consistency of federal license and permit activities applicable to uses and/or developments which although not subject to the permit or licensing requirements of the Rhode Island Coastal Resources Management Program may nevertheless significantly affect the state's coastal region, its people or resources. The Council shall monitor such federal license and permit activities through the state's designated A-95 clearinghouse, through review of NEPA environmental impact statements and through such other avenues as provided to it by law. The Council shall notify the appropriate federal agency, the applicant and the Associate Administrator for Coastal Zone Management of its intention to review the consistency of proposed federal permit or licensing activities with applicable provisions of the Coastal Resources Management Program. Such notification shall be in writing and shall be made within a period not to exceed 45 days from the notice date of the federal license or permit application.

(5) State consistency determinations shall in all cases be subject to the public notice hearing and appeals provisions of the Rhode Island Administrative Procedures Act as reflected in Council Procedural Policies and Regulations.

(6) Where the Council finds issuance of a state permit and/or license to be inconsistent with applicable provisions of the Rhode Island Coastal Resources Management Program or where it finds that insufficient information to make such a determination has been submitted by the applicant, it shall deny or direct that said permit and/or license be denied. Such denial shall indicate the nature of the inconsistency with reference to specific provisions of the Coastal Resources Management Program. Alternatives to or modifications of the proposed action which would render it consistent with the Program shall be recommended. Where insufficient information is cited as the reason for permit denial the Council shall indicate the nature of additional information required and its bearing on making a consistency determination. The applicant shall be notified of his right to appeal the Council finding of inconsistency to the Secretary of Commerce.

(7) The Council will notify appropriate federal permit or license issuing agencies and the Associate Administrator for Coastal Zone Management of all state permit and/or licensing actions subject to this section within a period not to exceed six months from receipt of said permit and/or licensing applications. Where requisite state permit and/or licensing actions have not been completed within three months following receipt of said application the Council shall notify the applicant and the involved federal agency of the status of the matter and the reason(s) for further delay.

(8) Where pursuant to (4) above, the Council finds issuance of a federal permit or license for a use and/or development not subject to the permit or licensing requirements of the Rhode Island Coastal Resources Management Program to be inconsistent with said Program; it shall indicate the specific nature of the inconsistency, shall propose alternative actions and shall notify the federal permit or license issuing agency, the applicant and the Associate Administrator in the manner described under (6) and (7).

12.3 Federally Licensed and Permitted Activities Described in OCS Plans:

(1) Persons submitting any plan for the exploration, development or production of OCS oil and/or gas to the Department of Interior shall at the same time submit a copy of this plan together with an evaluation and certification of its consistency with the Rhode Island Coastal Resources Management Program to the Council. The term "person" for purposes of this section shall be defined as in 930.72, Federal Register, Vol. 42, No. 167.

(2) Such evaluation and certification shall:
   a. Describe in detail all federally licensed or permitted activities and/or facilities proposed;
   b. Describe whether or not each of these proposed activities and/or facilities will be sited, conducted and/or operated in a manner consistent with the Coastal Resources Management Program;
   c. Contain a discussion relating the coastal zone effects of each activity to relevant elements of said Program;
   d. Be accompanied by sufficient data and informatin to support the consistency certification and to allow the Council to plan for and manage coastal region impacts caused by OCS activities.

(3) For purposes of this section, "sufficient data and information" shall describe:
   a. The affected ocean area;
   b. Number of wells to be drilled;
   c. Drilling vessels, platforms and other offshore structures;
   d. Environmentally sensitive or hazardous areas discovered during exploration or development and actions proposed to preserve or assure safety for such areas;
   e. Procedures and equipment for preventing and cleaning up oil spills;
   f. Location, type and size of onshore support facilities and estimates of land requirements;
   g. Number of persons expected to be employed at offshore and onshore support facilities;
   h. Travel routes for boats and aircraft;
   i. Estimates of significant demands for major supplies, equipment, goods, services or other resources within coastal jurisdiction;
   j. Means for oil and gas transport, routes, and the estimated quantity of resources moving along such routes; and
   k. The likely timing and impact resulting from completion and shutdown of production.

(4) Federally licensed or permitted activities and/or facilities which must be described shall include, but are not limited to:
   a. Drilling permits;
   b. Platform siting and construction
   c. Pipeline siting and construction;
   d. Siting and construction of other structures in navigable waters;
   e. Waste and dredged material disposal;
   f. Siting, construction and operation of OCS related service-support, gas or oil processing, transfer or storage facilities.

(5) The Council shall review OCS plans and consistency certifications for consistency with specific provisions of the Rhode Island Coastal Resources Management Program and shall hold public hearings as provided for in Council Procedural Rules and Regulations pursuant to this review. Where the Council objects to one or more of the federal license or permit activities described in the consistency certification, it shall separately discuss each objection with reference to specific provisions of the Coastal Resources Management Program. Alternatives to or modifications of the proposed activity(s) which would render it/them consistent with the Program shall be recommended. The applicant shall further be notified of his right to appeal the Council's objection to the Secretary of Commerce.

(6) The Council shall notify in writing, the applicant, the federal license or permitting agencies, the Secretary of Interior and the Secretary of Commerce of its concurrence or objection within a period not to exceed six months after receipt of the OCS plan, consistency certification and supporting information.

(7) Where the Council has previously objected in whole or part to an OCS related consistency certification, it shall review amended or new OCS plans, consistency certifications and/or supporting data and information in the manner set forth under (5) above. Such new or amended material shall meet all standards of content and detail required for original submissions as described under (1) - (4), above. Within a period not to exceed three months from receipt of such new or amended material the Council shall notify all parties set forth under (6), above of its concurrence or objection.

(8) Where the Council finds that a person is in noncompliance with an approved OCS plan and that such noncompliance involves the conduct of activities affecting Rhode Island's coastal region in a manner not consistent with the Coastal Resources Management Program it shall so notify the U.S. Geological Survey Area Supervisor and the Associate Administrator for Coastal Zone Management. Such notification shall specifically describe the inconsistent activity and the nature of the inconsistency with reference to applicable provisions of said Program.

12.4 Federal Assistance to State and Local Government:

(1) Applications for federal assistance by units of state or local government and/or related public entities to plan for, design, build, alter or expand physical development projects in the following areas or the following types shall be routinely forwarded to the Council for certification of consistency with applicable provisions of the Rhode Island Coastal Resources Management Program:

a. Areas where Certification Will Be Required:
   1. All tidal waters
   2. Intertidal physiographical features
   3. Land areas above mean high water extending to the inland boundary of the coastal region (comprises 21 coastal municipalities)

b. Projects Requiring Certification Regardless of their location:
   1. Power generating and desalination plants
   2. Chemical or petroleum processing, transfer or storage facilities
   3. Minerals extraction facilities
   4. Sewage treatment and disposal and solid waste disposal facilities

(2) In order to ensure effective and timely Council review of applications for federal assistance relating to the above areas and projects the state's designated Project Notification and Review (A-95) Clearinghouse, the Statewide Planning Program, routinely forwards all such applications to the Council for consistency certification.

(3) The Council, however, reserves the right to monitor proposed federal assistance projects other than those described above through the A-95 and NEPA review processes and other similar avenues. Where such monitoring indicates a significant impact on the state's coastal region and a subsequent need for a consistency determination the Council shall notify the applicant agency, involved Federal agencies, the Statewide Planning Program and the Associate Administrator for Coastal Zone Managment of its intention to make such a determination.

(4) Within the time limits provided for A-95 review the Council shall notify the Statewide Planning Program of its objections, if any, to proposed projects. Such objections will describe how the proposed project is inconsistent with specific provisions of the Coastal Resources Management Program and shall recommend alternative measures (if they exist) which would render the project consistent with the Program. Notification shall further appraise applicant agency of the appeal procedures set forth under Subpart H of NOAA regulations published in Vol. 42, No. 167 of the Federal Register.

(5) The Statewide Planning Program in its role as A-95 Clearinghouse shall forward notification of Council consistency objections, if any, to and federal agencies.

6. Public, State and Local Governmental Involvement

6.1 Federal Requirements: The Federal Coastal Zone Management Act requires a state to develop its coastal management program with the opportunity for full participation by relevant federal agencies, state agencies, local governments, regional organizations, port authorities and other interested parties, both public and private. More specifically the regulations require Rhode Island to:

(1) identify "...public and private agencies and organizations which are liable to be affected by, or have a direct interest in the management program";

(2) provide enough information to groups to encourage their informed participation;

(3) make opportunities and methods for participation widely known;

(4) demonstrate that comments and suggestions raised by the public are thoughtfully considered.

(5) identify and establish a regular consultative mechanism with groups with adopted plans in effect as of January 1, 1977; and

(6) document its participation, consultation and coordination efforts

(7) hold a public hearing on the entire management program before submission to the Office of Coastal Zone Management in Washington, D.C.

6.2 Public Involvement in Coastal Zone Management in Rhode Island: Coastal zone management in Rhode Island has a long history of citizen involvement in program development. The state's efforts began in 1969 when the Natural Resources Group, an organization of private, interested citizens, recommended to the Governor that "a satisfactory means of guiding or directing its (Narragansett Bay) use and development...." be found. As a result of this report the Governor appointed a nine member technical committee as a first step towards drafting future management policies for Narragansett Bay. This committee solicited public input to their planning process through a questionnaire and through meetings with key interest groups. Their activities culminated in draft legislation to create a Rhode Island coastal zone management mechanism. The legislation introduced into the General Assembly as part of the Governor's 1970 Legislative Package died in committee.

To include a wider range of interests, the Governor expanded the technical committee to include some 75 members. The expanded group carried on the work of the original technical committee and continued to hold meetings to discuss citizen and interest group's concerns. The result of this expanded effort was Bill H 2440, Substitute "B", which passed the General Assembly and created the Coastal Resources Management Council in July 1971. The voting membership of the Council, a key element in the discussions of the expanded committee, insures the continued representation of diverse interests and points of view from state and local governments and the private sector.

6.3 Council Participation/Education Programs:

Since its inception, the Council has continued to include the many publics with an interest in Rhode Island's coast in the process of program development. The Council's public participation programs can be usefully separated into the following categories:

(1) Public Participation in Council Policy and Regulation Development

a. The adoption of all Council policies and regulations follows the procedures prescribed by the Administrative Procedures Act (42-34; G.L.R.I.; see also Appendix B).

b. To insure early and full participation in the development of its policies and regulations by all interested parties, the Council has in the past and shall continue to foster additional participation mechanisms including:

(1) workshops and meetings with interested and affected groups;
(2) citizen advisory committees: the Council has and will continue to form citizen advisory committees as appropriate;
(3) Task Forces: the Council has co-sponsored the Rhode Island Fisheries Task Force and will be instrumental in the formation and staffing of a Pollution Task Force;
(4) See also Chapter 7.

(2) Public Information and Education Programs.

a. Short brochure: describes the goals and activities of the Council; has been widely distributed (over 10,000 distributed) at Council meetings, town halls, speaking engagements, trade shows and schools.

b. Long brochure: provides a more detailed look at the Council-its activities and policies; has been sent to state legislators and local officials and is available to anyone requesting more detailed information about the RICRMP.

c. Council exhibit: A large photographic exhibit describing Rhode Island's Coastal Management Program has been exhibited in libraries, banks, shopping centers, and trade shows throughout the state.

d. The Media: In developing the Rhode Island Coastal Resources Management Plan, the Council has made full use of the media. The Providence Journal, the state's major newspaper (cir. 287,000) has carried thoughtful summaries of the substantive elements of the state program prior to the thirteen public workshops held during its development. In addition frequent press releases and information articles both on the program and on coastal issues have appeared in newspapers throughout the state over the last 5 years.

Radio and television have also been used as Council members and staff have appeared on numerous talk and news shows, and educational TV programs.

e. Newsletters: A bimonthly newsletter-"BRIEFINGS"- is sent to over 4000 Rhode Island citizens. This newsletter keeps the public informed as to Rhode Island Coastal Resources Management Program developments.

f. School Programs: See Public Participation Findings and Policies (see Chapter 7),

g. Workshops: The Council has found small, focused workshops to be an invaluable public education and participation tool. The CRMC holds two types of workshops: information exchange and problem solving. Information exchange workshops have been held with several state agencies and other key groups to insure that they are informed about the CRMC's activities and have opportunity for input to CRMC policies as these are being developed. Problem solving workshops have been conducted on coastal issues of importance to the entire state. The Council acts as coordinator at these workshops. Topics of Problem Solving workshops have included Dredge Spoil Disposal (7/29/75), Shoreline Erosion (4/3-/76), Rhode Island and Offshore Oil (9/22/77 - 9/24/77) and Aquaculture (4/26/77).

h. Slide/Tape Presentation: "The Rhode Island Coastal Resources Management Council"; a thirteen minute automatic slide/tape presentation describing the Council and the Rhode Island and Federal Coastal Management Programs has been prepared. This slide/tape has been used both by itself at expositions and in conjunction with the Council's Speakers Bureau. An updated version of the presentation was prepared in April, 1977.

(3) Public Participation Efforts Directly Aimed at Preparation of the Rhode Island Coastal Resources Management Program for Federal Submission:

The public participation programs described in the preceding section demonstrate the Council's on-going concern for keeping the public informed about and involved in the development of its policies and programs. While preparing the Rhode Island Coastal Resources Management Program for submission to the Federal Office of Coastal Zone Management the Council has made special efforts to inform and to encourage input from the many publics with interests in Rhode Island's coastal region. These efforts are briefly summarized below (See also Table C-7).

a. CRMC Speakers Bureau: Letters were sent to all key groups in 1975 requesting an opportunity to discuss the Rhode Island Coastal Resources Management Plan with them. Since that time members of the Council and its staff have discussed the Rhode Island Management Program with over 45 groups over the last 2 years which ranged in size from 10 to over 100 persons.

TABLE C-7

Public Participation Efforts

Key Groups With Interest in Rhode Island's Coastal Zone

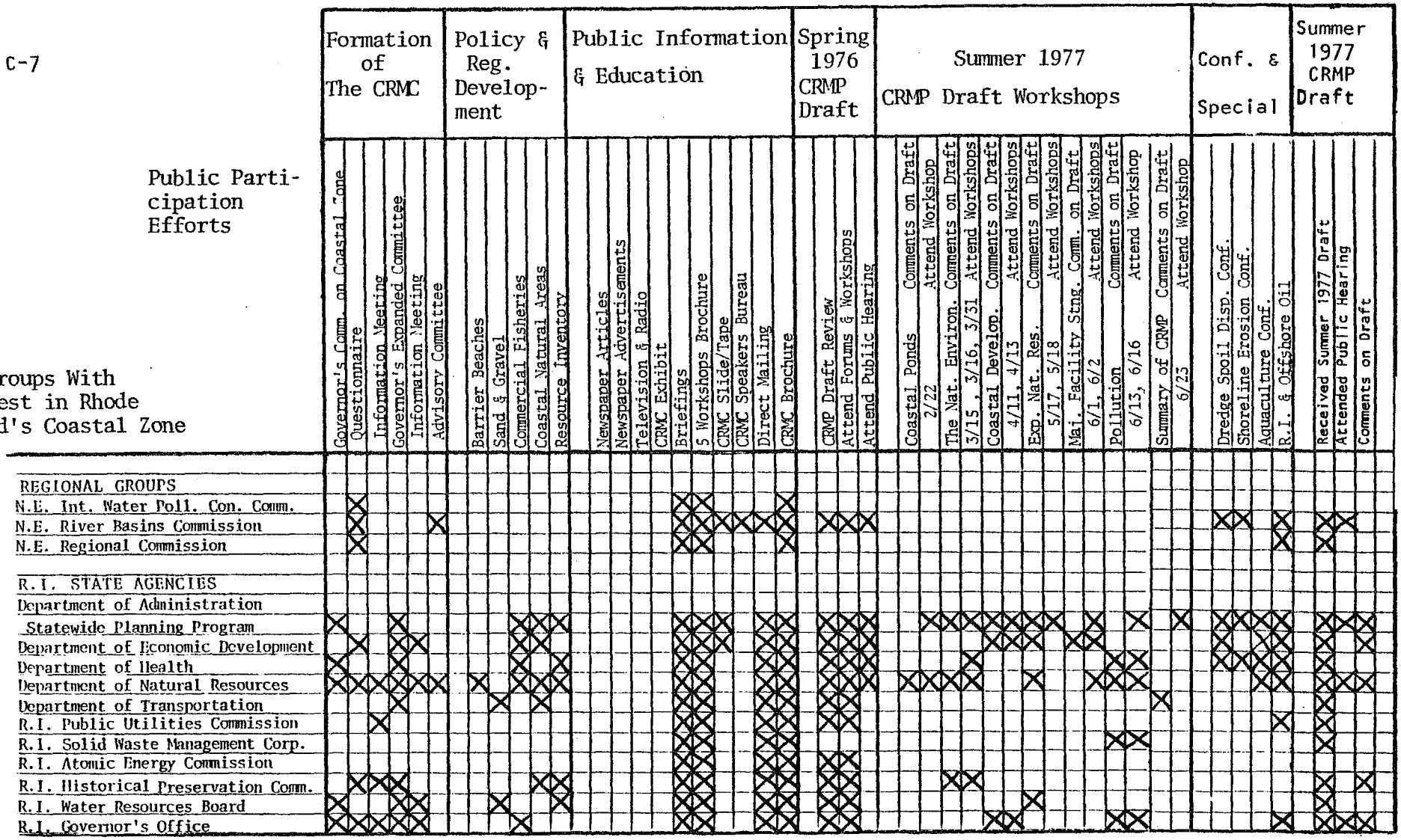

TABLE C-7

Public Participation Efforts

Key Groups with Interest in Rhode Island's Coastal Zone

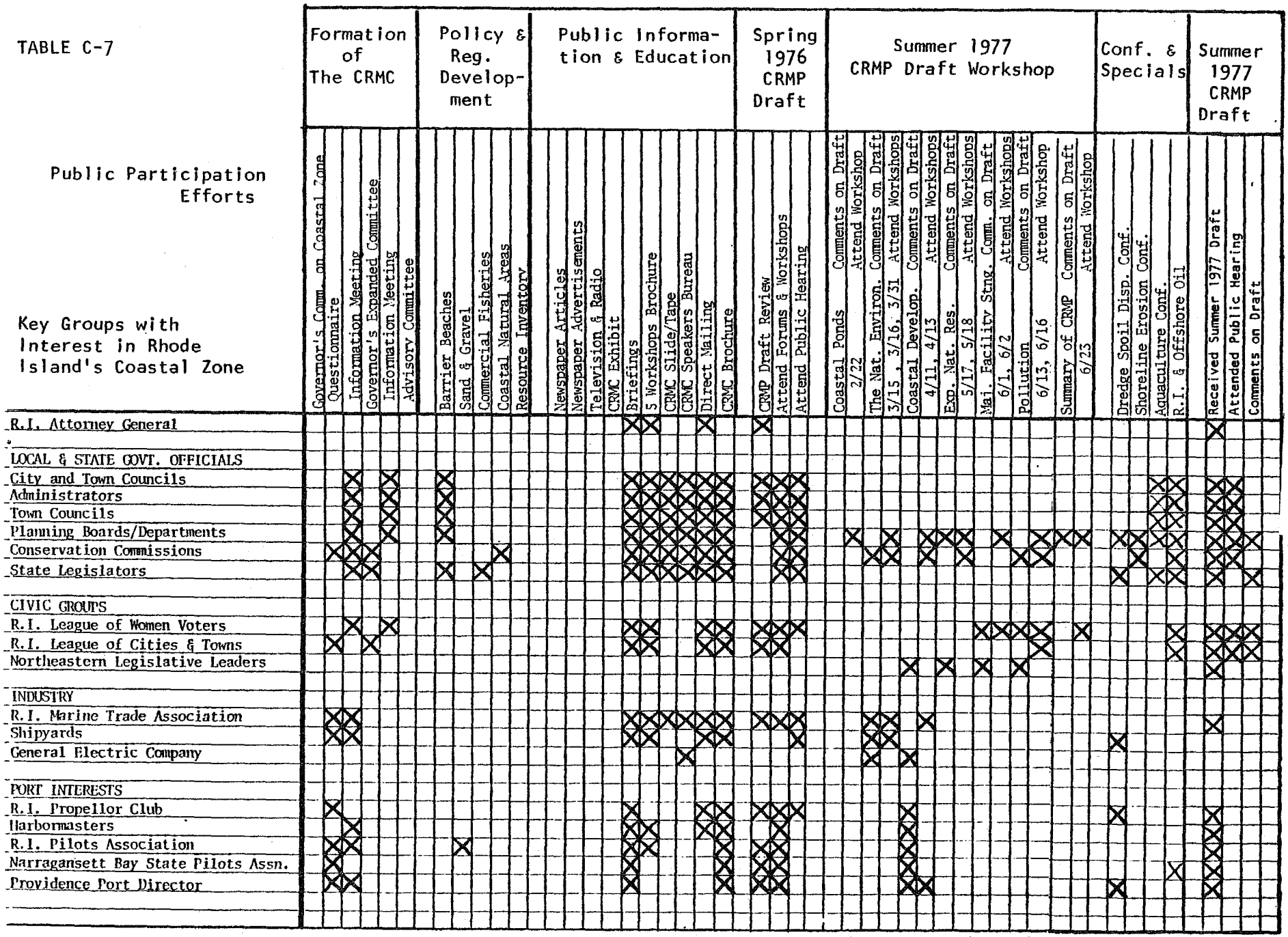

TABLE C-7

Public Participation Efforts

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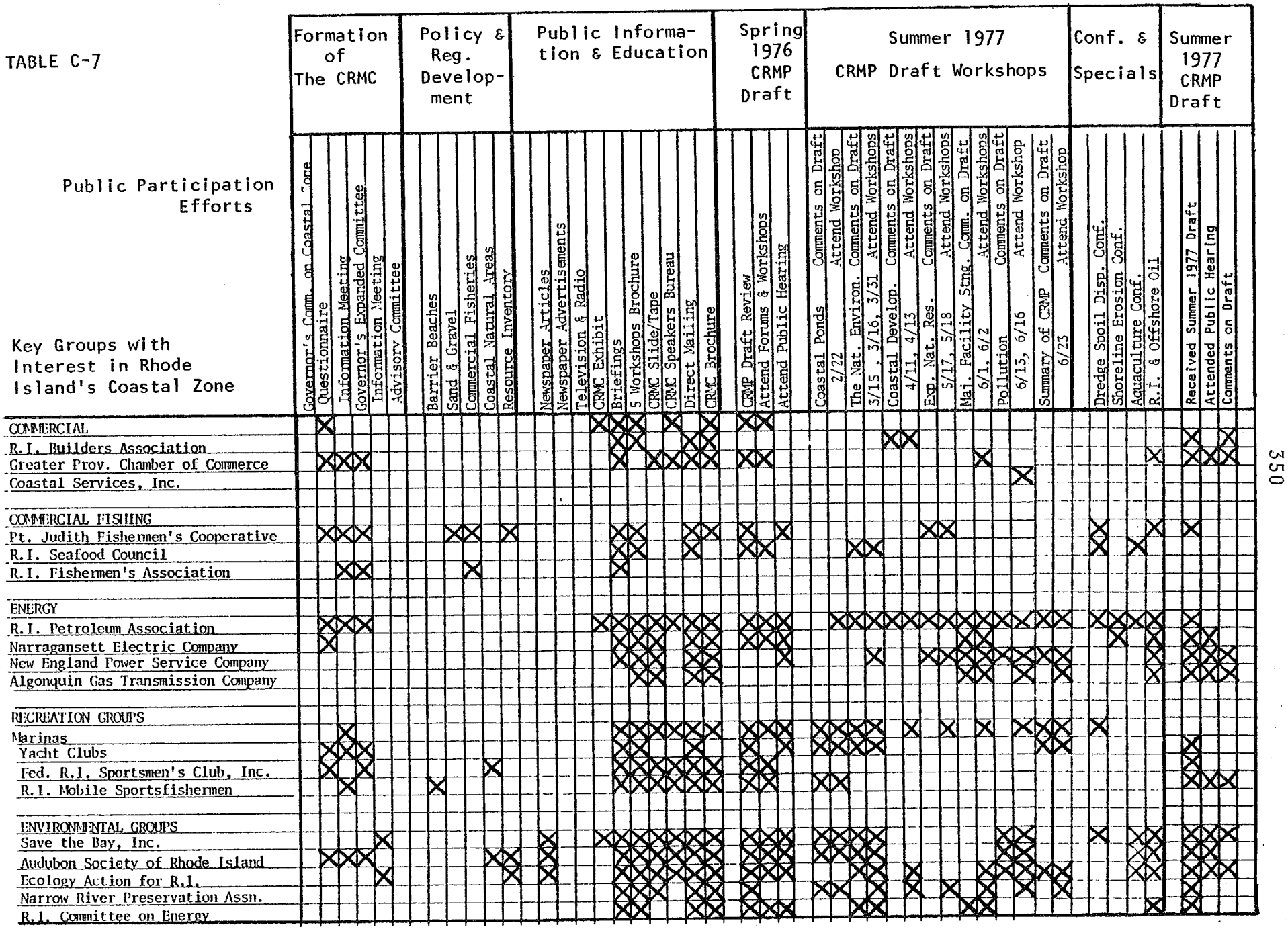
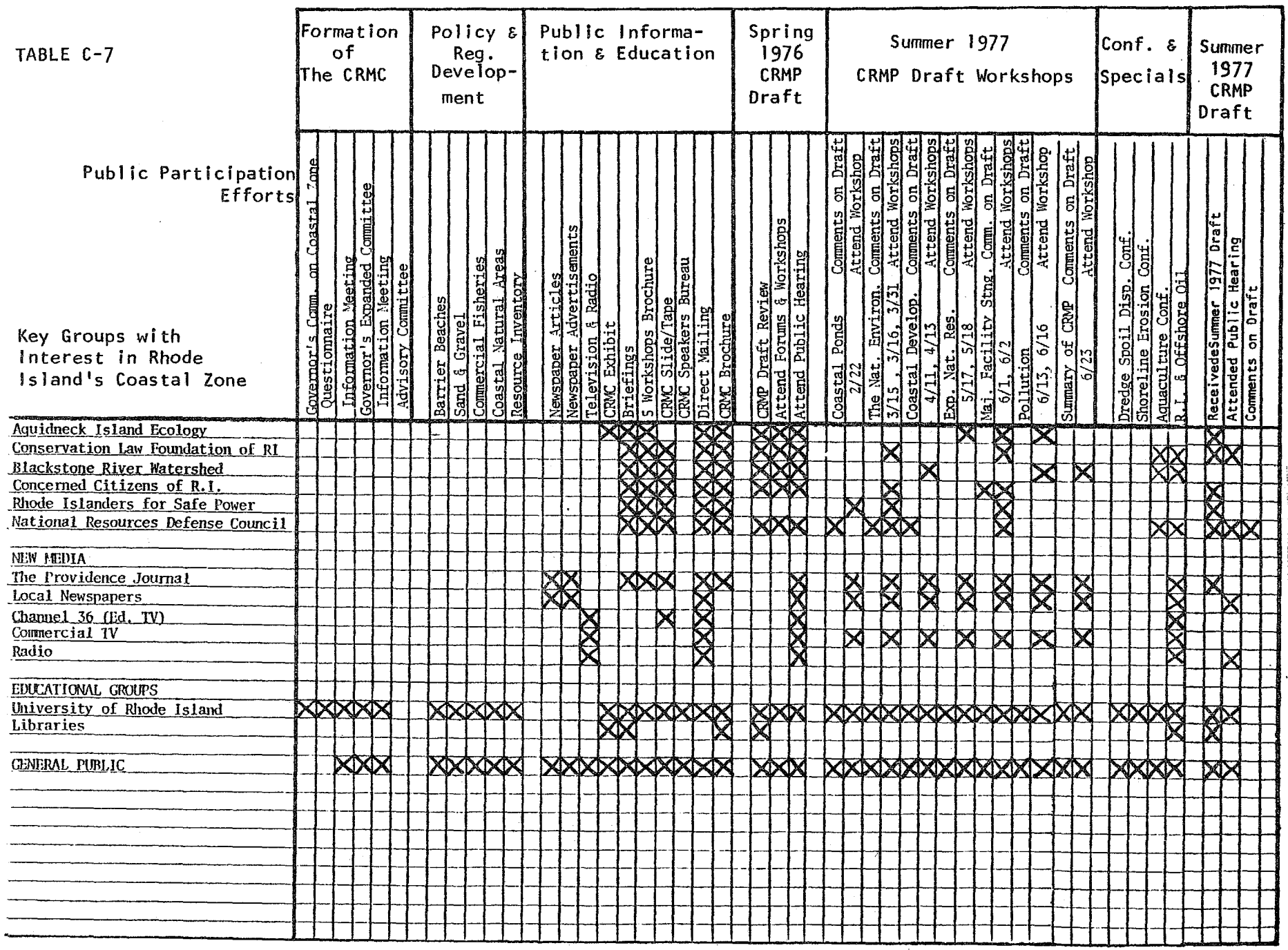


TABLE C-7


Public Participation Efforts
Key Groups with Interest in Rhode Island's Coastal Zone
Formation of The CRMC
Policy & Reg. Development
Public Information & Education
Spring 1976 CRMP Draft
Summer 1977 CRMP Draft Workshops
Conf. & Specials
Summer 1977 CRMP Draft
Governor's Comm. on Coastal Zone
Questionnaire
Information Meeting
Governor's Expanded Committee
Information Meeting
Advisory Committee
Barrier Beaches
Sand & Gravel
Commercial Fisheries
Coastal Natural Areas
Resource Inventory
Newspaper Articles
Newspaper Advertisements
Television & Radio
CRMC Exhibit
Briefings
5 Workshops Brochure
CRMC Slide/Tape
CRMC Speakers Bureau
Direct Mailing
CRMC Brochure
CRMP Draft Review
Attend Forums & Workshops
Attend Public Hearing
Coastal Ponds Comments on Draft
2/22 Attend Workshop
The Nat. Environ. Comments on Draft
3/15 , 3/16, 3/31 Attend Workshops
Coastal Develop. Comments on Draft
4/11, 4/13 Attend Workshops
Exp. Nat. Res. Comments on Draft
5/17, 5/18 Attend Workshops
Maj. Facility Stng. Comm. on Draft
6/1, 6/2 Attend Workshops
Pollution Comments on Draft
6/13, 6/16 Attend Workshop
Summary of CRMP Comments on Draft
6/23 Attend Workshop
Dredge Spoil Disp. Conf.
Shoreline Erosion Conf.
Aquaculture Conf.
R.I. & Offshore Oil
Received Summer 1977 Draft
Attended Public Hearing
Comments on Draft
Aquidneck Island Ecology
Conservation Law Foundation of RI
Blackstone River Watershed
Concerned Citizens of R.I.
Rhode Islanders for Safe Power
National Resources Defense Council
NEW MEDIA
The Providence Journal
Local Newspapers
Channel 36 (Ed. TV)
Commercial TV
Radio
EDUCATIONAL GROUPS
University of Rhode Island Libraries
GENERAL PUBLIC

b. Meetings with Officials and Interested Citizens from each each Coastal Municipality: Meetings were arranged with the officials and any other interested citizens of each coastal town to discuss the RICRMP and its relationship to town plans.

c. Draft Review: The Council provided draft copies of the RICRMP to interested and affected groups at the earliest possible times. Preliminary drafts were sent to the Chief municipal Administrator and Clerk of each coastal city and town in late January, 1976 and in March drafts were made available to all key groups.

d. RICRMP Spring 1976 Forums: To encourage widespread discussion of the Spring 1976 Program draft the Council sponsored two series (3 forums/series) of widely advertised forums; over 200 people attended.

e. Public Hearing: A formal public hearing, attended by over 120 people, was held on July 26. At that time 28 people presented formal comments on the Spring 1976 Program Draft.

f. Preparation of the Summer 1977 Draft Program Document:

(1) Meetings with Concerned Groups: Meetings were held with groups expressing major concerns about the RICRMP, Spring 1976 draft.

(2) Citizen Hotline: A special citizen's telephone line was established in February 1977, for answering citizen questions about the RICRMP.

(3) Development of Draft Findings & Policies; Technical Meetings and Public Workshops:

Prior to development of the draft findings and policies, numerous technical meetings were held with personnel of numerous state agencies and other experts. Seven series of workshops were held on the draft Findings and Policies of the RICRMP, Summer 1977 draft (Table C-8). As drafts were prepared, advance copies were mailed to individuals and agencies having a special interest in the subject area to be covered. All forums were widely advertised (paid newspaper ads, mailings to 4000 persons and press releases) and each received extensive media coverage. Copies of the draft findings and policies were available at all forums and were mailed on request.

(4) Draft Review: Copies of the Rhode Island Coastal Resources Management Program, Summer 1977 Draft were hand delivered to all Rhode Island municipalities on July 21 and 22, 1977. About 1100 copies of the draft program were then distributed to groups and individuals. The distribution of draft programs to key groups is indicated in Table C-7. A complete distribution list is available upon request.

TABLE C-8

WORKSHOPS ON THE FINDINGS AND POLICIES OF THE RHODE ISLAND COASTAL RESOURCES MANAGEMENT PROGRAM

Workshops	Approximate Attendance	Location
1. Coastal Ponds 2/22	120	Quonochontaug Grange, Charlestown
2. Natural Setting 3/15	90	Riverside Sportsmen's Club East Providence
3. Natural Setting 3/16	50	Roger Williams College, Bristol
4. Natural Setting 3/31	50	University of Rhode Island, Kingston
5. Coastal Development 4/11	40	Winman Jr. High, Warwick
6. Coastal Development 4/13	25	State House, Providence
7. Exploitable Natural Resources 5/17	50	Dutch Inn, Galilee
8. Exploitable Natural Resources 5/18	30	Middletown High School, Middletown
9. Major Facility Siting 6/1	35	Thompson Jr. High School, Newport
10. Major Facility Siting 6/2	60	University of Rhode Island, Kingston
11. Pollution 6/13	35	R.I. Dept. of Health Auditorium Providence
12. Pollution 6/16	40	Sheraton Islander, Newport
13. Summary 6/23	28	State House, Providence

(5) Public Hearing:

A public hearing on the Rhode Island Coastal Resources Management Program, Summer 1977 draft was held on August 23, 1977 in Room 313 of the Rhode Island State House in Providence. The hearing was attended by approximately 90 persons, twenty of whom presented comments. The public record remained open until August 31, 1977, during which additional letters were submitted to the Council. Comments received by key groups are indicated in Table C-7. Transcripts of the hearing and copies of written submissions are available from the Council's offices at 83 Park Street in Providence.

(6) Consideration and Incorporation of Public Comments:

Comments on the Rhode Island Coastal Resources Management Plan have been recorded as follows:

- Transcripts and tape recordings are made of all workshops and hearings.
- Written comments are kept on file.
- Oral comments are logged.

All written comments have been responded to in writing. Each letter of response specifically addresses the concerns raised by the commentator and indicates what action has been taken with regard to each comment. Copies of these responses are available for inspection at the Coastal Resources Center and the Council's offices. Special meetings between the Council and its staff, and groups with substantive comments have also been held.

The Council and its staff found that its open planning process was extremely beneficial to the development of the RICRMP. Many important but often difficult to quantify benefits were derived and the Council has responded positively and directly to all reasonable suggestions and criticisms.

The Council's practice of considering and responding to input from citizens, interest groups and local and state governmental agencies is well illustrated by the following examples of major Program mddifications.

a. Rhode Island had originally anticipated holding a public hearing on its CRMP in April, 1976, then submitting the program to OCZM soon thereafter. Comments from interest groups indicated that the public needed additional time to review the draft Program. Therefore, the Council extended the review period and made additional efforts to insure that both key groups and the general public understood the Program. Following suggestions made by Ecology Action for Rhode Island, the Rhode Island Conservation Law Foundation and the Natural Resources Defense Council, the CRMC made more copies of the preliminary draft Program available and initiated the series of public forums described previously.

b. A major criticism of the preliminary draft Program (1976) expressed at the Information forums was that its organization and language were confusing. In response to this criticism, the Program was extensively redrafted into its Spring 1976 form.

c. A coalition of environmental groups expressed concern that the impact assessment methodology of Appendix A of the Spring 1976 draft was cumbersome for permit review. They felt that specific priorities, policies and regulations had to be set forth for coastal activities and geographic areas. This was subsequently done and is reflected in the policies and regulations set forth in this document.

d. A major criticism of the Spring 1976 draft was that the maps were not uniform and were difficult to use. The Council has since undertaken a major mapping project; the products of which will be used in the permit review process. In this document, uniform easy-to-read orientation maps, are included.

e. A major concern of several interest groups was that the Council's permit review procedures be clearly set forth; and that the information on which Council decisions are made be open to the public. Proposed Council procedures were reviewed with these interest groups in November of 1976 and the procedures set forth in Appendix B of this document clearly incorporates their input.

f. A host of comments smaller in scope have also been included in this draft. A few examples are included below:

- The town planner from East Providence suggested that the Council recognize the Town's Waterfront Plan for oil storage facilities; this has been done.

- The Department of Natural Resources pointed out several errors of fact in the Findings on Culture and Recreation, these were corrected.

- As a response to the large public interest in the South County coastal ponds, an in-depth study for their management is being undertaken for the Council by the Coastal Resources Center.

- Mt. Hope Bay was classified as an Urban Estuary in an early draft of the Natural Setting. Nearby residents suggested that its classification be changed to a multiple use estuary; this was done.

g. Some thoughtful comments made by interest groups were carefully considered but were not incorporated into the plan. For example; an environmental coalition suggested that a well-funded Citizen Advisory Group be appointed. Because the Council is itself a group of appointed citizens, it was felt that other forms of citizen participation would be more effective. Another suggestion was that all town plans be made consistent with the RICRMP. Such action would be nearly impossible given present zoning enabling legislation and, while desirable in the long run, is not immediately necessary to implementation of an effective coastal management program given the extensive nature of the Council's regulatory and coordinating powers.

h. Changes in the document as a result of the August 23, 1977 public hearing: Because of the extensive public participation efforts that occured prior to the production of the Summer 1977 Draft Coastal Resources Management Program substantive changes to this final document have been minimal. The major changes to the Spring draft document which resulted from comments received at the Public Hearing are summarized below.

(1) The introduction to the document has been substantially revised and expanded.

(2) The policies and regulations for transportation (Section 550) have been modified.

(3) The Council's permit review procedures have been clarified by the addition of a flow diagram that illustrates the "path" of an application before the Council (Figure B-1).

(4) The description of mechanisms for coordination of the Rhode Island Coastal Resources Management Program with other state programs has been expanded. Special attention has been given to the Council's relationship with the Statewide Planning Program and the Department of Environmental Management.

(5) Appendix D, Major Implementation Objectives: First Year Work Program has been revised to more clearly detail the state's priorities for program implementation.

(6) A glossary of technical terms has been added to the Program.

(7) The sections on "Federal Consistency" (Appendix B-12, Summer 1977 Draft) and "Consideration of the National Interest" (Appendix C 4); Summer 1977 Draft) have been reorganized into two sections (C-4 and C-5) in Appendix C, and expanded.

(8) Numerous small errors in fact, grammar, and spelling were corrected.

(7) Coordination of the Rhode Island Coastal Resource Management Plan with other Relevant Plans:

(a) Identification of Relevant Plans:

(1) State Plans: The State of Rhode Island currently has 69 "framework" or general plans which are administered by 22 state agencies, councils and commissions. Sixty of these are required by Federal Law. Of the 69 state plans, 31 have been identified as being relevant to the RICRMP (Table C-9).

(2) Local Plans: All coastal communities have adopted zoning ordinances; all but Tiverton have Recreation, Conservation and Open Space Plans; and all but Portsmouth and Little Compton have adopted Comprehensive Community Plans (Table C-10). Most communities also have regulations and policies which provide additional control over coastal areas (e.g., subdivision controls and detailed zoning ordinances).

(b) Contact with Identified Groups:

Direct contacts have been made on many occasions over the past five years with the groups with adopted plans relevant to the Rhode Island Coastal Resources Management Program. These contacts are summarized in Table C-7. It should be pointed out that the Statewide Planning Program which is wholly or partially responsible for 16 of the relevant state plans, is the designated lead agency for Section 305, program development, funding under the federal CZM Act. In addition, the Directors of both the Departments of Natural Resources and Health are ex-officio voting members of the Council. These two agencies are responsible for another eight of the identified relevant state plans.

Contacts were made with all municipalities in the state early in the development of the RICRMP. Furthermore, the method for selection of CRMC members insures the municipalities fair representation. By law (46-23-2, G.L.R.I.) four members of the CRMC must be appointed or elected officials of local government. In addition, five other members must be from coastal communities. Meetings have also been held with the elected officials from each Rhode Island coastal municipality; other efforts to include municipalities in program development such as special meetings and draft review are summarized in Table C-7.

RHODE ISLAND FRAMEWORK PLANS

	DEPARTMENT[1] / DIVISION[2] / PLAN TITLE[3]	PLAN COVERAGE[4]	PREPARATION REQUIREMENT: STATE[5]	PREPARATION REQUIREMENT: AGENCY POLICY[6]	PREPARATION REQUIREMENT: FEDERAL[7]	FEDERAL AGENCY TO WHICH PLAN IS SUBMITTED[8]	A-95 REVIEW[9]	PROGRAM FUNDING[10]	PREPARATION FREQUENCY[11]	MOST RECENT PLAN[12]
	ADMINISTRATION									
	STATEWIDE PLANNING PROGRAM									
1	ADMINISTRATIVE & INSTITUTIONAL FACILITIES FOR STATE GOVERNMENT ⊙	Space Needs Of State Agencies; Mechanism To Provide For Future Needs.	E	*				B	Approx. 5 Years	1975
2	OVERALL ECONOMIC DEVELOPMENT PROGRAM-OEDP	Economic Development Projects Funded By EDA In Areas With Substantial Unemployment.			*	EDA		*	A	1976
3	STATE LAND USE POLICIES & PLAN ⊙	State-Level Policies For Land Use And Development	E	*	*	HUD			Once*	1975
4	AREAWIDE WASTE TREATMENT MANAGEMENT PLAN (SECTION 208, WATER POLLUTION CONTROL ACT AMENDMENTS OF 1972)	To Develop And Implement A Waste Treatment Management Plan For Both Point And Non-Point Sources.			*	EPA	*	*	Once*	1978②
5	WATER QUALITY MANAGEMENT PLANS ⊙ (SECTION 303(e))	Waste Load Allocations And Target Abatement Dates For Point Sources Of Pollution	E		*	EPA		*	Once*	1976
6	PLAN FOR PUBLIC SEWERAGE FACILITY DEVELOPMENT ★⊙	Statewide Development Of Sewerage Facilities To 1990	E	*	*	HUD			Once*	1969
7	PLAN FOR THE DEVELOPMENT & USE OF PUBLIC WATER SUPPLIES ⊙	Problems Of Water Supply And Distribution, And Recommendations.	E	*	*	HUD			Once	1969
9	GOALS AND POLICIES FOR DEVELOPMENT ⊙	Statement Of Goals And Policies For The Physical, Economic, And Social Development Of Rhode Island.	E	*					Once*	1969 1974
9	A PUBLIC INVESTMENT PLAN FOR THE STATE OF R.I.	Status Of State's Economy; Public Investment Priorities.			*	(NERC)			Once	1971
10	HOUSING ELEMENT ⊙	Assessment Of Housing Needs In R.I.; Potential Sites For Low And Moderate Income Housing.	E		*	HUD			Once*	1977②
11	RHODE ISLAND TRANSPORTATION PLAN-1990 ⊙	Includes: Highways, Urban Mass Transit, Airports, Parking, Marine Terminals, Intercity Bus, Truck And Rail.	E	*	*	FHWA			Once*	1973
12	TRANSPORTATION SYSTEMS MANAGEMENT PLAN	Short-Range Transportation Plan Emphasizing Low And Non-Capital Improvements To Make More Efficient Use Of Existing Ground Transportation Network			*	FHWA UMTA	*	*	Once*	1976②
13	STATE RAIL PLAN ⊙	Phase I: Methodology Used To Evaluate State Rail System; Phase II: Evaluation And Recommendations.			*	FRA		*	Once*	1975
	ADMINISTRATION, EXECUTIVE, HEALTH									
	STATEWIDE PLANNING PROGRAM; ENVIRONMENTAL TASK FORCE; DIVISION OF SOLID WASTE MANAGEMENT									
14	SOLID WASTE MANAGEMENT PLAN	Development And Implementation Strategy For Refuse Management In R.I.			*	EPA		*	Once	1973
	ADMINISTRATION, NATURAL RESOURCES									
	STATEWIDE PLANNING PROGRAM; PLANNING AND DEVELOPMENT									
15	PLAN FOR RECREATION, CONSERVATION AND OPEN SPACE ⊙	Outdoor Recreation Acquisition, Development And Conservation.	E		*	BOR		*	5 Years	1976
	COASTAL RESOURCES MANAGEMENT COUNCIL									
	COASTAL RESOURCES CENTER, STATEWIDE PLANNING PROGRAM, DNR DIVISION OF COASTAL RESOURCES									
16	COASTAL RESOURCES MANAGEMENT COUNCIL MANAGEMENT PROGRAM	Planning And Management Process And Policies, Policies And Regulations Concerning Development In The State's Coastal Zone	*		*	OCZM NOAA		*	Once*	1976
	ECONOMIC DEVELOPMENT									
	RESEARCH									
17	RHODE ISLAND ECONOMIC DEVELOPMENT PLAN	Organization Of State Activities To Effectuate Economic Development.	*						Periodically	1977③
	PLANNING & MANAGEMENT									
18	REUSE AND DEVELOPMENT OF SURPLUS MILITARY LANDS	See Plan Title			*	GSA			Once*	1974
	EXECUTIVE									
	DEFENSE CIVIL PREPAREDNESS AGENCY (DCPA)									
19	STATE DEFENSE CIVIL PREPAREDNESS PLAN	Preparedness Actions For Peacetime Disasters And Nuclear Attack.	*		*	DCPA		*	2 Years	1976
20	PLAN FOR THE EMERGENCY MANAGEMENT OF RESOURCES	Resources Covered: Housing, Electric Power, Food, Fuels, Health, Industry, Manpower, Telecommunications, Transportation, Water.	*		*	DCPA			Once*	1967
	HEALTH									
	WATER POLLUTION CONTROL									
21	STATEWIDE WATER POLLUTION CONTROL PLAN	Planning Of Sewer Systems And Enforcement Steps To Abate Water Pollution			*	EPA	*	*	A	1975
	WATER SUPPLY									
22	STATEWIDE DRINKING WATER SUPERVISION PROGRAM	Water Supply Protection Program Of The State			*	EPA	*	*	A	1976
	AIR POLLUTION CONTROL									
23	IMPLEMENTATION PLAN FOR ACHIEVEMENT OF NATIONAL AMBIENT AIR QUALITY STANDARDS	Air Pollution Control Program			*	EPA		*	Once	1973
	HEALTH, TRANSPORTATION, ADMINISTRATION									
	ENVIRONMENTAL HEALTH, PLANNING, STATEWIDE PLANNING PROGRAM									
24	AIR QUALITY MAINTENANCE PLAN	10 Year Plan For Maintaining Air Quality.			*	EPA		*	Once	1976②
25	TRANSPORTATION CONTROL PLAN	Transportation Planning For The State Including The Downtown Providence Area And A Statewide Inspection And Maintenance Program.			*	EPA		*	Once	1976②
	NATURAL RESOURCES									
	FISH AND WILDLIFE									
26	AREA MANAGEMENT PLANS	Management Plans For Areas Acquired Under Programs Of The U.S. Fish And Wildlife Service.			*			*	5 Years	In Process
	PLANNING AND DEVELOPMENT									
27	MASTER PLANS FOR STATE PARKS	Individual Park Plans Are In The Process Of Being Developed.		*						In Process
	FOREST ENVIRONMENT									
28	FOREST MANAGEMENT PLAN	Assessment Of 10, 20 And 30 Year Needs For State-Owned Forest Land.		*					6-10 Years	1978
	RHODE ISLAND HISTORICAL PRESERVATION COMMISSION									
29	PRESERVATION PLAN	Survey And Planning, National Register Of Historic Places, Grants-In-Aid			*	NPS	*	*	A	1975
	RHODE ISLAND WATER RESOURCES BOARD									
	PLANNING SECTION									
30	COMPREHENSIVE PLAN FOR WATER AND RELATED LAND RESOURCES	Separate Documents Inventorying Municipal Water Supplies, Waste Treatment Plants, Ground Water Reservoirs, Lakes And Ponds, Solid Waste Disposal, Recreation Resources, Etc.	*		*	WRC		*	Continuous	1977▲
	TRANSPORTATION									
	PLANNING									
31	RHODE ISLAND ACTION PLAN	Procedural Steps Used To Develop Highway Projects.			*	DOT		*	Once	1975

Adapted from Inventory of Rhode Island Framework Plans, Technical Paper Number 63, Providence: Statewide Planning Program, August, 1976.

Legend for Table C-9

1. Department - The name of the department responsible for writing the plan.

2. Division - The name of the division within the department charged with writing the plan.

3. Plan Title - Formal title of the plan.

4. Plan Coverage - Major programs covered by the plan.

5. State - An asterisk indicates the plan is required by RI General Assembly legislation.

   The letter "E" indicates authorization by gubernatorial executive order.

6. Agency - An asterisk indicates where a state agency has determined that the preparation of a plan is necessary for the execution of its legislated responsibilities.

7. Federal - An asterisk indicates the plan is required by federal legislation.

8. Federal Agency to Which Plan is Submitted - Name of the federal department which receives the plan, if applicable.

9. A-95 Review - An asterisk indicates that A-95 review is required prior to submission of the plan to the federal agency.

   It should be noted that in many cases where plans are not subject to A-95 review, funding requests for specific projects discussed in the plan do come under this review process.

10. Program Funding - An asterisk indicates that funding is related to the plan.

11. Preparation Frequency - How often the plan is prepared.

    A = Annual preparation.
    Once = Plan is prepared once.
    Once* = Basic plan is prepared once but is updated periodically.

12. Most Recent Plan - The date of the latest plan or major plan revision.

▲ = This plan is composed of several parts, some of which have been completed.
◔ = Initial plan expected to be completed by this date.

Other Symbols

⊙ = Part of the State Guide Plan.
★ = This plan will be replaced by #5.
◹ = This plan is also known as the Statewide Comprehensive Outdoor Recreation Plan (SCORP).

TABLE C-10

RELEVANT MUNICIPAL PLANS TABLE

	Zoning[1]	Comprehensive Plan (Date of Adoption)[2]	Recreation and Open Space Plan[3]	Technical Services[4]
Barrington*	1972	x (1967)	1975	DCA
Bristol*	1970	x (1966)	1975	DCA & Staff
Burrillville		x (1966)	1975	DCA
Central Falls		x (1969)	1975	Staff
Charlestown*	1974	x (1973)	1975	DCA
Coventry		x (1967)	1976	Staff
Cranston*	1973	x (1961)	1974	Staff
Cumberland		x (1967)	1975	DCA
East Greenwich*	1974	x (1966)	1975	DCA & Staff
East Providence*	1972	x (1962)	1975	Staff
Exeter		x (1974)	1975	
Foster		x ( )		DCA
Gloucester		x (1969)		DCA
Hopkinton		x ( )	1974	Staff
Jamestown*	1972	x (1966)	1975	
Johnston		x (1965)	1975	DCA
Lincoln		x (1968)	1976	DCA
Little Compton*	1972	in prep.	1974	DCA
Middletown*	1975	x ( )	1975	DCA
Narragansett*	1974	x (1967)	1975	DCA
Newport*	1972	x (1956)	1975	Staff
New Shoreham*	1972	x (1972)	1975	DCA
North Kingstown*	1974	x (1972)	1975	Staff
North Providence		x ( )	1975	DCA
North Smithfield		x ( )	1975	DCA
Pawtucket*		x (1966)	1975	Staff
Portsmouth*	1972	in prep.	1976	DCA

	Zoning[1]	Comprehensive Plan (Date of Adoption)[2]	Recreation and Open Space Plan[3]	Technical Services[4]
Providence*	1975	x (1964)	1976	Staff
Richmond		x ( )	1975	DCA
Scituate				
Smithfield		x (1970)	1975	DCA
South Kingstown*	1976	x (1965)	1975	Staff
Tiverton*	1972	x (1968)	in prep.	DCA
Warren*	1970	x (1967)	1975	DCA
Warwick*	1971	x (1968)	1975	Staff
Westerly*	1976	x (1972)	1975	DCA
West Greenwich		x (1966)	1976	DCA
West Warwick		x (1970)	1975	DCA & Staff
Woonsocket		x (1969)	1975	Staff

* Coastal Community

1. Date of zoning information mapped on CRMC maps (1:12000 scale U.S.G.S. quadrangle enlargements)

2. Date usually indicates the adoption of first plan. Comprehensive plans are updated in whole or part on an irregular basis

3. These plans were prepared under a state program as part of the State program as part of the State Comprehensive Outdoor Recreation Plan

4. DCA: Department of Community Affairs

(c) Coordination with Adopted Plans

The Coastal Resources Management Council is "the principal mechanism for management of the State's coastal resources" (46-23-1; G.L.R.I.). Additionally, it is the enacted policy of the state of Rhode Island "that all departments and agencies of state government are hereby authorized and directed to cooperate with the Council" (46-23-10, G.L.R.I.).

Extensive and long-standing cooperative arrangements exist between the Council and other entities with regulatory responsibilities, plans and programs which affect the state's coastal region. Because of the important roles played by the Statewide Planning Program and the newly created Department of Environmental Management in the planning and management of the coastal region, their responsibilities and interactions with the Council are set forth in some detail in C.1 and C.2 below and are illustrated in Figure C-3. The other more general coordinating procedures are summarized in C.3.

(1) Statewide Planning Program (SPP):

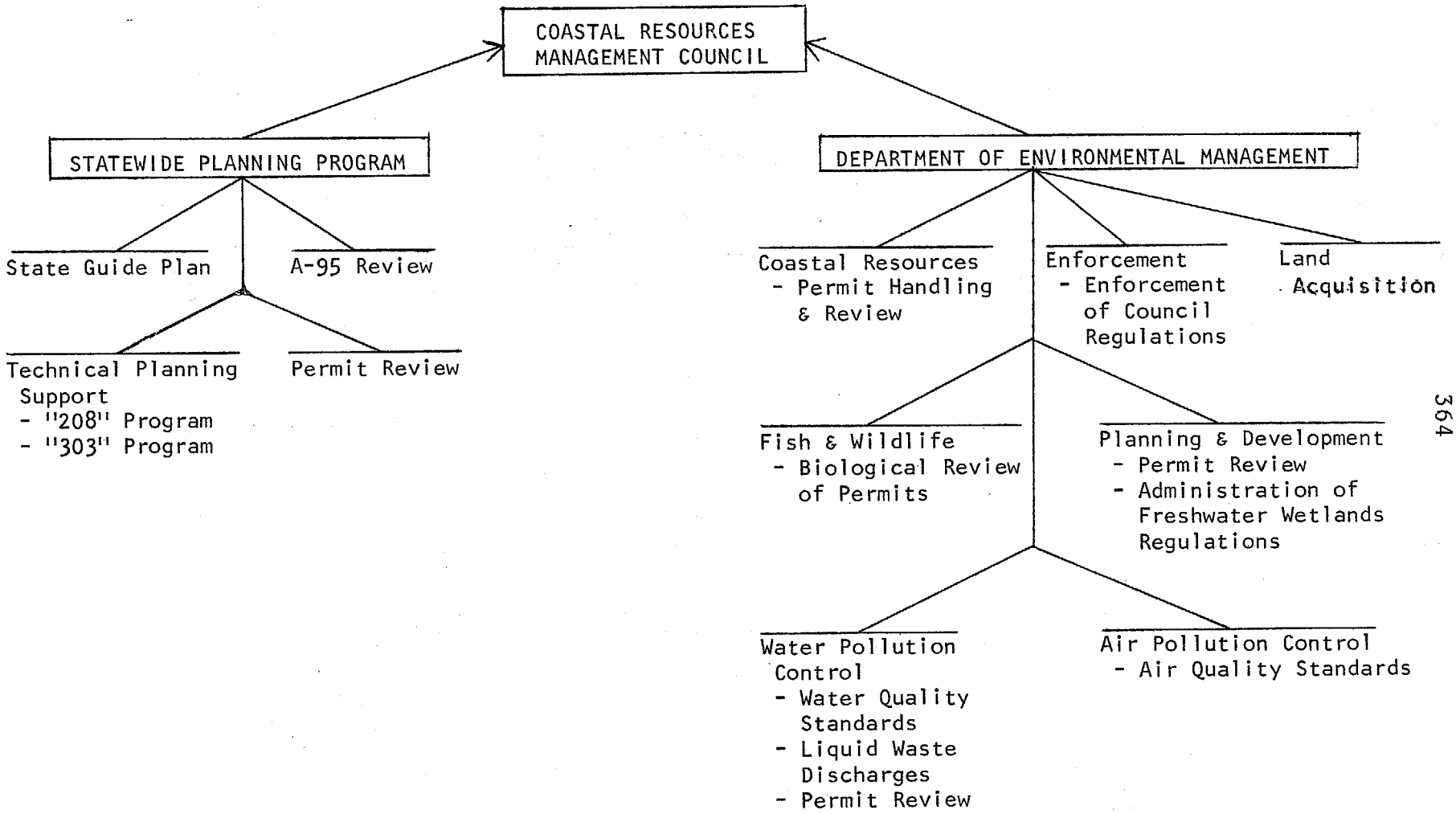
In 1970 the Statewide Planning Program was named a division of the Department of Administration (42-11-2(20), G.L.R.I.). Its functions are set forth in Executive Order 10 and include numerous administrative, planning and coordinating responsibilities. The following functions are of primary importance and insure coordinatin between the Statewide Planning Program and the Coastal Resources Management Council.

(a) The State Guide Plan: The State Guide Plan directs the physical, economic and social development of the state. The plan is formulated and adopted in functional or territorial sections. Completed sections of the Plan are listed in Table C-9 of this chapter. The Council's Coastal Resources Management Program must be formulated around several basic policies and criteria, including consistency with the State Guide Plan. In addition to the Council, the Department of Transportation (42-13-2, G.L.R.I.), the entities created by the Economic Development Act (42-64-1, G.L.R.I.) and the Solid Waste Corporation (23-46, G.L.R.I.) are required to make their plans consistent with the State Guide Plan. Recent enabling legislation for comprehensive municipal plans (45-22-6, G.L.R.I.) also requires that such plans be consistent with the State Guide Plan. Coordination between the Council and SPP in this matter is greatly facilitated by SPP's policy of considering the Council as the primary agency responsible for the development of planning elements of the State Guide Plan for the coastal region.

(b) The SPP was designated as the lead agency for the Federal Coastal Zone Management Act, Section 305 program development grant. This has assured Council/SPP cooperation and coordination in the development of the Rhode Island Coastal Resources Management Program.

Figure C-3

THE RHODE ISLAND COASTAL RESOURCES MANAGEMENT PROGRAM



(c) The Statewide Planning Program is the designated state clearinghouse for review of federal funding programs and grant awards to state and local governments under Title IV of the Intergovernmental Cooperation Act of 1968. As set forth in Office of Management and Budget Circular A-95, the Act subjects all such grant programs to review for environmental impact and coordination with state, areawide and local plans. Pursuant to its obligations as the A-95 clearinghouse and reflecting its responsibilities as a cooperating agency within the Rhode Island Coastal Resources Management Program, the Statewide Planning Program reviews all grant applications for comformance with applicable Council plans, programs, policies and regulations. It also submits all in-state applications which involve a physical alteration in the coastal region and all applications which involve facilities over which the Council has jurisdiction outside the coastal region to the Council for comment and formal review.

(d) Pollution Abatement Planning: The SPP is the lead planning agency for Sections 208 and 303 of the Federal Water Pollution Control Act (see page 125).

(e) Permit Application Review: Each Council permit application is reviewed by SPP staff to determine whether the proposed activity is consistent with the State Guide Plan.

(f) Technical Assistance: Statewide Planning Program staff cooperate with Council support personnel in preparing planning and policy recommendations for Council review and adoption.

(2) Department of Environmental Management (DEM):

In the January 1977 legislative session, the Rhode Island General Assembly passed an act (42-17, G.L.R.I.) "enlarging and reorganizing the State Department of Natural Resources and changing its name to Department of Environmental Management." The Act took effect Octoberl, 1977 and transfers to DEM certain environment related functions of the Department of Health. The following divisions within DEM perform vital roles for effective implementation of the Rhode Island Coastal Resources Management Plan:

(a) Division of Coastal Resources: The Coastal Resources Division processes all Council permit applications, undertakes engineering reviews, site visits and all related staff functions. Its planners and engineers cooperate with other DEM divisions in an advisory capacity to the Council.

(b) Division of Fish and Wildlife: Biologists, funded by the Coastal Resources Management Program and hired by the Division of Fish and Wildlife investigate and prepare staff reports on all permit applications before the Council.

(c) Division of Enforcement: The Enforcement Division investigates complaints of violations of Council regulations and is empowered to issue cease and dissist orders where such violations are found. Its officers have arrest powers which they may exercise where Council cease and dissist orders are violated.

(d) Division of Water Pollution Control: See (a) below.
(e) Division of Air Pollution Control: See (a) below.

Coordination with this new agency will be an extension of the coordination and cooperation which existed between the Council and the Departments of Natural Resources and Health over the first six years of the Council's existence. Coordination of the state's coastal management program with the environmental management programs previously housed in the two separate agencies will be facilitated by their consolidation into one agency. Specific procedures for coordination are summarized below:

(a) The Director of the Department of Environmental Management is an ex-officio member of the Council.
(b) Water and Air Pollution Control Standards: Through the setting of air and water pollution control standards, and their regulatory and permitting authorities and responsibilities, the Divisions of Water Pollution Control and Air Pollution Control, exercise important control over a wide variety of land and water uses. They do so pursuant to the requirements and objectives of Federal Water Pollution Control Act Amendments of 1972 and the Federal Clear Air Act, both of which set forth minimum standards, abatement schedules and regulatory measures for implementation by individual state air and water pollution control agencies. Under the provisions of the FWPCA the Division of Water Pollution Control establishes water quality standards for all of the state's waters and implements regulatory and permitting programs whose purpose is to maintain high water quality levels where they already exist and to achieve Class B or SB (fishable, swimmable waters) in all other areas within the time frames set by the Act. The Council is mandated under 46-23-6, G.L.R.I. to incorporate these water quality standards in its own planning and regulatory activities.
(c) Applications for Sewage Disposal Permits in the Coastal Region: The Divisions of Water Pollution Control (major facilities) and Food Protection and Sanitation (domestic septic systems) forward all permit applications in the coastal region and for major facilities throughout the state to the Council for a determination as to whether a Council permit is necessary.
(d) Council permit applications are routinely sent to the Divisions of Coastal Resources, Fish and Wildlife, Planning and Development, and Water Pollution Control for review and comment.
(e) Council staff (Division of Coastal Resources) routinely review freshwater wetland applications in the coastal region that are before the Division of Planning and Development of DEM.
(f) The Council can use the property acquisition powers of the Department of Environmental Management for any Council-related purpose (46-23, G.L.R.I.).

(3) Other coordinating mechanisms include

(a) Council Permit Application Review Procedures: The procedures described in Appendix B insure coordination between the Council and other state agencies and municipalities. The following governmental officials and agencies receive and comment on all permit applications:

(a) Statewide Planning Program
(b) Department of Environmental Management
(c) Rhode Island Historical Preservation Commission
(d) Municipal officials from the municipality where the proposed activity would take place.

(b) State Planning Council: Coordination of all plans within the state accomplished through the State Planning Council which guides the work of the Statewide Planning Program and must approve all elements of the State Guide Plan. The State Planning Council has statutory authority (42-64, G.L.R.I.) to review projects proposed by the Port Authority and Economic Development Corporation. The Chairman of the Coastal Resources Management Council is a member of this Council as are representatives from the Departments of Administration, Environmental Management, Transportation, Economic Development and Community Affairs.

(c) CRMC Method of Operation: The Council requires that all other local and state permitting agencies have acted before it will process an application. Projects approved by other agencies may subsequently be prohibited by CRMC, but those prohibited by others are not entertained unless clearly inconsistent with the Coastal Resources Management Program.

(d) Technical Exchanges Between Groups with Adopted Plans: The Council's staff regularly works with the staffs of other state agencies, Municipal Planning Departments and private groups to exchange information and to develop plans and programs. Within the last year, for example, the Council and its staff have worked with the Department of Economic Development on the Reuse of Quonset/Davisville, the City of Warwick on a Waterfront Plan, and the Town of Jamestown on public beach siting.

(d) Consistency with Adopted Plans:

Conflicts between the Rhode Island Coastal Resources Management Program and other adopted state plans are minimal. There are, however, inconsistencies between municipal zoning maps and some Council Management Policies. These municipal zoning inconsistencies may be grouped into the following five categories:

(1) Sensitive natural features (i.e., cliffs and bluffs, wetlands, streams) are not recognized.

(2) Open space/conservation or agricultural lands are not designated zoning categories.

(3) Barrier beaches are zoned for residential development.

(4) Flood hazard zones are not given special protection.

(5) Zoning maps do not recognized well established publicly or privately designated recreation or conservation areas.

A major problem in the municipal zoning process is that local communities do not presently have adequate powers to supply them with adequate tools for protecting coastal features. If the state Local Land Use Bill is passed, municipalities will have sufficient legislative authority to make their zoning ordinances more sensitive to land capability.

(e) Mechanisms for Continued Consultation and Coordination:

Active and regular mechanisms for the coordination of the Rhode Island Coastal Resources Management Program with the adopted plans of other entities already exist. The procedures described for coordination in (C) above are all presently ongoing and insure continued consultation and coordination between state, local and private groups with adopted plans and the Rhode Island Coastal Resources Management Program.

In addition, the Council, in cooperation with the Rhode Island League of Cities and Towns, is organizing a formalized mechanism to assure the fullest cooperation between the Council and municipalities. Among the issues to be addressed are:

(1) the setting of management priorities for specific activities and/or geographic areas.

(2) the effective transfer of information between the Council's staff and local planning units.

(3) Council staff assistance to local planning departments to enable municipalities to make their plans consistent with the Council's program.

(4) To enable municipalities to present their plans and programs to the Council for endorsement by the Council, where appropriate.

APPENDIX D

MAJOR PROGRAM IMPLEMENTATION OBJECTIVES: THE FIRST YEAR WORK PROGRAM

When Rhode Island's Coastal Resources Management Program is approved by the federal Office of Coastal Zone Management, the state will become eligible for program implementation funds under Section 306 of the federal Coastal Zone Management Act. A formal grant application for such funds will be submitted when the state program is approved. The "306" grant application may be reviewed in detail through the A-95 review process by governmental agencies, private groups and individuals.

The program described below is ambitious and includes items that will require longer than one year to complete.

A. Program Implementation

1. Permit Review Procedures:

   a. The Council's staff will use the maps and forms described in the Program introduction for the routine review of Council permit applications.
   b. The Coastal Resources Center will closely cooperate with the Division of Coastal Resources to implement the new policies and regulations set forth in the RICRMP.
   c. The Statewide Planning Program will continue to review Council permits for consistency with the State Guide Plan.
   d. The Division of Fish and Wildlife (DEM) will continue to review Council permits by staff biologists.
   e. The Division of Coastal Resources (DEM) will continue to fulfill Council staff functions (both administrative and permit review).
   f. The Council will sponsor the development of a computerized system to assist in the permit review process. The system will involve an interactive terminal that will provide easy access to information bases including environmental models. This computerized system will also greatly facilitate record-keeping.

2. Enforcement: In order to ensure effective implementation and prevent violations or abuse of Council Policies and Regulations, funds shall be allocated to the Division of Enforcement of the Department of Environmental Management. Because DEM is currently adding both staff and equipment to its Enforcement Division, it would be precipitant to detail at this time the exact amount of support that will be needed.

B. Continued Policy and Regulation Development

The policies and regulations in the Rhode Island Coastal Resources Management Program, (Summer 1977) represent the first comprehensive regulatory program for Rhode Island's coastal region. As management proceeds, the

Council will further detail policies and regulations for specific activities and geographic areas. During the first year of implementation the following topics will be addressed:

1. Septic System Regulations: The Council's staff will work with the newly created Environmental Standards Board to revise the state's domestic septic system disposal regulations and may develop special regulations for septic disposal systems in the coastal region as necessary.

2. Energy Facility Siting (Section 305(b)(8): The Coastal Resources Center, in cooperation with the many state agencies with an interest in this topic, will undertake a study on energy facility siting in Rhode Island's coastal region. The broad outlines of this study are set forth in Chapter 6. More detailed Council policies and regulations will result from this study.

3. Coastal Erosion (Section 305(b)(a): The Coastal Resources Center shall undertake additional studies to identify erosion prone areas, the most suitable techniques for controlling such erosion, and shall modify existing or as necessary develop new management policies relative to these areas.

4. Coastal Ponds (see E.2 below):

C. Continuing Coordination Efforts

1. Continue staff level coordination with the Areawide Water Quality Management Program.

2. Continue cooperation with the Department of Economic Development to develop long-range plans for the reuse of excessed Navy property.

3. Continue coordination with the Department of Environmental Management in the long-range planning for the Port of Galilee.

4. Continue coordination with the city of Newport to plan for the use of the municipal pier.

5. Continue coordination with the Army Corps of Engineers for the identification of dredged materials disposal sites within Rhode Island's coastal region.

6. Continue support of and involvement in the New England Coastal Zone Task Force.

7. The Council, in cooperation with the Department of Environmental Management, shall investigate techniques for acquiring lands for inclusion in the Bay Islands Park System. The Council in cooperation with DEM shall apply for public access/island acquisition funds, (Section 315 (2)).

D. Longer Range Planning and Coordination Efforts (to be initiated during the first year)

1. The support of a Pollution Task Force.

2. Cooperation with municipal and state agencies, commissions and boards for restoration and redevelopment of the Port of Providence.

3. Submission of interstate planning grants (under Section 309 of the Coastal Zone Management Act) to the office of Coastal Management to coordinate Rhode Island's Program with the coastal management programs of neighboring Massachusetts and Connecticut. The priority issue to be addressed is estuarine management, particularly Mt. Hope Bay and the Pawcatuck River/Little Narragansett Bay Systems.

4. Support of the search for new solutions to the marina space problem by undertaking, underwriting and/or participating with others in research and/or development of experimental projects.

5. Public Access to the Shore (Section 305(b)(7):

   a. The Council will undertake legal studies to verify contested rights-of-way and identify additional rights-of-way in municipalities where public access to the shore is limited.
   b. The Council will investigate the need for additional conservation and wildlife management areas in the coastal region and identify appropriate sites.

E. Continued Research

The Council recognizes that the coastal region is a dynamic, complex system about which new information is being constantly generated. An effective and wise management program must continue to develop new understanding of the region and incorporate such findings in its program. Therefore, the state will continue to sponsor focused research and planning efforts. Specific projects to be undertaken the first year include:

1. Data Maintenance: The Coastal Resources Center will continue to update its inventory of the state's coastal resources so that relevant new information may be incorporated into the state program.

2. Coastal Pond Study: A detailed year-long ecological study of Rhode Island's coastal ponds is being undertaken by the Coastal Resources Center. The study should culminate in the adoption of detailed management policies for individual ponds.

3. Assessment of Toxins within Rhode Island's Tidal Waters: Inventories, evaluations and recommendations for the control of hydrocarbons, heavy metals and PCB's in Rhode Island's tidal waters will be prepared and published by the Coastal Resources Center.

4. Aquaculture: The Coastal Resources Center will publish a technical report on the potential of aquaculture in Rhode Island.

5. Coastal Erosion: The Council shall continue to sponsor research to monitor long and short term shoreline changes along the state's

south shore beaches.

6. Fingerprinting of Oil: The Council will continue to coordinate and support a program whereby all shipments of oil into the state are sampled and "fingerprinted." This will enable the source of spilled oil to be traced.

7. Coastal Resources Inventory: Publication of inventory data in a series of technical reports.

F. Public Participation and Education

1. The R.I. Leagure of Cities and Towns, in cooperation with the Council, will organize a formalized mechanism to assure the fullest cooperation between the Council and municipalities.

2. The Council will continue to chair and convene a Federal Advisory Committee. Among the issues the Committee will address are the feasibility of joint Council/federal agency permit review procedures and procedures for insuring federal consistency with the state program.

3. The two major studies to be undertaken by the Council's staff during the first year of implementation -- the Coastal Pond Study, and Energy Facility Siting Study -- will involve extensive public participation segments for both the development of information and policies and regulations.

4. Coastal Development Handbook: The Council's staff will prepare a handbook for potential applicants for Council permits. The handbook will be an attractive, easy-to-read booklet that explains Council procedures and regulations as well as setting forth positive suggestion for "ecologically sound" development.

5. Continued quarterly publication of "BRIEFINGS" the Council's newsletter.

6. Public Education: The Council will continue and expand its public education efforts. Programs that will continue or be developed during the first year of Program implementation include:

   a. development of a program for senior citizen involvement in the Coastal Management Program;
   b. development and distribution of secondary school curriculum elements designed to heighten awareness and educate students in coastal management issues;
   c. development and distribution of curriculum material to compliment the Council's annual essay contest;
   d. teacher training program for use of the Council's already published Coastal Awareness Activity book for elementary grades;
   e. continuation of speaker's program for adult and student groups on the Rhode Island Coastal Resources Management Program.

Cross Reference List-Index

305(b) (1): Boundaries
- Appendix C, Page 306, Section C-3 Boundaries of the Coastal Region

305(b) (2): Uses Subject to Management
- Appendix A, Page 262, Section 1C4 Direct Council Management Responsibilities

305(b) (3): Areas of Particular Concern
- Appendix C, Page 300 , Section C-2 Designation of Geographic Areas of Particular Concern, Areas to be Preserved and Restored.

305(b) (4): Means of Control
- Appendix A, Page 260 through 269, Sections 1.3, 1.4, & 1.5

305(b) (5): Guidelines on Priorities of Uses
- Appendix C, Page 291, Section C-1 Determination of Use Permissibility and Priorities

305(b) (6): Organizational Structure
- Appendix A, Page 255, Section 1 Program Development, Organization and Implementation Authorities in Rhode Island

305(b) (7): Shorefront Planning Process
- Chapter 1, Page 34-39, Shoreline Systems: Findings and Policies

305(b) (8): Energy Facility Planning Process
- Chapter 6, Pages 216-245, Energy

305(b) (9): Erosion Planning Process
- Chapter 1, Pages 52-58, Coastal Erosion

306(c) (1): Notice; Full participation,
- Chapter 7, Page 246-248, Public and Governmental Participation
- Appendix C, Page C-34, Section C-5 Public, State and Local Government Involment

306(c) (2)(A): Plan Coordination
- Appendix A, Page 266 , Section Coordinating Responsibilities

306(c) (2)(B): Continuing Consultation Mechanisms
- Appendix A, Pages 266-269
- Appendix C, Pages C-52, Section e Mechanisms for Continued Consultation and Coordination

306(c) (3): Public Hearings
- Appendix C, Pages C-34, Section C-6
  * Subsection 6.2 Public Participation Effort
  * Subsection 6.3 Preparation of Final Program Document

306(c) (4): Gubernatorial review and approval
- Documentation will be contained in the transmittal signed by the Governor which accompanies the management program submission

306(c) (5): Designation of Recipient Agency
- Same as above

306(c) (6): Organization
- Same as above; also Appendix A, Section 1

306(c) (7): Authorities
- Same as above; also Appendix A

306(c) (8): Adequate Consideration of National Interest
- Appendix C, Page 309, Section C-4 Consideration of the National Interest

306(c) (9): Areas for Preservation/Restoration
- Appendix C, Pages 300 to 305, Section C-2, Designation of Geographic Areas of Particular Concern, Areas to be Preserved and Restored.

306(d) (1): Administer Regulations, Control Development, Resolve Conflicts
- Appendix A, Legal authorities - entirety
  * Implementation authorities, case law, etc
- Appendix B, Procedural rules and regulations
  * Specifically sections B9 and B10

306(d) (2): Powers of Aquisition, if necessary
- Appendix A2 - case law

306(e) (1): Technique of control
- Appendix A

306(e) (2): Uses of Regional Benefit
- Appendix C, P. 323 , Rhode Island Assessment of Contribution to National and Regional Interests

307(b): Adequate consideration of Federal agency views
- Appendix C, P. 309 , Section C.4, Consideration of the National Interest

307(f): Incorporation of Air and Water Quality Requirements
- Water - P. 87, Chapter 3, Coastal Water Quality
- Air - P. 139, Chapter 3, Air Quality

Memo of Understanding - CRMC/EPA P.128

GLOSSARY

Agency: includes boards, commissions, departments or officers thereof other than the legislature or the courts authorized by law to make rules, determine contested cases or issue permits.

Agricultural land: (1) tilled or tillable land upon which a crop is being or had recently been produced, (2) actively managed orchards, nurseries and cranberry bogs and (3) lands used for livestock pasturing.

Anadromous fish: oceanic or estuarine species that spawn in freshwater.

Anoxic: lacking in oxygen.

Antifouling paint: marine paints having the property or preventing the accumulation of barnacles, algae, etc., on underwater surfaces.

Aquaculture: the culture of aquatic species under either natural or artificial conditions; includes but is not limited to fish farming utilizing pens, tanks or impoundments and the culture of shellfish on the sea floor or suspended in the water column.

Atlantic flyway: one of the major bird migration routes along the eastern coast of the U.S.

Barrier beaches: narrow strips of land made of unconsolidated material extending roughly parallel to the general coastal trend and separated from the mainland by a relatively narrow body of fresh, brackish or saltwater or a wetland. (Maps defining areas subject to Council regulation as barrier beaches are on file at the R.I. Office of Secretary of State). Lateral limits of barrier beaches are defined as the point at which unconsolidated sand or cobble about rock, glacial till or other sediments unrelated to deposits made by wind or waves. Beaches and coastal wetlands are frequently found along the borders of the barrier beaches.

Barrier wetland: Any coastal wetland, freshwater wetland, marsh, swamp or bog; or any combination thereof, provided same is part of a designated barrier beach (see barrier beaches).

Beach: physiographic feature bordering a body of water composed of unconsolidated sediments (mud, sand, gravel, cobble, etc.) that is shaped by the forces of winds and waves. The lower reaches of beaches are regularly inundated by water, the upper portions may be vegetated. The inland boundary of a beach is characterized by a change in sediment type and/or slope (for example, the base of a cliff or bluff, a dune or a man-made feature).

Benthos: marine life which lives on or in the bottom.

Bluff: a physiographic feature composed of unconsolidated materials; a deep land form; abut tidal waters or beaches, coastal wetlands, barrier beaches or shoreline protection facilities.

Bona-fide benefit to public welfare: an actual and genuine benefit in the interest of and for use and enjoyment of the community, state, or nation.

Breachway: a connecting channel, usually between a coastal pond and the ocean, which permits water exchange between the two.

Bunkering: providing fuel to a ship.

Burden of proof: the burden placed upon the party of producing evidence satisfactory to the trier of fact, or a particular fact in issue, as well as the burden of pursuading the trier of fact that the alleged fact is true.

Cliffs and ledges: physiographic features composed of consolidated rock. Cliffs are steep landforms, ledges are not. To qualify as coastal physiographic features, cliffs and ledges must abut tidal waters or beaches, coastal wetlands, barrier beaches, or shoreline protection facilities.

Coastal enviornment: the complete system of living organisms and physical surroundings within the waters and shore lands of estuaries and the near shore ocean, and the terrestrial areas influenced by this system.

Coastal natural area: distinct land or water areas which are essentially unaltered and unaffected by man and retain their natural characteristics. Designated sites are identified in Rhode Island's Coastal Areas: Priorities for Protection and Management, George L. Seavey, Coastal Resources Center, University of Rhode Island Marine Technical Report No. 43, Kingston, 1975.

Coastal wetlands: all marshes bordering on the tidal waters of this state, whether or not the tidal waters reach the littoral areas through natural or artificial water courses, and such uplands directly associated and contiguous thereto which are necessary to preserve the integrity of such marsh. Marshes include those areas upon which grow one or more of the following: Smooth cordgrass (Spartina alterniflora) salt meadow grass (Spartina patens), spike grass (Distichlis spicata), black rush (Juncus gerardi), saltworts (Salicornia spp.), sea lavender (Limonium carolinianum), salt marsh bulrushes (Scirpus spp.), high-tide bush (Iva frutescens), tall reed (Phragmites communis), tall cordgrass (Spartina pectinata), broadleaf cattail (Typha latifolia), narrowleaf cattail (Typha angustifolia), spike rush (Eleocharis rostellata), chairmaker's rush (scirpus americana), creeping bentgrass (Agrostis palustris), sweet grass (Hierochloe odorata), and wild rye (Elymus virginicus).

Contested case: a proceeding in which the legal rights, duties or privileges of a specific party are required to be determined by the Council after an opportunity for hearing. A proceeding before the Council shall be considered contested when a formal written objection and/or request for hearing is received by the Council from any interested party. Further, a proceeding shall be considered contested upon request for hearing by any member of the Council.

Contiguous: in close proximity, near to; however not necessarily bounded by or touching.

Council: the Rhode Island Coastal Resources Management Council or, when the context permits, individual Council members, subcommittees, its staff, agents or employees.

Council Office: the offices of the Council at the Division of Coastal Resources, Department of Natural Resources, 83 Park Street, Providence, Rhode Island or any such address as may be the location of the principal office of the Council.

Council meeting: any meeting of the full Council or a subcommittee.

Council Representative: a person appointed or employed as the Council's representative or agent.

Cryogenic: a material kept at an extremely low temperature; in the case of liquified natural gas, below -230° F.

Depositing shore: a shore which is accumulating sand or other sediments, as opposed to a shore which is eroding.

Depuration: the process of cleansing; for example, the purification of clams taken from polluted waters.

Detritus: particles of organic matter in varying stages of decomposition.

Development: the making of and/or any material change in the use of any structure or land or water body, including but not limited to: any building, mining, dredging, filling, excavation or drilling operation; alteration of the shore, rivers, streams, lakes or ponds; devegetation, demolition, deposit of fill, solid or liquid waste; construction, installation, reconstruction of a structure; a change in the type or class of use of land; or a material increase in the intensity of use.

Developments and operations: for all Council permitting purposes, this includes any use and/or alteration of and/or activity in, under or over the state's tidal waters and coastal ponds except for navigation, fishing and/or fisheries management.

Discharge: any spilling, leaking, pumping, pouring, emitting, emptying or dumping either directly or indirectly to the waters of the State of Rhode Island.

Direct and significant impact: an impact which is proximate and of importance.

Exploitable natural resources: naturally occurring marine or terrestrial minerals, vegetation, animals, physiographic features, or other physical phenomena such as sunlight, wind, or the flow of water which can be utilized for human purposes.

Eutrophication: nutrient enrichment in the aquatic environment, leading to excessive growth of aquatic plants, which can detrimentally alter water quality parameters, especially oxygen concentration.

Fair Preponderance of the Evidence: evidence sufficient to create in the mind of the trier of facts a conviction that the party, upon whom is the burden, has established its case, and not mere suspicion that it has, however strong that suspicion may be.

Fauna: animal life.

Glacial till: unconsolidated and unsorted material left by the movement of glaciers consisting of clay, sand, gravel, and boulders.

Groin: a rigid structure built out from a shore to protect the shore from erosion, to trap sand, or to direct a current for scouring a channel.

Half-life: the time required for half the atoms of a radioactive substance to disintegrate.

Halocline: a vertical gradient of salinity in the water column.

Hydrologic: related to water.

Larvae: the early form of an animal that at birth or hatching is fundamentally unlike its parent and must metamorphose before assuming the adult character.

License: includes the whole or part of any agency permit, certificate, approval, registration, charter or similar form of permission required by law, but it does not include a license required solely for revenue purposes.

Licensing: includes the agency process respecting the grant, denial, renewal, renovation, suspension, annulment, withdrawal or amendment of a license.

Lightering: the use of a smaller vessel for unloading cargo from larger ships in open water.

Longshore currents: a current running parallel and adjacent to the shoreline.

Macro algae: algae visible to the unaided eye, such as irish moss or kelp.

Micro algae: predominantly unicellular algae which can only be seen with the aid of a microscope.

Monoculture: the cultivation of a single product.

Neritic: marine waters having properties of both estuarine and true oceanic waters.

Oil: oil of any kind and in any form including, but not limited to petroleum, fuel, oil refuse, oil mixed with other wastes, crude oils and all other liquid hydro-carbons regardless of specific gravity.

Ocean dumping: disposal of non-dredged waste materials from vessels or by other other means into marine waters; ocean dumping shall not include discharges of effluent incidental to the operation of vessels, the dumping of fish wastes, or the placement or deposit of materials on the sea floor for the purpose of enhancing fisheries.

One Hundred Year flood level: The area above mean high water which has a probability of being flooded once in a one-hundred year period. The line has been designated by the Department of Housing and Urban Development.

Operate or Operation (in the context of vessels-to-vessels transfer regulations): any person owning or operating an oil carrying tanker vessel with a capacity of more than 5,000 gallons whether by lease, contract or any other form of agreement.

Orthophotograph: An aerial photograph in which the distortion of images due to tilt and relief have been removed and the image has then been planimetrically corrected to conform to U.S.G.S. topographic maps.

Parties: A person, agency or organization is a party to a proceeding before the Council if:

(1) he or it is entitled to the status of a party under 42-35-1 of the General Laws or any other provision of law; or

(2) upon application for leave to intervene, he or it is allowed to do so by the Council on the ground that

(a) such applicant is entitled by law to the status of a party; or
(b) such applicant could have been a complainant in such proceeding; or
(c) such applicant has a complaint or a defense which has a question of law or fact in common with the main proceeding; provided that an application by an applicant described in (2) or (3) shall be subject to the discretion of the Council.

Person: means any individual, partnership, corporation, association, governmental subdivision, or public or private organization of any character other than an agency.

Petroleum products: includes crude or refined oils, kerosene, gasoline, natural gas or liquified natural gas (LNG), liquified petroleum gas (LPG) synthetic natural gas (methane or SNG) or other such petroleum derivatives.

Petroleum Processing: Includes procedures and facilities for the refinement of crude oil into other petroleum products such as heating oil, kerosene, and gasoline; and includes procedures and facilities for the fractionation, liquefaction or other refinement of petroleum, natural or synthetic gases.

Physiographic feature: a land form or element of the landscape.

Phytoplankton: small suspended aquatic plants which passively drift in the water column as used in this document.

Plan: The State of Rhode Island Coastal Resources Management Program, as used in this document.

Plankton: small suspended aquatic plants and animals which passively drift or swim weakly in the water column.

Policy: as used in this document the policies and regulations of the Coastal Resources Management Council as stated in the Coastal Resources Management Program.

Priority of Use: reflection of the Council's assessment of those uses deemed most likely to be consistent with adopted Council Policies and Regulations. However, all applications shall be reviewed on their individual merits and designation as a high priority use shall not in any manner relieve an applicant for such a use or activity of any burden of proof set forth under applicable Council Policies and Regulations.

Probative evidence: evidence possessing a quality of proof and having fitness to induce conviction of truth.

Program: as stated in this document the State of Rhode Island Coastal Resources Management Program.

Radial & circumferential Highways: Radial highways are those roads which originate in a central city and provide directly outward routes. Circumferential highways are those roads which form rings around a central city, and provide interconnections with radial routes.

Revetment: a type of seawall that blankets, and generally conforms to the contours of a coastal feature.

Reasonable probability of conflict: an inconsistency that can be rationally and properly inferred to occur upon examination of available facts.

Restoration: return to a former, original, normal or unimpaired condition.

Rip rap: a foundation or sustaining wall of stones placed together without mortar in deep water or on an embankment slope to prevent erosion.

Rookery: a communal breeding site of birds or seals.

Rule: an agency statement of general applicability that implements, interprets, or prescribes law or policy or describes the organization, procedure, or practice requirements of any agency. The term includes the amendment or repeal of a prior rule, but does not include (1) statements concerning only the internal management of an agency and not affecting private rights or procedures available to the public, or (2) declaratory rulings issued pursuant to 42-35-8, or (3) intra-agency memoranda.

Runoff: that portion of precipitation which is not absorbed into the ground and which drains naturally or through man-made channels to surface waterbodies.

Sand Dune: a sand dune (dune field) is an elevated accumulation of sand formed by wind action and normally following the general coastal trend immediately inland or an unvegetated beach. The seaward limit of the dune is defined as: (1) the furthest seaward point where a noticeable sustained increase in general topographic slope begins, or (2) the furthest seaward extent of rooted vegetation in the immediate area, or (3) fifteen (15) feet seaward of the maximum elevated portion of the dune, whichever is further seaward. The inland limit

of the dune shall be defined as: (1) the furthest inland point where a noticeable sustained increase in general topographic slope begins, or (2) fifty (50) feet inland of the maximum elevated portion of the dune, whichever is further inland.

Where a dune thus defined is interrupted by natural or man-made breaks, wash overs or blowouts, its seaward and inland limits shall be considered to follow lines extending between the furthest seaward and inland limits of the dune on one or both sides and following the general coastal trend.

Scarp: a line of cliffs or bluffs produced by faulting or erosion.

Sewage: the Council has adopted the definition of sewage set forth under Title 46, Chapter 12, Section 1 of the General Laws, to wit:

"...any human or animal excremental liquid or substance, any decomposed animal or vegetable matter, garbage, offal, filth, waste, chemical, acid, dye stuff, starch, coloring matter, oil and tar, radioactive substances and any compound, solution, mixture, product, thereof, and every substance which may be injurious to public health or comfort, or which would injuriously affect the natural and healthy propogation, growth or development of any fish or shellfish in the water of this State, or of the nourishment of the same, or which would injuriously affect the flavor, taste, or value as food of any such fish or shellfish or which would defile said waters or injure or defile any vessel, boat, wharf, pier, or any public or private property upon, in or under said waters or any shore thereof."

For purposes of the Coastal Resources Management porgram, "sewage" shall further be defined to include every substance which could injuriously affect the natural and healthy propagation, growth or development of any animal and/or plant life in the water of the State, or of the nourishment of the same.

Because runoff any include substances which may be injurious to public health or to animal and/or plant life, for purposes of the Coastal Resources Management Program "sewage" shall be further defined as including silt and other particulates introduced into, and/or artifical increases or decrease above or below ambient of freshwater inflow into tidal and inter-tidal waters, coastal ponds and coastal wetlands. The term "sewage" as defined above includes thermal discharges.

Shoreline protection facilities: breakwaters, bulkheads, groins, jetties, riprap walls, filled areas and other structures or results of construction customarily employed to correct, control, or prevent erosion.

Significantly damage the environment: detriment, harm and/or destruction of the environment, as opposed to damage of trivial consequence.

Stratigraphy: the arrangement of various layers of sedimentary rocks.

Structure: anything built or constructed.

Thermal discharge: the discharge of heated water or air into the environment.

Thermocline: a layer in a thermally stratified body of water that separates an upper warmer, zone from a lower, colder zone.

Tidal prism: the flow of water entering an estuary from the sea over the flood cycle, not including the fresh water input.

Transfer: includes transportation by vessel, pipeline or any other means; offloading and onloading between vessels; offloading from vessels to shore facilities; offloading from shore facilities to trucks, trains, or any other vehicle.

Vessel: every kind of watercraft or other contrivance used or capable of being used as a means of transportation on water, whether self-propelled or otherwise, including barges and tugs.

Water table: the upper limit of that portion of the ground wholly saturated with water.

Part III

PROBABLE IMPACTS OF THE PROPOSED ACTION ON THE ENVIRONMENT

Significant environmental, social and economic impacts will result from Federal approval of the Rhode Island Coastal Zone Management Program. Impacts directly resulting from Federal approval fall into four categories. First, an increase in funds and funding options will permit the CRMC to implement the Program through more effective administration of existing management authorities. Second, Federal approval will require that Federal government actions be consistent with the management program to the maximum extent practicable. Third, approval will signify that the State has an acceptable procedure to insure adequate consideration of the national interest involved in the siting of facilities necessary to meet requirements which are other than local in nature. While the State is not compelled to propose a program which accomodates certain types of facilities, the impact of this procedure shall assure that the State has adequately considered the national interest in formation of the program.

Finally, Federal approval will insure continued State eligibility to receive assistance under the Coastal Energy Impact Program, Section 308 of the Coastal Zone Management Act. This will provide financial aid in ameliorating the impacts associated with offshore oil and gas production off the Rhode Island coast. Additional eligibility for other coastal zone assistance programs such as interstate coordination, beach access, island preservation, research, and training will also be assured.

In order to fully understand the impacts associated with Federal approval, it is necessary to evaluate the probable impact of program implementation by the State of Rhode Island. The following description of program impacts is divided into two chapters. The first chapter summarizes the impacts directly resulting from Federal approval. The second chapter summarizes the broad environmental, social and economic impacts of the program proceeding inland from coastal waters. The chapter then proceeds to a more detailed analysis of the impacts organized by the various permit regulations adopted by the Council.

Chapter 1

Impacts Directly Resulting From Federal Approval

1. Program Funding

Federal approval will permit the Office of Coastal Zone Management to award program administrative grants (Section 306) of the Coastal Zone Management Act to Rhode Island.

Increased Federal money will allow the State to:

a) Hire a full-time fiscal officer in the Governor's office.

b) Increase the number of enforcement officials in the Department of Environmental Management.

c) Increase the permit staff, technical professionals and planners serving the Coastal Resources Management Council.

d) Provide technical assistance to Coastal Resources Center to undertake special studies to monitor coastal processes for the Council. (i.e., erosion prone areas, barrier beaches, long shore drift, marina space problems, rights of way and launch ramps, the need for additional conservation areas, a detailed management program for coastal ponds, and the potential for aquaculture development and energy facility alternatives in or affecting the coastal region).

e) Streamline ongoing regulatory permit processes.

f) Make related programs possible, such as:

1) Fund support for beach busing program

2) Develop solutions to recreation-related traffic congestion and parking problems.

3) Expand public education programs on Rhode Island's coastal environment, for both adult and school groups.

g) Additional funding will also permit the State to purchase equipment, for example, patrol vehicles for enforcement purposes.

h) Rhode Island has described the types of activities for which it will use Federal funds in Part II. Section 308 of the CZMA will allow the State to receive financial assistance in the form of direct loans, credit assistance, formula grants and facility planning grants to help ameliorate onshore impacts associated with OCS oil and gas development. Additional funding for

interstate coordination, beach and island preservation and access, research, and training will also be available.

2. Federal Consistency

The approval of the Rhode Island Program will mean that all Federal agencies must follow the provisions of Section 307(c) and (d) of the CZMA. These provisions and the manner in which Rhode Island intends to implement this Section of the Act are described in Part II.

The Rhode Island Coastal Management Program has evolved with the considerable assistance and input of numerous Federal agencies with responsibility for activities in or affecting the coastal zone. No activities or relevant Federal agencies are excluded from locating in the coastal zone although these activities may have to meet environmentally protective policies to obtain coastal sites and/or be located outside the coastal zone if adverse environmental effects cannot be sufficiently mitigated.

When Federal agencies are undertaking activities including development projects directly affecting the State's coastal zone, they must notify the State of the proposed action. The parties will then have an opportunity to consult with one another in order to ensure that the proposed action not only meets Federal requirements but is also consistent, to the maximum extent practicable, with the State's management program. In the event of a serious disagreement between the State and a Federal agency, either party may seek Secretarial mediation services to assist in resolving the disagreement. By virtue of the availability of early Federal-State consultation, these procedures will provide all parties with an opportunity to balance environmental concerns along with other national, State and local interests.

In cases where the State judges that proposed Federal license, permit or assistance activities affecting its coastal zone are inconsistent with the State's coastal program, the Federal agency will be required to deny approval for the activities. State objections must be based upon the substantive requirements of the management program which include consideration of issues such as air and water quality protection, prevention of shoreline erosion, protection of valuable wetlands and other environmentally related objectives. Accordingly, State objections will often result in preservation of the environmental quality of coastal resources. On the other hand, State objections may induce Federally regulated and assisted projects to locate in alternative sites thereby causing adverse impacts in non-coastal areas.

3. National Interest

Federal approval of the State's Coastal Management Program is dependent in part on a finding that the State has adequately addressed national interests in the siting of facilities and management of areas that are more than local interest. Such facilities and areas include electric power generating facilities, public beaches and parks, Outer Continental Shelf oil and gas exploration service facilities, national defense installations, fisheries, historic sites and districts, and wetlands. National interest is outlined in Part II.

This requirement is intended to assure that national concerns over facility siting are expressed and dealt with in the development and implementation of State coastal management programs. The requirement should not be construed as compelling the States to propose a program which accommodates certain types of facilities, but to assure that such national concerns are adequately considered in the management program.

The provisions might have two impacts. First, it will prohibit a State from arbitrarily or categorically prohibiting or excluding any use or activity dependent on the coastal zone. In the absence of a comprehensive program such considerations might simply be ignored by oversight or default. This requirement will insure they are specifically considered. On the other hand, the existence of a consultative procedure should lead to the more deliberate and less fragmented decision-making concerning siting of facilities in the coastal zone.

An example of the interaction between national interest and Federal consistency would be the proposed siting of an energy related facility in the Rhode Island coastal region. On the one hand the Program specifically recognizes that the construction of coastally dependent energy facilities may be in the national interest. No such facilities are specifically prohibited from locating in the Rhode Island coastal region. Furthermore, the Program also contains numerous provisions and policies which establish the suitability of specific sites or resource systems for energy related developments. Relevant siting considerations therefore include, among others, potential impacts on other uses, areas and resources of state and/or national interest such as public recreation facilities (eg. the Bay Island Park System) coastal wetlands and other natural features. These broad areas of national interest may conflict in a specific situation in which case the policies contained in the State Program provide guidelines for resolving such conflict. In such an event the state could use the Federal consistency provisions of the Coastal Zone Management Act to insure implementation of its decision at the Federal level.

Chapter II

THE PROBABLE IMPACTS OF APPROVAL ON EXISTING MANAGEMENT AUTHORITIES

A. Summary of Environmental Impacts

The Coastal Resources Management Council's regulation of activities in coastal waters will minimize many of the environmental affects associated with coastal development and have a positive long range impact. Dredging in port areas will be of high priority and all dredging permits will be conditioned to minimize possible environmental impacts. Transportation of oil and transfer of gas and oil in coastal waters will be conditioned to prevent environmental damage from potential oil spills.

The coastal program will protect key natural resource areas of the coast: salt marshes, beaches, undeveloped barrier beaches, dunes and fishing grounds. The Program will help to preserve the coast's aesthetic qualities and the various types of recreational opportunities available along the shore. By preserving these key natural resource areas the Program will discourage further inappropriate development in hazardous areas.

The Program has been developed in order to balance short-term uses and long-term productivity. Areas for future development or protection have been coordinated with State and local plans and policies for coastal land and water use. Some "Areas of Particular Concern" (APCs) are designated to preserve long-term productivity. Short-term uses, such as residential or industrial development result in long-term restrictions on coastal resources use. The Program requires future developments to restore parts of the coastal zone for long-term benefits. There are, for example, site reclamation restrictions for pipeline landfalls, sand and gravel mining, docks and nuclear sites.

The Council's policy for barrier beaches prohibits construction on and/or alteration of undeveloped barrier beaches. This policy will have a positive impact on preserving unaltered barrier beaches. Altered or developed barrier beaches will be allowed to be built on subject to Coastal Resources Management Council regulations. Such development on altered barrier beaches would have some long range adverse environmental impacts.

The Council's policies will have a positive impact on preserving coastal bluffs, cliffs, and ledges by restricting all development in areas contiguous to these coastal regions. These areas will remain as open space and act as natural storm buffers.

Most types of major development located in or within one mile of tidal areas will be regulated by the State. However, community character, and the intensity of urban development will remain the responsibility of local governments. The Program leaves land use decisions of predominantly local impact up to the discretion of local governments. The Council has imposed a moratorium on all new electric generating facilities and expansion of existing tank farms beyond their present bounds until September, 1978. The Council has taken this action in order to ensure that sufficient time has been given to analyze and gather new data related to these facilities. The studies will be part of the Section 305(b)(8) requirements the State will submit in late 1978. Thus, the environmental impacts of the Council's electric energy policies cannot be assessed until these studies are completed.

B. Summary of Social and Economic Impacts

The Rhode Island Coastal Zone Management Program seeks to conserve and protect key ecological coastal resources, while it advocates increased development of already developed areas. Although the Rhode Island Program does not anticipate a decline in the present rate of development in the coastal zone, the Program may shift some development activity inland.

The Program will provide an improved decision-making process for determining coastal land and water uses, siting of facilities in the national interest and provide increased predictability about what can and can not occur in the coastal region.

New Development Impacts

New development is expected to continue at its present rate, but will be encouraged to occur in existing developed areas. The principal responsibility to plan for and manage land use and development will be left to the discretion of local governments. However, the Council will influence future land development by considering of low priority for sewage treatment facilities areas identified as low intensity areas. The Council also will control development through sewage treatment permits/activities contiguous to barrier beaches, sand dunes, coastal wetlands, public rights of way, coastal bluffs, historical districts, and conservation areas.

Over the long run, as land suitable for development with sewers is exhausted, the need for public investment will become more critical to future development. Thus, a key impact of the plan will be that the public sector investments will increasingly determine the location of growth in the coastal zone. Since the plan seeks to concentrate development in and adjacent to developed areas, development may occur at higher densities and in fewer places.

The conservation of sensitive coastal resources advocated may make existing and future development more desirable and may raise property values. Present property owners would benefit economically while potential future residents might suffer as a result of increased housing costs.

Fisheries Impacts

The Rhode Island Coastal Zone Management Program advocates that the highest priority of the Port of Galilee, and a high priority at Newport shall be those uses related to the commerical fishing industry. In 1975, dockside value of fish landed at Point Judith and Newport amounted to $15 million. Rhode Island's coastal zone management policies are designed to conserve valuable coastal wetlands and biological processes upon which fisheries depend. Furthermore, the Program promotes the funding of new improvements to the primary fishing ports of the State and supports expansion of existing fishing industries. Recreational fishing will be addressed by the Program through the issuance of marina permits, or pier construction permits.

Fishery related policies will have a positive impact on the fisheries economy of the State. Without such improvements, the benefits made available by an extended United States fishing zone would not be fully realized in Rhode Island.

Impacts on Individual Coastal Land Owners and Uses

Coastal Resources Management Council shoreline policies advocating the conservation of certain coastal resources (e.g., marshes, beaches) are consistent with existing State laws in that they do not alter the development rights of individual property owners. These policies provide greater predictability to the owner. Furthermore, no owner's rights are redistributed to other people; i.e., no access rights are conveyed through the plan without just compensation. Some individual owners will bear negative impacts, although there are judicial processes to allow just compensation. The newly expanded authority granted to Coastal Resource Management Council over public rights of way will permit greater public access to the shore.

Individual land owners may be burdened in the short run through the Council's conditions, but over the long run, the Rhode Island Program will provide net positive benefits to most coastal land owners by promoting a high quality environment, and increased public access to coastal waters.

The immediate impact of these policies will be an insurgence of Federal/State money into local communities for projects and for new planning. In the short run, this may cause an increase in town expenditures where "matching" funds are required. If the Program is successful in improving the overall efficiency of public investments, local expenditures should be reduced in the long-term.

Property tax revenue may be reduced because of conservation restrictions or constraints on industrial development. This may be partially compensated by increases in maritime dependent industry, increases in the value of developable land, or land made developable through public investments.

Institutional Impacts

The use of Federal money in the coastal management program will allow the State to provide:

- Implementation of the new regulations promulgated as a result of the coastal management program
- Greater enforcement of existing regulations
- Increases to the staff servicing the Coastal Resource Management Council which will improve the permit review procedure
- Increases in technical studies on coastal processes
- Federal consistency as outlined in Part II
- New equipment (i.e., patrol vehicles for enforcement purposes) for managing coastal resources

Adjusting to the new regulations that will be required to determine the permissibility of certain projects may cause some temporary delays in permit review and program development. In the long run however, coastal regulatory and management decisions should be made more efficiently and with better coordination among State agencies involved. Improvements in the decision-making process will reduce the amount of time taken up by permitting and licensing procedures.

C. Impacts of Permitting Activities

The Coastal Resource Management Council has regulatory and permit authority within the coastal region over twenty-one coastal physiographic areas and uses. A list of permit regulations and dates of promulgation are listed in the introduction.

Many of these new regulations will have a variety of beneficial environmental, social and economic impacts. This section will only look at the impacts associated with the above twenty-one regulations and not the specific action each applicant must follow. Each of these subtitles corresponds to a section in Part II.

Activities in Tidal Waters and Coastal Ponds

The Council has permitting authority over any activity in, under or over the State's tidal waters and coastal ponds except for navigation.

The use priority categories for estuary follow a spectrum from non-intensive uses compatible with the maintenance of natural areas through major commercial and industrial uses. These policies should serve to maintain the integrity of remaining land areas while providing adequate scope to coastally dependent development. Long-term benefits should result from the maintenance of productivity in near shore areas in terms of such economic activities as fishing and tourism which depend on these resources. Recreation opportunities also will be preserved.

The construction of any breachway into a coastal pond will be permitted only if there will be no significant adverse environmental impacts on the coastal pond on any beach, wetland or other contiguous natural system. Applications for activities that will alter the fresh to salt water ratio or water volume will be permitted only if they will not have significant adverse impacts on the affected water body or pond. These policies would have important long-term beneficial environmental consequences.

The Program's tidal water and coastal policies also may have certain adverse impacts. Limitations on the sites available for intensive coastally dependent development may raise the cost of sites which are appropriate for such development and mitigating measures to surrounding property that may be required could increase construction costs.

Shorelines Systems

Shoreline Systems include all beaches, barrier beaches, sand dunes, cliffs, ledges, bluffs coastal wetlands and all directly associated areas at least 200 feet inland. Any uses, alteration or activity, in or involving any Shoreline System requires a permit from the Council.

Since 1972, the Council has denied all but one application to fill coastal wetlands. On four occassions, violators have been required to restore wetlands that they have been illegally filled. This policy has had both positive short-term and long-term environmental benefit in protecting these valuable coastal resources. Also the aesthetic and scenic nature of wetlands will be preserved over the long-term. A possible adverse consequence is that land values near the wetlands will increase due to the restriction imposed on filling.

The Program prohibits any construction on or alteration of sand dunes, beaches and undeveloped barrier beaches except for an approved stabilization project or when necessary to protect the public welfare, and then only where no significant damage to the coastal environment will result. This applies not only to new structures but also existing structures which are destroyed as a result of a storm. However the Program does allow development on altered barrier beaches as long as all Coastal Resource Management Council environmental regulations are met. This policy will effectively preclude any future inappropriate development on dunes, and undeveloped barrier beaches resulting in long-term environmental benefits as well as greater protection to life and property. A possible economic consequence is that the costs of housing located on dunes may rise as a result of the severe restrictions on any future development.

Another adverse consequence is that the suitability of incremental growth on altered barrier beaches is difficult to assess and environmental and economic damage may occur if these beaches are allowed to develop.

The Program's cliff, ledge and bluff policies will assure the protection of all significant cliffs, bluffs and ledges in the State. This will have long-term positive environmental benefits in that scenic vistas are preserved, important sources of beach nourishment are maintained and erosion could be slowed.

Flood Hazard and Coastal Erosion Regulations

The Program has identified coastal areas which are particularly hazardous because of their vulnerability to wave action, erosion and flooding. In addition to the policies previously described, construction, restoration or substantial improvement of any structure on the beach face is prohibited in these areas, and the lower floor of any new structure shall be elevated a minimum of 6 feet above the 100 year flood level.

These policies should serve to protect both public and private investments in areas subject to flooding and have long term positive environmental and economic benefits. An economic consequence of these regulations will be that construction costs in flood prone areas will increase due to set back and elevation requirements.

The Rhode Island Coastal Program favors non-structural over structural measures to control or check erosion. However, where non-structured solutions have been fully evaluated and found unsuitable, the Council may permit structured solutions. In such instances, the applicant is required to demonstrate that the proposed project will not increase erosion in adjacent areas, or have significant adverse impacts on the environmental quality of the areas. No structural form of shore protection will be permitted in identified erosion-prone areas of environmental concern to the Council.

The policy of favoring non-structural forms of erosion control should have various beneficial consequences. Less physical alteration of coastal features through construction will have beneficial implications for the natural environment. Downstream property owners will be better protected against the adverse affects of structural protection works.

Aquaculture, Mineral Extraction and Ocean Dumping

Aquaculture-defined as the culture of aquatic species under either natural or artificial conditions-is still in the experimental stage in Rhode Island. The Coastal Resources Management Council will support study and evaluation of aquaculture problems. Through its permitting authority, the Council will require an applicant to demonstrate that a proposed action will not significantly damage the environment of the coastal region, and will seek to minimize conflicts between aquaculture and adjacent land or water uses.

The coastal program prohibits sand and gravel mining in State coastal waters "until such time as sufficient technical and research data is shown to the Council to prove under what conditions said extracting and mining may be carried out without adversely altering the marine environment or conflicting with other use of tidal waters." Further, the mining of any material from cliffs, bluffs, wetlands or beaches abutting coastal waters is prohibited. Finally, applicants for minerals extraction activity elsewhere in the State will be required to demonstrate that the activity shall not damage the coastal environment.

Through these prohibitions and strict regulatory criteria, adverse impacts on the coastal environment should be eliminated in the short-term. It is expected, however, that within the next 10 to 20 years marine deposits may be proposed as a major commercial source of sand and gravel. Thus following program approval, the Council may need to address this issue.

Ocean dumping, (not including dredge spoil) is considered inconsistent with the Council's management program until the environmental impacts resulting from disposal are more clearly understood. Presently, solid wastes, sewage sludge, and hazardous wastes generated in Rhode Island are disposed at land-based facilities or are shipped out-of-State for treatment and disposal.

Although demand for dumping of these wastes is not expected to occur in the near future, the management program outlines criteria for the permitting of ocean dumping activity. A number of important adverse impacts could result from ocean dumping, including the dissemination of toxic wastes, increased turbidity, and the destruction of benthic organisms and habitat. The Council will require an applicant to demonstrate a bona fide public need for the project, that alternatives to the project have been considered, and that no significant adverse impact on the coastal environment will occur.

Restriction on ocean dumping will have long-term positive benefits on the environment and water quality. However if ocean dumping does occur, one adverse consequence of this policy will be the increased cost of ocean dumping due to longer distances to dump sites or conversion to land based disposal.

Sewage Treatment, Solid Waste Facilities and Sewer Infrastructure Investment

The Program manages all major sources of pollution such as, municipal sewage plants, industrial discharges, urban and rural runoff, solid waste disposal resulting in groundwater contamination, and leachate from individual septic systems. All permits, certifications, and licenses relative to sewage treatment and disposal and solid waste disposal actions within the coastal region will be referred to the Council.

The Council also shall review all sewage treatment and disposal actions related to major facilities outside the coastal region but capable of affecting the coastal environment.

Applicants for a Council permit for a sewage treatment facility will be required to demonstrate that the proposed facility will not conflict with the policies of the management program, make any areas unsuitable for any use or activity to which it is allocated by the program, or significantly damage the coastal environment. Further, applicants will be required to address such issues as the adequacy of transportation, water and sewer services, the visual impacts of the project, and consistency with local plans and ordinances. Thus, the authority of the Council to review sewage treatment facilities provides an opportunity to eliminate or at least minimize a wide variety of potentially adverse impacts associated with industrial or commerical development.

These policies and activities should help to minimize the adverse consequences of pollutants entering coastal waters. In concert with other program policies, adverse impacts of coastal development on key ecological areas and biological habitats should be minimized. Increased costs could result from the requirement that all future coastal development comply with these environmental protection standards.

Cultural and Recreation

The Council has permit decision control over activities that may occur in or contiguous to public beaches, parks, public right of ways, conservation, management areas, fisheries or wildlife management areas, historic districts in the coastal region or the Bay Islands Park. For activities that will have an adverse impact on these areas, the Council will either condition or deny the project. The Council also endorses the concept of the creation of the Bay Islands Park and supports proposed future acquisitions. Development inconsistent with the proposed park will be considered low priority.

In this fashion, important recreational opportunities along the Rhode Island shore will be protected and economic activities that depend on users of coastal parks or beaches will also benefit. These regulations should have beneficial affects on the existing recreational, esthetic and economic values of these areas by maintaining their character and viability.

The Council also has permit regulations over all marinas, piers, docks and wharves. The Program has identified conservation/low intensity, multiple use recreation, high intensity recreation and multiple use urban estuaries. Marinas will be restricted in some estuaries of the State, while encouraged in other estuaries.

Urban Waterfronts and Ports

The State's major commercial ports are the port of Providence, which includes facilities along both the Providence and East Providence shores at the head of Narragansett Bay, as well as satellite facilities in Portsmouth and Tiverton. Providence is a major regional import center for various petroleum products. Port Judith and Newport represent the State's primary commercial fishing ports.

The Program supports navigational improvements and maintenance dredging in these ports. The Council will require applicants to demonstrate that proposed developments in these areas are port related and such relationship shall be a primary consideration in approving such applications. Thus the long-term viability of the State's port areas will be ensured.

Similarly, applicants for waterfront development at Port Judith will be required to demonstrate that the project is related to the support of the commercial fishing industry. Commercial fisheries-related activities are also considered a high priority use of the port of Newport. These siting policies should encourage the expansion of Rhode Island's commercial fishing industry. These policies will have long-term benefits in terms of increased income and employment in Rhode Island.

Dredging in Tidal Waters

All dredging and dredge disposal in tidal waters will require a permit from the Council. An applicant will be required to demonstrate that the proposed activity will not have significant adverse environmental impacts. In considering these impacts, the Council will balance potential economic benefits against potential environmental damages, thus, adequate scope will be provided for necessary dredging projects while the natural environment is protected. This should minimize the serious adverse environmental consequences of dredging necessary to support maritime-dependent industry.

Energy Facilities

The Coastal Resource Management Council has imposed a moratorium (to last no later than September 30, 1978) on granting any permits for electric generating facilities until a series of special studies have been completed. Some disruption in the efficient supply of new energy supplies may occur, however, no new major energy development has been proposed to the Council for Rhode Island's coast since 1971. Also the Council will not process applications to expand existing oil tank farms beyond their present bounds, nor permit construction of new petroleum bulk storage until the special studies are completed. The long-term impacts of Rhode Island's electric energy policies cannot be assessed until the Council promulgated new regulations in 1978.

Part IV

ALTERNATIVES TO THE PROPOSED ACTION

This Part describes the four most likely reasons the Associate Administrator might deny or delay program approval, as well as the five most likely State alternatives to submitting the proposed program. In order to determine the full implications of these alternatives, the reader should consider the impacts described under each Federal alternative as well as those under each State alternative.

The proposed action is Federal approval of the Rhode Island Coastal Program. The essential alternative to be considered by the Associate Administrator is whether or not to approve the Program as submitted. In deciding whether to approve the Program, he must determine whether the Program meets the requirements of the Coastal Zone Maangement Act as specified in the twenty-six findings needed for Program approval. This determination ultimately requires that discretion be used in interpreting the intent of Congress as expressed in the Act. This environmental impact statement and public comments are intended to assist the Associate Administrator in determining the adequacy of the proposed program.

A variety of alternatives are available to the State, represented by all possible amendments to the Program that might be adopted. Clearly, however, the alternatives that will be considered by the State will depend on what action is taken by the Associate Administrator. In particular, if the Associate Administrator delays or denies approval, the State will be required to consider a wide range of options. If the Program is approved, the State is unlikely to consider alternatives to Program implementation.

These Federal and State alternatives could be carried out in several different ways. As indicated, Federal approval would probably lead to Program implementation under Section 306. On the other hand, a decision by the Associate Administrator not to approve the Program as submitted could lead Rhode Island to withdraw from the Federal Program. But several intermediate courses of action are also available.

A. FEDERAL ALTERNATIVES

1. The Associate Administrator could delay or deny approval if the State does not have the authorities necessary to implement the Program at the time of 306 approval.

The Office of Coastal Zone Management has made an initial determination that the authorities that will be in place at the time of Program approval will be adequate to carry out the management program and meet

the objectives of the Coastal Zone Management Act. This impact statement solicits the views of the public and affected government agencies on the specific issue outlined below. The Council has direct permitting authority over all activities between the mean high water mark and the limits of the State's territorial sea and over shoreline protection facilities and physiographical features. It has similar authority over specified uses regardless of their location where there exists potential for damaging the coastal environment, conflicting with Council Management plans and programs or use allocations reflected in such plans and programs. Regulatory control over other uses of state concern in the coastal region as an element of the State Program is exercized through Council permit procedures regarding sewage treatment and disposal (broadly defined) and the consistent action required of other state agencies under Chapter 23-46 of the Rhode Island General Laws.

If the Associate Administrator determines that these authorities were not adequate to meet the requirements of the Coastal Zone Management Act, he could delay or deny approval until Coastal Resource Management Council revised its present regulations or adopted new regulations or waited until new legislation was passed.

The implications of this alternative include a delay in Program implementation, no increase in Federal funds for Rhode Island under Section 306, and the possibility that Federal actions affecting the Rhode Island coast might be inconsistent with the policies of the Program. Therefore, under this alternative, the monetary and Federal consistency benefits of Federal approval would be deferred for some period of time. Improved environmental protection anticipated under a Federally approved coastal program would not be achieved as rapidly. Momentum for effective protection of the State's coastal resources, gained through preparation of this Program might be lost.

2, The Associate Administrator could delay or deny approval of the Rhode Island Coastal Management Program if the Program does not adequately achieve the goals of the Coastal Zone Management Act as expressed by Congress in Section 303 of the Act.

Section 303 of the Coastal Zone Management Act states that it is national policy

> "...to achieve wise use of the land and water resources of the coastal zone giving full consideration to ecological, cultural, historic and esthetic values as well as to needs for economic development."

One could question if the Coastal Resources Management Council has the authority to address the cultural and visual concerns expressed by Congress in Section 303. The initial determination of approval on this issue was based on Coastal Resources Management Council regulations protecting environmental, historic and scenic coastal areas of the State, setback requirements from bluffs and cliffs, restrictions on what can occur in coastal waters and embayments as well as recreational regulations covering beach access, boating, acquiring parks and beach facilities. The majority of visual and cultural concerns are left to the discretion of local governments. The Coastal Resources Management Council will have a direct role in determining the visual aspects of the Rhode Island coast by precluding activities in some areas, while encouraging development in other areas.

The implications of selecting this alternative include a delay in Program implementation, no increase in Federal funds for Rhode Island under Section 306, and the possibility that Federal actions affecting the Rhode Island coast might be inconsistent with the policies of the Program. Therefore, under this alternative, the monetary and Federal consistency benefits of Federal approval would be deferred for some period of time. Improved environmental protection acticipated under a Federally approved coastal program would not be achieved as rapidly.

3. If the national interest in the siting of facilities in the coastal zone were not adequately considered.

The Coastal Zone Management Act states that prior to granting approval of a management program the Secretary shall find "the management program provides for adequate consideration of the national interest involved in planning for, and in the siting of, facilities (including energy facilities...) necessary to meet requirements which are other than local in nature."

The Coastal Resources Management Council has imposed a moratorium on processing new applications for electric power generating facilities until September 30, 1978. From now until September, 1978, the State will make a thorough evaluation of the energy needs of the State and future power requirements. If it were shown that this moratorium is not in the national interest and precludes future energy facilities, the Associate Administrator could delay or deny the Program. The Associate Administrator has undertaken a review of the general process and results of the Program's consideration of and responses to Federal agency and national interest views. Based upon the information presented, the Program appears to have considered adequately these matters. However, the review process which is initiated with the distribution of this Draft Environmental Statement and Program document is designed to provide further opportunity to promote various national interest claims and agency views that are specifically tailored to what the management program proposes for final approval by the National Oceanic and Atmospheric Administration.

This Federal alternative could result in a delay in Program implementation, loss of Federal funding that would otherwise be available, and allow Federal actions in the coastal zone to be inconsistent with the management program.

4. The Associate Administrator could deny or delay approval if the Program does not meet the specific requirements of the Coastal Zone Management Act.

Section 306(c) of the Coastal Zone Management Act requires the Associate Administrator to find that a State coastal management program meets all of the requirements of the Coastal Zone Management Act prior to approving the Program.

This alternative encompasses all of the possible reasons for not approving the Program as submitted in addition to those already discussed in Federal Alternatives 1-3. For example, someone might feel that the boundary does not extend far enough inland to protect the interests of the Act.

The Office of Coastal Zone Management has made an initial determination that the Program does meet the minimum requirements. However, the Office will review specific comments on the consistency of the Rhode Island coastal program with the requirements outlined in the Federal Act and with the specific standards for Section 306 approval provided in 40 CFR 923.

The three primary impacts of a negative decision would be that Rhode Island would not receive necessary funds to implement the Program; Federal consistency would not apply to Federal agencies' activities in the coastal zone; and national interest would not be taken into account.

In addition some delay in Program implementation would occur; the length of the delay would depend on the type of Program deficiency that was found and the types of remedial action taken by the State.

B. STATE ALTERNATIVES

1. The State could withdraw its application and not seek Federal assistance.

The State could withdraw its application and not seek Federal assistance. The Coastal Resources Management Council would continue to manage the coastal areas through its ongoing regulatory program. The State has spent $1.1 million in Federal money and $360,000 in State money in preparation of its Coastal Management Program. Without Federal money, the Council would operate with a smaller budget. The State under this alternative would not be subjected to Federal regulations in the management of the program.

The coastal management efforts in Rhode Island began prior to the passage of the Coastal Zone Management Act and will continue even if Federal approval is not received. However the State would not receive,

1) Federal money to assist in the day to day management of the program, 2) the provisions of the Federal consistency section of the Coastal Zone Management Act and 3) loan guarantees and credit assistance to help mitigate onshore impacts of outer continental shelf development. Federal funding support will greatly help in the Council's implementation of the Program.

2. Withdraw the Program until a State Land Use Bill is passed by the Legislature.

A proposed State-Local Land Management Bill is now being considered by the Rhode Island Legislature. The coastal program could wait until this legislation was passed and then submit an expanded coastal zone program for Federal funding. Waiting for coastal land use legislation to pass could eliminate any conflicts that might occur between the two programs. The negative impacts of this alternative include: 1) the State will loose all Section 305 funding by June, 1978, and 2) the Coastal Resources Management Council can implement the Program now and the Council is directed by State legislation to implement the Program now.

3. The State could wait until all the new planning requirements of the Act are completed.

The 1976 amendments to the Coastal Zone Management Act expanded the requirements that a State must meet in order to qualify for program implementation funding. These new planning requirements include, energy facility siting (Section 305(b)(8)) public access to the shore, Section 305(b)(7) and coastal erosion Section 305(b)(9). The State could apply for Section 305(d) funding and wait to complete all elements of the management program. Under Section 305(d) the Office of Coastal Zone Management could award preliminary approval to the State prior to completion of the entire program. This alternative would allow for a complete program to be submitted to the Office of Coastal Zone Management. However, Congress specifically stated that a State need not finish this requirement until September 1978, and that the lack of the 3 new planning elements was not a basis for denying a program. Also, the Council now has the authority to implement portions of the three new elements and can use the next years planning efforts to fine tune the regulatory system.

4. Expand the authority of the Coastal Resources Council and/or the area of permit jurisdiction.

The State could attempt to get legislation for the Council to more directly manage all activities of the Council within the first mile of the shore. As explained under Federal alternative 1, this does not appear to be necessary to meet the requirements of the Federal Coastal Zone Management Act as activities conflicting with the Program will be managed through Council sewer permit authorities and coordinating responsibilities regarding actions by other state agencies. The impacts of selecting this alternative are the same that are described in the other alternatives involving a delay in program approval.

Expanded Council authority could add a layer of insurance that all conflicting uses in the coastal zone would be resolved by the Council.

5. The Coastal Resources Management Council could be incorporated into the new Department of Environmental Management.

A new Department of Environmental Management (DEM) was created by the legislature in 1976. This new agency incorporated the regulatory functions of the old Department of Natural Resources, and some aspects of the Department of Health. Some commentators feel that the Coastal Resources Management Council could more effectively function within the framework of this new agency. The advantage of this alternative would be that 1) more direct accountability to the Governor, 2) all environmental regulations would be combined under one umbrella agency, and 3) there would not be two agencies that may disagree with certain policy or budget decisions. The disadvantage of this alternative would be 1) loss of the jury system concept for regulatory actions, and 2) the present council, being an independent body, is less susceptable to political pressures. It should be noted that the past legislative session considered this proposal and chose not to move the Coastal Resources Management Council.

6. The State could revise the Program by defining a different landward boundary than the one proposed.

Rhode Island used the following criteria in deciding how to define the inland boundary of the coastal region:

(1) best use of available planning data
(2) good "fit" with existing plans comprising the State Guide Plan
(3) fulfillment of the Coastal Resources Management Council mandate to plan for the coastal region
(4) meeting requirements of the Federal Coastal Zone Management Act
(5) best compromise between socio-political and environmental considerations.

The coastal region shown in the two foldout maps in the Program document was chosen primarily because it enabled the use of the same data base as the one used in developing and monitoring the State Guide Plan. The reasoning is elaborated in Part II.

Since, for regulatory purposes, it is essential that the inland boundary be clearly definable, the boundary of the region was defined to include all coastal municipalities for permit review purposes.

The following were considered as possible alternative inland boundaries:

(1) The confines of the State: judged as unnecessaryily big, does not follow the spirit of the Coastal Resources Management Council legislation, would needlessly duplicate work done for State Guide Plan. Much of the area would have no reasonable connection to the management of coastal resources.

(2) The watershed: again too big and impractical since much of the watershed for Rhode Island estuaries lies in Massachusetts and Connecticut.

(3) Top of the first range of hills or mountains: too uneven, would work well along south shore but would include out-of-State areas around upper Narragansett Bay.

(4) 100 year flood plain: varies greatly in width, does not conform to socio-political boundaries.

(5) A designated setback from high water, first coastal road or an arbitrary elevation: would also include, as in 2, 3, and 4, an area highly variable in width. Also no connection to socio-political boundaries or State Guide Plan inventory.

Part V

PROBABLE ADVERSE ENVIRONMENTAL EFFECTS WHICH CANNOT BE AVOIDED

The probable effects of Rhode Island Coastal Zone Management Program implementation will, on the whole, be environmentally beneficial. However, there will probably be a number of adverse impacts to both the natural and socio-economic environments which cannot be avoided.

Numerous adverse impacts will continue to be associated with the siting of major facilities for purposes of defense, transportation, energy requirements and others in which both the State and Federal governments have interest. The Program makes provisions for consideration of the siting of facilities which are in the national interest. It is important to note, however, that under the Coastal Zone Management Program and related Federal Acts (e.g., National Environmental Protection Act), each such project will be evaluated as to the impacts on the natural coastal enviornment. That is, investigations will be made, alternatives considered, etc.

Part VI

RELATIONSHIP BETWEEN LOCAL SHORT-TERM USES OF THE ENVIORNMENT AND THE MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY

While approval of the Rhode Island Coastal Zone Management Program will restrict some local, short-term uses of the environment, it will also provide long-term assurance that the natural resources and benefits provided by the Rhode Island coast will be available for future use and enjoyment, by more effectively administering existing resource protection laws.

The Rhode Island Coastal Zone Management Program does the following:

A. Short-Term Uses

1. Does not prohibit future development but encourages medium-high intensity growth to occur in existing developed areas or areas contiguous to them in so much as growth is constrained by State sewer programs.

2. Recognizes that some energy facilities and coastal-dependent developments have adverse environmental consequences, but that they may still have to be located in the coastal zone to protect the inland environment as well as help provide for orderly economic development, and meet national interest.

B. Long-Term Uses

1. Recognizes the coastal zone as a delicately balanced ecosystem.

2. Establishes a process of balanced management of coastal resources.

3. Allows growth to continue while protecting key resources.

4. Provides for a framework which can protect regional, State and national interests by assuring the maintenance of the long-term productivity and economic vitality of coastal resources necessary for the well-being of the public, and to avoid long-term costs to the public and a diminished quality of life resulting from the misuse of coastal resources.

Without the implementation of rationally based land and water use management programs, some intense short-term uses and gains, such as provided by residential or industrial development, might be realized in natural resource areas of the coastal zone. However, such uses would most likely result in long-term limitations on coastal resource use and benefit because of degradation of the environment. Without proper management, the traditional conflicts between shoreline resources uses--residential, commercial, industrial, recreational, and wildlife--could be expected to occur.

Implementation of the Program will result in minimization of the social costs which inevitably accompany environmentally destructive development, the mitigation of which requires public investment.

Part VII

IRREVERSIBLE OR IRRETRIEVABLE COMMITMENTS OF RESOURCES THAT WOULD BE INVOLVED IN THE PROPOSED ACTION SHOULD IT BE IMPLEMENTED

The approval of the Rhode Island Coastal Zone Management Program will not in itself lead to the loss of resources that a site specific project would. Tradeoffs will have to be made based on the policies of the program. For instance, some urbanized areas or less intensive industrial areas may receive greater development pressures and a commitment of the surrounding resources because of the policy to concentrate development of sewer projects to serve already developed areas.

Also, the program provides that priority will be given to coastal-dependent development (certain energy facilities, port and harbor development, etc.) which in turn is often the most damaging to the environment and is located in the coastal zone to utilize its resources. However, the program establishes criteria and standards for siting and requires that alternatives be considered and mitigation measures be taken. Development will occur in the absence of program approval, but the Rhode Island Coastal Zone Management Program will channel such activity toward environmentally suited land areas.

COASTAL ZONE INFORMATION CENTER

Part VIII

CONSULTATION AND COORDINATION

Extensive consultation, coordination, and input has been received in developing the Rhode Island Coastal Zone Management Program. Because the Program was developed with the natural and human environment in mind, many alternatives have been considered.

The Office of Coastal Zone Management requires that a State conduct an environmental impact assessment on their coastal management program prior to any approval of the Program. This assessment was used in developing the draft Environmental Impact Statement. Additional input has been received from various Federal agencies throughout the duration of a State's Program development period, on such things as the impact of the Program on the Federal agency program as well as an analysis of the Program.

Coordination with all local, State, Federal, public, and private interests remains a key component of the Rhode Island Program. The Program will provide for the public notice of major State actions, provide technical assistance to coastal communities as to how local plans may be made consistent with the Coastal Zone Management Program, assist the private sector through the publication of handbooks and other means of communication on meeting Coastal Zone Management policy requirements, and continue coordination with Federal agencies to resolve potential conflicts during implementation.