

Marine Resources Development Plan

January 10, 2006



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Preface

In the Coastal Zone Management Act of 1972, the US “*Congress finds and declares that it is the national policy-- (1) to preserve, protect, develop, and where possible, to restore or enhance, the resources of the Nation's coastal zone for this and succeeding generations.*” The National Coastal Management Program is a federal-state partnership dedicated to comprehensive management of the nation’s coastal resources, ensuring their protection for future generations while balancing competing national economic, cultural and environmental interests. The Office of Ocean and Coastal Resources Management, NOAA, reviews and provides federal funding to each state coastal management agency in accordance with their duly adopted coastal management program. The coastal zone management agency for the state of Rhode Island is the Coastal Resources Management Council (CRMC) which administers the Rhode Island Coastal Resources Management Program established by state and federal statutes.

The Coastal Resources Management Council is charged by the Rhode Island General Assembly with managing 420 miles of beautiful Rhode Island coastline, public trust tidal waters, submerged tidelands and marine resources for all of our citizens. Since the CRMC was established more than 30 years ago, it has played a major role in creating landmark policies, regulations and activities to enhance the high quality of life we enjoy when coastal ecosystems are intact, healthy and productive. The CRMC has come to be recognized as a national leader in coastal resources management. This reputation has been earned through a commitment to preserving access to the shore, maintaining our waterways for both recreational and commercial uses, finding opportunities for economic growth such as aquaculture, and developing programs that protect and manage ecosystem values.

The CRMC is probably best known as a regulatory agency, but it plays a much broader role. For example, the CRMC has developed comprehensive Special Area Management Plans (SAMPs), and the Coastal Buffer Program, both of which are used as models at the national and international level. Working with its federal partner, NOAA, CRMC prides itself on striking a balance between environmental stewardship and management and smart economic development.

In the spirit of continually striving to have one of the best coastal programs in the nation, the Rhode Island General Assembly adopted a law in 2004 that required the CRMC to prepare a Marine Resources Development Plan (MRDP). This plan is aimed at improving the health and functionality of Rhode Island’s marine ecosystem, providing for appropriate marine-related economic development; and promoting the use and enjoyment of Rhode Island’s marine resources. The law states that, “*The Council shall administer its programs, regulations, and implementation activities in a manner consistent with the Marine Resources Development Plan.*”

The Plan presented in the following pages will help the CRMC realize new achievements and accomplishments in coastal zone management. We look forward to maintaining the high expectations that you as citizens demand. The projects and other initiatives called for in the MRDP will help ensure that the next 30 years promise to be even more exciting than the first, as the Council continues on its primary mission of preserving, protecting, developing, and restoring the state's coastal resources.

Figure 1. Rhode Island Public Trust Coastal Waters.

Public trust waters are defined by common law : “provides that public trust lands waters and living resources in a state are held by the state in trust for the benefit of all the people...It applies whether the trust lands are privately or publicly owned. The clear purpose is to preserve and continuously assure the public’s ability to fully use and enjoy public trust land, waters, and resources for certain public uses.” Each state has a different interpretation of what activities the public has a right to pursue in these areas. In Rhode Island, state waters of public domain extend from mean high water three miles out to sea. Above mean high water, land and resources can be, and often are, privately owned. In accordance with state and federal statute, projects involving the alteration of coastal areas require permits from CRMC. Slade, D. 1997. Putting the Public Trust Doctrine to Work. Washington, D.C.: Coastal States Organization.



Source: <http://www.narrbay.org/static.htm>. Accessed January 9, 2006. See RIGL 42-1-1 for determining the baseline for the three-mile boundary.

700 The Marine Resources Development Plan

700.1 Background, Vision and Goals

The MRDP has six chapters. Chapter 700.1 presents the background, vision, and goals of the plan. The second set of chapters—700.2, 700.3, 700.4— sets forth areas of action needed to address issues of ecology, economy, and enjoyment (recreation). The final set of chapters—700.5 and 700.6—describe *how* things can get done. They set out roles for the CRMC and staff, present strategies for leadership and coordination, as well as fresh expectations for planning. The strategies in chapter 700.2 through 700.6 are interdependent and complementary and need to be understood holistically.

Changing Dynamics, New Responsibilities

The dynamics that gave rise to the establishment of the Coastal Resources Management Council (CRMC) in 1971 have changed. The pressures on the CRMC as an institution comprising the Council, staff, consultants, and partners, are different than they were even as recently as a half decade ago. Public expectations and opportunities for a vibrant coastal state and the leadership to make it happen are greater than ever. The Marine Resources Development Plan (MRDP) is constructively responsive to those expectations and opportunities.

The CRMC finds that uses of marine resources in Rhode Island are intensifying; that optimizing the potential of this intensification will require intentional action—i.e. it will happen by design, not by accident; and that needed intentional actions are collaborative in nature. The themes of intensification, design, and collaboration run throughout the MRDP. It sets forth what needs to be done and how to do it. Action and operations are distinct concepts, which are more powerful when they are complementary. The MRDP as a guide to both is intended to provide a basis for that complementarity.

The effective, constructive response to changing dynamics presented in the MRDP constitutes an evolution of the CRMC and challenges to the organization as it moves forward. It presents new roles to be played by the CRMC in policy adoption and planning; by staff in support of the Council and in program administration; by consultants, researchers, and key partners, including other state agencies, cities and towns.

The basic premise of the MRDP is that better results are achieved when expectations are clear and when parties work together. From its inception, the CRMC has had planning and coordination among its powers and duties. The MRDP is structured around these authorities and builds on the CRMC's leadership in water-use zoning and special area management planning.

CRMC Legislative Mandate and Purpose
Rhode Island Coastal Resources Management Act, 1971

...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 these 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.

...that effective implementation of these policies is essential to the social and economic well-being of the people of Rhode Island because the sea and its adjacent lands are major sources of food and public recreation, because these resources are used by and for industry, transportation, waste disposal, and other purposes, and because the demands made on these resources are increasing in number, magnitude, and complexity; and that these policies are necessary to protect the public health, safety, and general welfare.

... that implementation of these policies is necessary in order to secure the rights of the people of Rhode Island to the use and enjoyment of the natural resources of the state with due regard for the preservation of their values, and in order 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, and to adopt all means necessary and proper by law to protect the natural environment of the people of the state 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.

...that these 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.

RI G.L. TITLE 46 Waters and Navigation. CHAPTER 46-23.

At the time of the preparation of the MRDP, coastal land values in Rhode Island have never been higher. At the same time, the risks of inappropriate coastal development have been made vivid by the devastation wrought by hurricane Katrina in Louisiana and Mississippi. Tragedies of this kind are a part of Rhode Island's history and have taught us that coastal activity must be guided by best practices.

Rhode Island is in a critical period in its relationship between its people and its coastal resources. A century and a half ago, Rhode Island possessed sweeping open stretches of untouched shoreline, productive coastal farmlands, and what appeared to be an unending bounty of fish and shellfish. The Bay seemed capable of absorbing an ever-increasing volume of sewage and industrial waste.

At the beginning of the twentieth century, Rhode Island's shore and waters were a playground for all strata of society. The Bay was easy to travel by ferry, and the ocean surf of Narragansett Pier was just a trolley ride away from Providence. Even the Upper Narragansett Bay had a distinct image as a recreational resource—with its shore dinner halls, swimming and sailing, and amusement parks such as Rocky Point and Crescent Park.

Gradually, the shore was developed with homes, businesses and infrastructure, and the old recreational facilities in the urban areas disappeared. By the late 1960s lagoons, estuaries, beaches and ocean resources were being threatened by water pollution, rapid land development, building practices that damaged wetlands and habitat, proposals to build nuclear power plants

Legislative Mandate/Purpose
Marine Resources Development Plan: 2004

... to provide an integrated strategy for: (a) improving the health and functionality of Rhode Island's marine ecosystem; (b) providing for appropriate marine-related economic development; and (c) promoting the use and enjoyment of Rhode Island's marine resources by the people of the state

... shall include specific goals and objectives necessary to accomplish its purposes, performance measures to determine progress toward achieving such goals and objectives, and an implementation program

...shall be prepared in cooperation with the Department of Environmental Management, the Statewide Planning Program, and the Economic Development Corporation, with the involvement of such other state agencies as may be appropriate

... shall be responsive to the requirements and principles of the federal coastal zone management act as amended

...shall take into account local land use management responsibilities as provided for under title 45 and harbor management responsibilities, and the preparation of the plan shall include opportunities for involvement and/or comment by cities and towns

... shall be adopted by the Council

... shall be made consistent with systems level plans as appropriate, in order to effectuate the purposes of systems level planning

...The council shall update the marine resources development plan at least once every five (5) years

...The Council shall administer its programs, regulations, and implementation activities in a manner consistent with the Marine Resources Development Plan

...shall be adopted as appropriate as elements of the state guide plan pursuant to section 42-11-10

RI G.L. 2004, Chapter 145 (2004-S 3028A) codified as section 46-23-6(1)(v)(A)(1).

and oil refineries. The working waterfronts of Newport and Providence were in a shambles. And although it was not recognized at the time, many of the coastal fisheries were at their peak.

Forty years later, Rhode Island can celebrate major accomplishments in restoring water quality, protecting fragile coastal features, reaching agreement on how shore areas and harbors should be used, and expanding public access. Public support, citizen organization, better laws and new government agencies have converged to set and carry out a restoration and protection agenda. This is largely the result of actions taken in the 1970s and 1980s, through which Rhode Island adopted pioneering coastal, marine and land management laws. Coastal cities and towns devoted time and effort to plan for the use of their shorefront lands. In addition, the state and at least eleven coastal communities have worked together to create special area management plans to collaboratively manage critical coastal ecosystems and areas along with a wide range of investments and conservation measures. This progress, significant as it is, needs to be continued. The MRDP, a commitment by the CRMC to remain a national leader in coastal zone management, is a way to do this.

The MRDP as a Strategy to Guide to Action and Practice

The concept of the MRDP emerged from a series of meetings and task force reports to the General Assembly and the Governor’s urging that Rhode Island as a whole needed to do a better job in marine and coastal resources management. In 2004, the Rhode Island General Assembly found that state agency collaboration was not at the level required to meet the challenges and take full advantage of the opportunities offered to the state as it looked to the future. As a result, a suite of legislation was passed in 2004. One of these statutes called for CRMC to formulate and adopt a marine resources development plan in cooperation with four key actors: the Department of Environmental Management (DEM), the Coastal Resources Management Council (CRMC), the Department of Administration (DOA) and the Economic Development Corporation (EDC). Intentional design of our coastal and marine economies is essential for Rhode Island to be competitive as a vibrant economy and to provide a quality environment for its growing population. Since the 1970s, the state has had a robust regulatory framework in place that supports such intentional design, however greater benefits could accrue from enhanced integration and coordination through proactive planning. The MRDP is not a regulatory document and does not replace or supercede the existing regulatory program as codified in the Rhode Island Coastal Resources Management Program regulations or in Special Area Management Plans. An overview of the entire coastal program is shown in Table 1.

Table 1. Main Components of the Rhode Island Coastal Resources Management Program

Level	Law	Organization	Program Elements
Federal	Coastal Zone Management Act of 1972 16 U.S.C. 1451	National Oceanographic and Atmospheric Administration: Office of Ocean and Coastal Resources Management	Section 306 Funding; Section 312 Program Review; Federal Agency Consistency with State Programs; Multi-state agreements
State	Rhode Island legislation creating the Coastal Resources Management Council, 1971 TITLE 46 Waters and Navigation Chapter 46-23	Coastal Resources Management Council and CRMC staff, consultants, attorneys. Permit processing and decisions; sub-tidal lands leasing; planning and policy; information systems; research; outreach, public education	Statewide regulatory program (Red Book regulations); Special Area Management Plans; Rights of way to the shore; restoration projects; federal consistency determinations; multi-state plans and agreements.
Municipal	The Rhode Island Comprehensive Planning and Land Use Act of 1988 (Land Use Act) (RI Gen. Law §45-22-2) and the State of Rhode Island Land Development and Subdivision Review Enabling Act of 1992, also known as the Development Review Act (RI Gen. Law §45-23).	Preliminary project reviews with CRMC staff; harbormasters, harbor management committees; city councils; mayors and town managers; planning and zoning boards.	Special Area Management Plans; Harbor Management plans, approved by the CRMC; rights of way determinations; Development Review Act determinations.

The MRDP is a formally adopted CRMC policy statement intended to serve as a guide to action and to practice. It is also intended to facilitate collaboration, both through the Rhode Island Bays, Rivers, and Watersheds Coordination Team and with other partners, especially cities and towns. The CRMC has always viewed itself as connected to the larger community rather than as a stand-alone administrative agency. This viewpoint informs the MRDP.

Four key, inter-related issues must be addressed in the MRDP's integrated strategy for future marine resources development:

- a) Coastal sites for new recreation, conservation or economic development are becoming scarce, with the specter that private owners will be the primary beneficiaries of coastal resources that should be accessible to all, in accordance with Rhode Island's Constitution. Existing shorefront homes and businesses are being expanded and obsolete residential and commercial properties along the coast are being redeveloped.
- b) Water quality has improved a great deal but there must be the will to finish the job and to maintain gains over the long term.
- c) Many fisheries stocks are below their sustainable yield potential.
- d) Rhode Island has a mixed record when it comes to bringing diverse views, voices and authorities together to make decisions that move us confidently forward.

Historical Background—the Foundation for Change

There is a long history of human habitation around Narragansett Bay and along its south shore. The most dramatic growth period for coastal population was the urban expansion of Providence and its suburbs between 1880 and 1940. Since the 1970s, rural coastal towns contributed to a new, but less dramatic wave of growth. (Figure 2) The ways in which tidal waters and coastal lands are now used are mainly the products of the last 150 years. This recent period can be divided into three distinct eras of coastal and marine development, each with its own character and dynamics.

The Era of Industry and Harvest: Post Civil War to Post World War II

During this long period, the industrial revolution bore its most significant results. The city of Providence was the state's economic and demographic hub. Waves of immigration built the economy and generated settlement patterns in the state. The period also contained successive booms and busts in inshore commercial fisheries and aquaculture. The Bay was a dominant transportation route and the receiver and "processor" of industrial and urban wastes. At the same time, the Bay was a regionally important producer of seafood and the Bay and its south shore emerged as playgrounds for rich and poor alike.

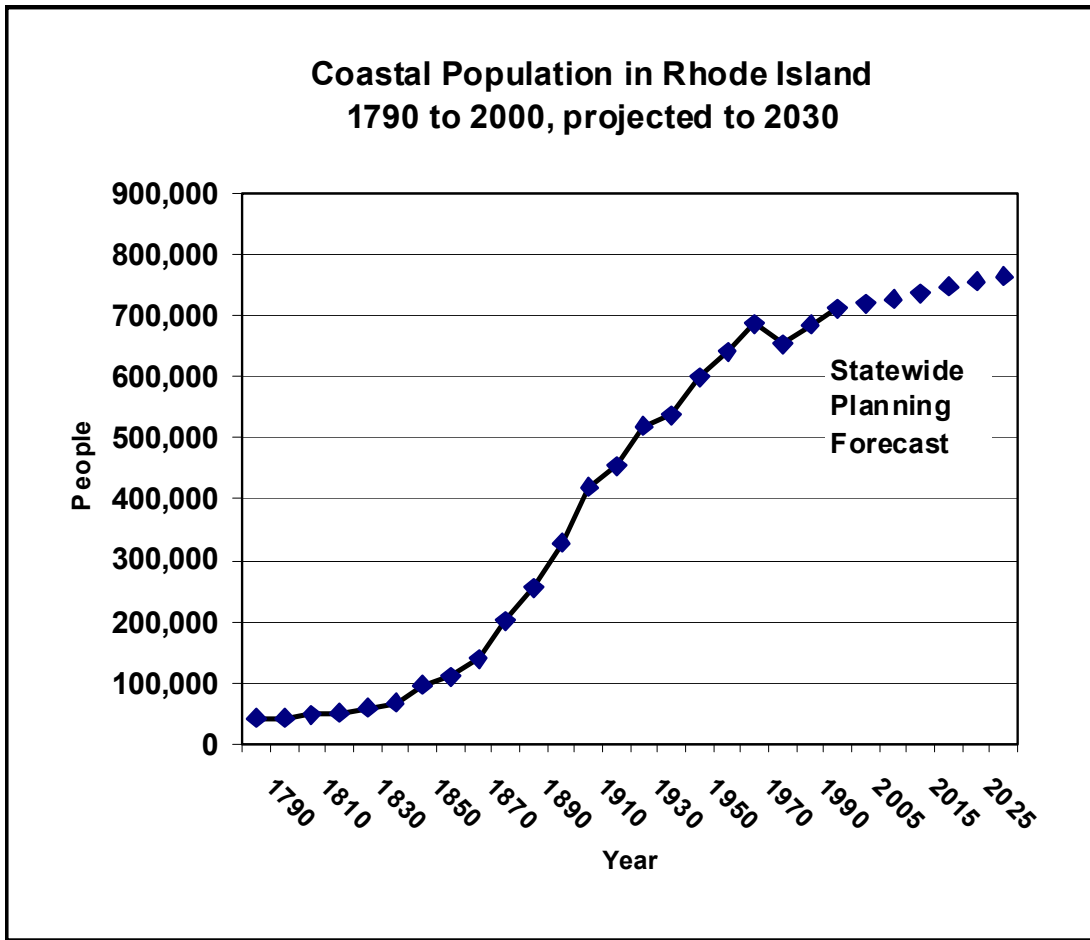


Figure 2. Population of Rhode Island Coastal Municipalities

Governance of marine and coastal areas was oriented to releasing private economic energy, protecting private property, and contract rights. Rhode Island addressed environmental and fisheries problems through a profusion of boards and commissions that conducted studies and made recommendations which were seldom implemented in time to save the resource of concern. Despite the highly politicized nature of decision-making—especially before the “bloodless revolution” led by Governor Theodore Francis Green in 1935, which commenced the era of the administrative state with a substantial executive branch—this era gave rise to a few pioneering public officials committed to solving the pollution problem. Upper Narragansett Bay water pollution that had killed off oyster beds and fisheries was addressed by building the first municipal sewage treatment plant in the US. Meanwhile, the collapse of formally abundant in-Bay fisheries in the 1860s was much debated but produced no governmental response. Salt marshes and freshwater wetlands were considered wastelands and were filled. Public health, rather than environmental quality, was considered the only concern that might reasonably modify the trajectory of economic growth. Citizens had decried the notorious contamination of upper Narragansett Bay before the Second World War and had begun to mobilize statewide pressure to get urban wastewater treated.

The Era of Suburbanization and the White Collar Economy: Post-WWII to the 1980s

Rhode Island's industrial economy had begun to decline prior to World War II. The Bay had been transformed, in many ways devastated, by events of the mid-century including the hurricanes of 1938 and 1954. The construction or expansion of military facilities in Quonset Point, Davisville, Melville and Newport industrialized large stretches of shoreline. Discharges of raw sewage to the upper estuary were controlled through massive investments of federal funds in wastewater treatment facilities. Hurricane barriers across the mouth of the Bay were designed but ultimately rejected. Massive dredging projects were completed to provide a 40 foot deep channel to the harbor of Providence. Bay fisheries stabilized at new, but far less abundant, levels.

The dominant mode of governance after World War II became professional administration by the state, conducted by line agencies and planning at the state and local levels, and strongly influenced by federal government laws and funding programs. Public support grew and remained high for state spending on pollution control, land conservation and acquisition. In this era, comprehensive planning and regulatory programs were established as fixtures of government. It was widely accepted through the 1970s and 1980s that economic growth and neglect of environmental impacts had had deleterious effects on coastal resources that were unacceptable.

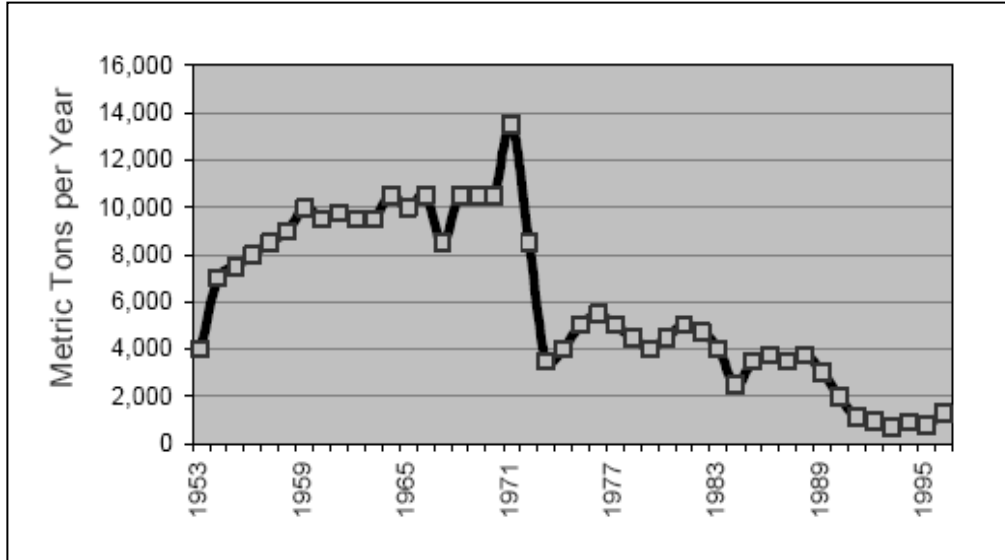
Many large-scale development proposals were rejected by citizens and state leaders (an oil refinery in Tiverton, nuclear power stations at Rome Point and in Charlestown, a liquefied natural gas terminal on Prudence Island and, most recently, a major port at Quonset Business Park). However, the cumulative impact of many small development decisions – largely related to suburbanization – proved difficult or impossible to track and to control. The massive financial investments in water quality treatment, including pre-treatment of industrial wastes began to produce major improvements in the condition of the Bay. Remaining saltwater and freshwater wetlands received protection but little progress was made in regulating fisheries. The DEM catalyzed efforts at the state and municipal level to conserve remaining open space.

The Era of Ecosystem Recovery and the Information Economy: 1990s to present

By the 1990s we were seeing that the institutional and planning investments and regulatory programs of the 1980s, combined with public funding for construction and operation of waste treatment and management facilities, had yielded significant reductions in pollution. Loading of organic pollutants had dropped considerably (Figure 3), as investments in waste water treatment increased (Figure 4). Urban revitalization, based in part on historic preservation and designs that opened up access to the waterfront, has occurred in small coastal towns as well as in Newport and Providence. Massive new infrastructure projects have taken place in the coastal zone. This includes the relocation of railroad yards and the Providence and Woonasquatucket Rivers (including the development of the Capital Center District), the dredging the Port of Providence, the realignment of Interstate 95, and the funding of the Jamestown-Verrazano Bridge.

Figure 3. Biochemical Oxygen Demand Loadings from the Fields Point, Bucklin Point and East Providence Wastewater Treatment Facilities, 1953-1996

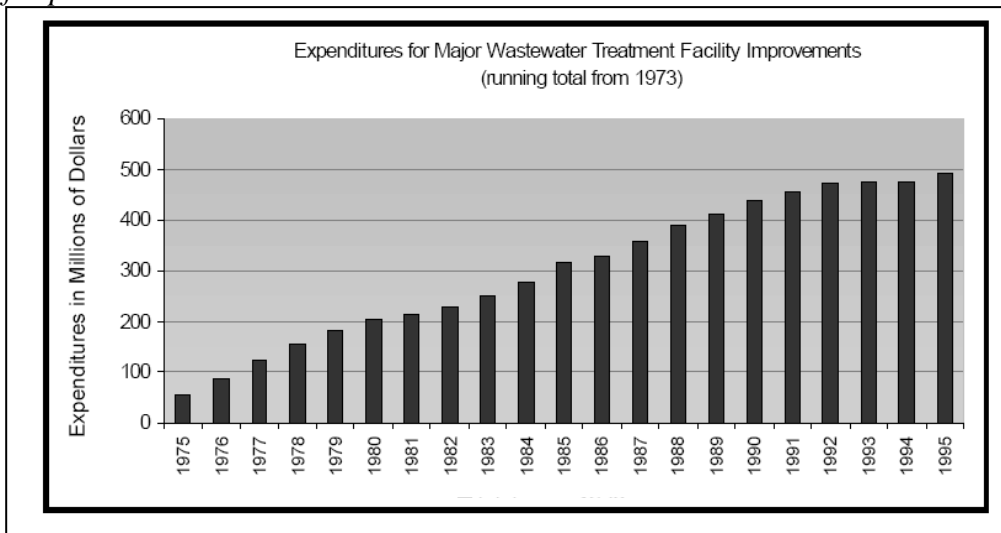
Pollutant loadings continued to increase during the 1950s and 1960s until secondary treatment was initiated at the new Bucklin Point facility. Further improvements to existing facilities are attained in the 1980s and 1990s.



Source: Rhode Island Department of Environmental Management. April 2000. *Narragansett Bay Water Quality Status and Trends 2000*. RIDEM Narragansett Bay Estuary Program & Narragansett Bay Estuarine Research Reserve.

Figure 4. Cumulative Expenditures on Wastewater Treatment Facilities, 1975 – 1995

The gains in water quality since the 1970s are the result of continuous federal, state and local support for pollution control investments.



Source: Rhode Island Department of Environmental Management. April 2000. *Narragansett Bay Water Quality Status and Trends 2000*. RIDEM Narragansett Bay Estuary Program & Narragansett Bay Estuarine Research Reserve.

Collaboration, characterized by vertical and horizontal integration and adaptability, has emerged as a mode of effective governance. Municipalities seek to incorporate environmental considerations to their land use decisions. Harbor management plans and special area plans for coastal ecosystems are adopted and revised, watershed councils are organized, and strategies are formulated in the sub-basins feeding coastal waters. In addition to these advances, there has been recognition of the need for improved interagency integration and coordination.

Looking Forward: A Vision of the Future from the Marine Resources Development Plan

It is envisioned that the following will result from implementing the MRDP:

- Rhode Islanders are ensuring that a broad mix of recreational access and opportunity is always available, forming a mosaic of highly diverse offerings that meets the needs of different age groups.
- The “Top of the Bay” is among the world’s premier urban waterfronts, where private investment is an engine in the Rhode Island economy, and quality design is a source of collective identity and pride.
- Coastal recreation is an integral part of the ordinary life of the average Rhode Islander. Current levels of public access are being continuously maintained and improved. Eco-tourism expands, making a contribution to the greenways, seascapes and landscapes along rivers and protected areas. The Bay Islands become fully incorporated as a key element of the new level of enjoyment and access to the state’s coastal treasures.
- New ways of decision-making find advocates of economic development and environmental protection working jointly as stewards of the Bay and marine resources. Developers have become “place makers” – i.e. demonstrating concern for their coastal locations rather than for just individual parcels and sites. The Naval Underwater Warfare Center, Raytheon and the University of Rhode Island are partnering to create new industries in coastal security and estuary management. A larger portion of Rhode Island’s economy is based on international trade. Socially, the state becomes more integrated as the population stabilizes and education for recent immigrants is improved. Flourishing traditional centers boost waterborne transport and communication, and offer new sources of employment for skilled labor.
- Marine waters and habitat are also managed as a natural provider of food and protein, taking advantage of gains in pollution reduction and treatment efficiency. Sustainable harvest policies and improved habitats allow fisheries to recuperate. This ecologically driven economic production provides the resolve to resist forms of development that would otherwise generate excessive pollution and other negative impacts. Rhode Island’s environmental policy shifts towards collective dedication to resource stewardship and value intensification. In doing so, Rhode Island completes its migration away from an extractive model to a stewardship model. As a result, Rhode Island’s remarkably diverse tidewater areas are the finest waterfront system in the United States.

Goals for the Marine Resources Development Plan

As outlined above, this vision for coastal and marine resources requires the wholehearted pursuit of the following goals:

- Properly functioning bay and lagoon ecosystems, including coastal buffers, wetlands, salt marshes and sea grass beds that can be both ecologically effective and economically beneficial.
- Abundant and sustained fishing and fisheries resources – recognizing the need for diversified and healthy habitats for fish and shellfish in our Bay, rivers and lagoons in order to reach this goal.
- Successful coastal places, pleasant neighborhoods, and access to improved coastal parks, greenways and a variety of options for accessing the shore and its tributary rivers from land and sea.
- Marine-based economic development that meets the aspirations of local communities and is consistent and complementary to the state’s overall economic development needs and goals. This development draws upon and is inspired by the beauty and quality of the environs, including the protection and enhancement of maritime activities, marine culture and a sense of place.

700.2 Improving the Health and Functionality of Rhode Island's Marine Ecosystem

Current and Emerging Conditions

1. A healthy, functional marine ecosystem has historically been and continues to be the foundation for Rhode Island's marine-based economy and recreational opportunities for residents and visitors, and is essential for the growth of viable businesses.
2. Rhode Island has been steadfast in its commitment to improving the collection and treatment of wastewater and to implementation of industrial pre-treatment to prevent toxic materials from entering coastal waters. When completed, the combined sewer overflow and treatment project of the Narragansett Bay Commission will dramatically reduce the frequency and extent of bacterial contamination of Upper Narragansett Bay waters during rainfalls. In coastal areas, considerable attention is paid in the regulatory process to mitigating the effects of individual waste disposal systems and runoff from developed areas, and reducing point sources of pollution throughout the state. Programs of local river and watershed associations in collaboration with government agencies work to reduce pollutants to the state's lagoons and embayments.
3. Rhode Island is situated between two climatic zones, where increased temperature from climate change will in turn modify the marine environment. We can expect to see further changes in species and habitats within the state's marine and coastal waters.
4. Government and non-government groups have increasingly pursued habitat restoration through a variety of small-scale projects around the state, many of which were funded by the oil spill fund. Rhode Island also wants to restore anadromous fish runs and river habitats. This is now more attractive—in part because of success in pollution control and river conservation. Shellfish aquaculture projects have increased over the last decade as an option to enhance the ecosystem and fulfill the promise of highly productive coastal waters.
5. Programs are in place to monitor water quality and other aspects of marine resource conditions. Unfortunately, there is a lack of adequate funding for, coordination among, and assessment of the results of monitoring programs. There is a serious concern that coastal conditions are not monitored closely enough to fully document progress or detect ecological changes and problems. Monitoring results and ecosystem health checks have been irregular and are not linked to evaluating specific management measures. As a result, the positive impacts of decades of clean up are not widely understood or appreciated. Recently the Environmental Monitoring Collaborative has been empowered with measuring changes in the conditions, health and functionality of Rhode Island's waters including Narragansett Bay and its watersheds.

Vision of Marine Ecosystem Health

Rhode Island coastal waters are functioning bay, lagoon and offshore marine ecosystems include coastal buffers, wetlands, salt marshes and underwater grass beds. Abundant and sustained fishing and fisheries resources include diversified and healthy populations of fish and shellfish in bays, rivers and lagoons.

Strategies for Marine Ecosystem Health

The CRMC will use special area management plans, among other means, to foster the collaborative management of sub-regions of the coast and watersheds to advance ecological stewardship and environmental productivity. According to the federal Coastal Zone Management Act of 1972, “The term *special area management plan* means a comprehensive plan providing for natural resource protection and reasonable coastal-dependent economic growth containing a detailed and comprehensive statement of policies; standards and criteria to guide public and private uses of lands and waters; and mechanisms for timely implementation in specific geographic areas within the coastal zone.” In 2004 the Rhode Island General Assembly mandated that CRMC-approved special area management plans shall be adopted as elements of the State Guide Plan. [R.I.G.L. 2004, Chapter 145 (2004-S 3028A) codified as section 46-23-6 (1)(v)(B)(1)].

1. The CRMC will continue to be an active partner in habitat restoration projects. This is consistent with recent findings recommending that “State planning and management structures need to be made more responsive to habitat-based results and recognize the ongoing efforts that are revolutionizing Rhode Island’s marine environment.”¹
2. The CRMC will support Rhode Island’s no-net-loss wetlands policy. CRMC programs and permit decisions will promote protection, restoration, and mitigation—in that order of priority—to protect a diversity of critical coastal habitat types. Preference shall be given to on-site mitigation and restoration options. In the urban shorelines, the CRMC shall develop a program that restores habitat and extends the coastal greenway while allowing for the redevelopment of urban sites.
3. The CRMC will recognize the ecological costs and benefits of manmade habitats created by in-water structures, such as artificial reefs, including those created by marinas, docks, or breakwaters. The CRMC will work with private sector proponents, as well as government and non-government agencies to recognize these benefits, study the impacts, and monitor their effects. To this end, the CRMC will encourage the exploration of an appropriately managed water zone with mixed uses such as mariculture cages associated with docks or mooring fields within quahog areas.

¹ Source: A Report To The Senate Adopted On February 26, 2004 By The Senate Committee On Government Oversight And Senate Committee On Environment And Agriculture, Rhode Island General Assembly

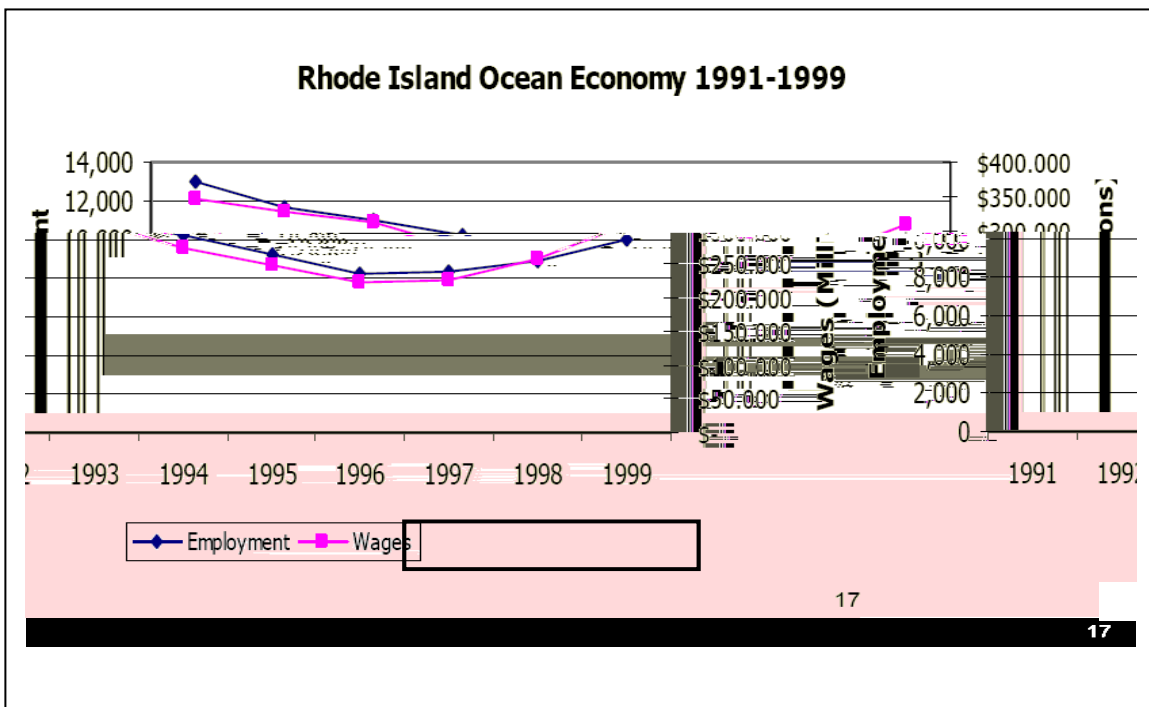
4. The CRMC will cooperate and contribute to efforts to build an enhanced ecosystem monitoring and assessment program, where collaboration among agencies and organizations is essential for capitalizing on existing efforts and prioritizing future monitoring. In particular, the CRMC will support and encourage monitoring the impacts of ecosystem dynamics, water quality, and fisheries as a result of major reductions in nutrients. In addition, in recognition of anticipated temperature increases from climate change, the CRMC will pay close attention to monitoring efforts that track changes in dissolved oxygen and habitat. Results from this monitoring will be referenced and contribute to a “State of the Marine Resources Report,” which shall be prepared every five years in support of future revisions to the MRDP.
5. Partnerships between research institutions and the public and private sectors shall be promoted to advance technological and environmental infrastructure that can be used to enhance coastal and marine habitats.

700.3 Providing for Appropriate Marine-Related Economic Development

Current and Emerging Conditions

1. The marine-related business sector continues to figure prominently in state economic development plans and job growth goals. For example, in 2003 Governor Carcieri set a goal of having an additional 20,000 jobs in multiple sectors by December 2006. Ocean economy (private sector) employment and wages declined through most of the 1990s (Figure 5).
2. Rhode Island's history of mariners, ship-builders, machinists, merchants, inventors, industrialists, designers, researchers, and teachers contributes to the region's reputation for skills and capabilities that are the envy of the world. Ties to the US Navy enables Rhode Island to serve as a world center for research and manufacturing in undersea technology—an important economic niche that should be protected and expanded.

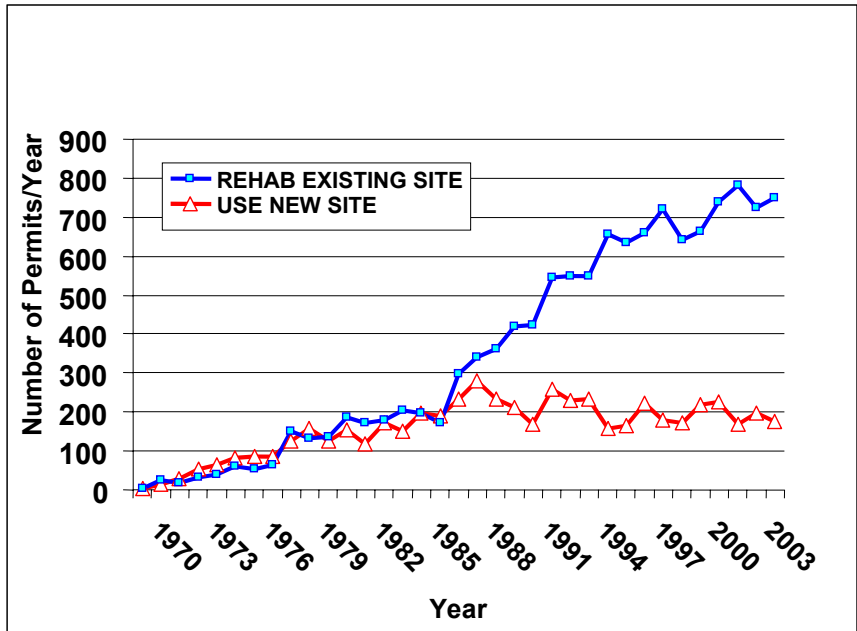
Figure 5. The Rhode Island Ocean Economy: Employees and Wages, 1991 - 1999



Source: Gary Ciminero, Rhode Island General Assembly House Policy Office, 2002

3. Rhode Island's self-definition is a place with an innovative spirit, a respect for quality, and a commitment to an uncluttered but fulfilling lifestyle. These qualities are assets that can attract the best kind of economic investment.

Figure 6. Annual Trends in CRMC Permits for Coastal Development, 1970 - 2004



Source: CRMC database, 2005

4. Coastal redevelopment and intensification of use of existing shore lands is predominant—there are few previously undeveloped sites available for new coastal development as illustrated in Figure 6. For example, the Metropolitan Providence region is transforming itself—as old mill buildings and run-down commercial spaces are cleared or refurbished—while the suburban areas and rural towns of South County are seeing intensified use as seasonal cottages are converted to year-round homes and the number of coastal permit applications for new subdivisions and homes has declined.
5. Brownfields in the coastal zone are both a concern and an opportunity in Rhode Island. The potential for clean up and site remediation can be high, especially as demand for redevelopment of urban waterfront increases. The state has many previously developed sites that are potentially appropriate for economic investment. Many of these have historic character, picturesque views and access to water and other services and amenities. The strongest demand for these sites in the present decade is for higher priced residential development.
6. Waterfront development is currently shaped by multiple factors—i.e. market forces, including high demand and limited supply, municipal land-use zoning, CRMC use zones for the coastal waters, and DEM water quality classification zones. Generally, the land zoning of coastal municipalities is in line with CRMC water area use designations. As demand for residential and other commercial uses for the waterfronts increase, municipalities seek more changes in CRMC water use zones—changes that will favor light commercial and mixed-use developments. This needs to be balanced with the continuing demand for waterfront industrial use and water dependent activities.

7. Natural amenities increase the value of the urban waterfront. For example, people enjoy seeing water fowl on urban rivers—being urban does not mean being separated from nature. Waters, especially with buffers and/or greenways, are value-enhancing open space.
8. Fisheries are a traditional economic sector in Rhode Island, and one to which the state remains committed. Previous resource abundance supplied food and jobs to many Rhode Islanders. More recently, loss of habitat, pollution, climate change, and overfishing have taken a toll on the numbers and health of commercially valuable species. Management through quotas, seasonal restrictions, and possession limits currently guide the fishing of scup, summer flounder, tautog and winter flounder in state waters. Recreational fishing is a significant aspect of Rhode Island’s marine economy and is expected to remain so. In 1999 the economic impact of marine recreational fishing was estimated to be about \$150 million.²

Vision of Marine Economic Development

The year is 2025 and it is clear that decisions made in the early 2000s were prudent—leaving options open for the future that are now reaping large financial rewards. These include the state’s decision to set aside key areas for coastal economic development, and to patiently cultivate the right kind of projects. State and local leaders and planners align their land and water allocation schemes to maintain an availability of commercial and industrial parcels for marine commerce. They focus on providing advanced environmental infrastructure that reduces development costs in time and money. Development regulations at the local, state and federal levels function together so project engineers and architects are not left floundering and wasting time and effort guessing what site configuration will get them through the hoops of permitting processes. Public officials have established workable frameworks in advance and are able to engage productively with potential project developers to deal with the unique facets of their site. Together, state and local officials can, in 2025, still offer developers the option of investing in a well thought-out mitigation bank program that restores habitat and extends the coastal greenway in exchange for selected variances that might be needed to redevelop a difficult site.

Strategies for Marine Economic Development

1. The CRMC will work with the EDC and the marine-related sectors to strive for clarity, agility, creativity and transparency in allocating coastal areas and setting priorities for their use. The CRMC will identify incentives for marine-dependent business, such as coordinated permitting or reduced permitting fees. The CRMC will also work with state, local, and community leaders to identify problematic areas where requirements are unclear and where greater transparency is needed on how final decisions should be made and negotiated.
2. The CRMC will build on and refine water use zoning, will provide leadership in harmonizing water use zoning with land use zoning, and will utilize the State Guide Plan process as a means to advance this effort.

² DeAlteris, J., Gibson M., and L.G. Skrobe. 2000. Fisheries of Rhode Island, Narragansett Bay Summit 2000, White Paper, Working Draft. Available online at <http://www.nbep.org/summit/wpapers.html>.)

3. The CRMC will encourage development proposals focused on growth centers that provide for mixed-uses that incorporate residential, commercial, employment, and recreational functions within a walkable area. It will work to ensure public access to the shore, to promote links to marine transportation and to encourage the use of non-polluting technologies (i.e. no offsite impacts related to water pollution).
4. The CRMC will play an active role in areas such as habitat restoration and insuring federal consistency with state policies. The CRMC will engage proactively in the collaborative, intentional design of waterfront redevelopment. This also includes environmental quality improvements in converting once again to productive uses now-abandoned Navy lands, obsolete port facilities and low-value, deteriorated waterfront facilities with severe environmental problems. The CRMC will offer incentives and ease the way for site remediation. The CRMC will use the special area management plan (SAMP) process as a way to effectuate collaboration. The Council will work with DEM, cities and towns, property owners, and other agencies and parties to assess brownfields within specified regions and identify a creative environmental management systems approach that can improve these sites and eliminate risks of further contamination—replacing liabilities with new assets that make positive social, economic and environment contributions.
5. The CRMC will collaborate with local communities and the EDC to facilitate permitting and efficient decision making for major vacant or underutilized sites suitable for economic development. Where there is Navy-owned land that has the potential for future transfer, the CRMC will collaborate with the Navy to insure that the transfer and disposal of federal lands meets requirements under federal consistency and master plans that meet the triple bottom line of economic, environmental, and social benefits.
6. The CRMC will use the SAMP as part of the overall public process aimed at developing revitalization plans for underused urbanized areas—with the goals of creating significant new employment opportunities, providing greater public access to the water, and protecting shoreline vistas. Priority areas will include the East Providence, Providence and Pawtucket waterfronts on the Providence and Seekonk Rivers, and the West Side of Aquidneck Island. Identifying opportunities at the earliest planning stages is needed to ensure a speedy permitting process.
7. The CRMC will promote the development of urban greenways as a means to implement buffer requirements to mitigate storm water impacts, protect habitat, and promote public access and to enhance interdependence of economic development and ecosystem goods and services at the coastal fringe.
8. The CRMC will collaborate with DEM and other agencies in efforts to restore fisheries for commercial and recreational purposes. This will require a marine resource management strategy including elements that can: 1) make continued improvements in water quality; 2) protect and restore key spawning and nursery areas; 3) remove blockages in streams; and 4) make a coordinated regional effort to better manage catches of migrating and local species.

700.4 Promoting the Use and Enjoyment of Rhode Island Marine Resources by the People of the State

Current and Emerging Conditions

Coastal Amenities that Support Recreation

1. Rhode Island is host to numerous natural and manmade coastal features that provide a variety of recreational opportunities. Breachways, beaches, piers, coastal parks, salt ponds, tidal rivers and wildlife refuges are a few of the many features that contribute to the vibrant community of residents and visitors that use these sites for the use and enjoyment of the marine environment. The expansion and creation of such features is challenged by the pressures to develop coastal property, the environmental regulations dealing with the alteration of shore and submerged lands and the access points available to enjoy the features.
2. Build-out is rapidly being approached in most coastal towns. Conflicts are increasing between property owners and those accustomed to using traditional access points. The greatest opportunities to make substantial improvements in public access to the coast are being realized in the redevelopment and conservation of exceptional waterfront places such as Providence's Water Place, Wickford Harbor and Newport (see box, next page). Marketplace-oriented tourism and residential development combined with traditional public parks makes it much more feasible to acquire land, easements and other assets, create or rehabilitate infrastructure and offer opportunities in a variety of forms that mesh well with neighbors and businesses.
3. The tourism industry provides both opportunity and funding to enhance recreational infrastructure for local residents' year-round enjoyment. In 2004, visitors contributed \$2.78 billion to travel and tourism expenditures. The travel and tourism commodities in Rhode Island accounted for 9.6 percent of the jobs and 4.7 percent of wages and benefits.³
4. There are hundreds of acres of coastal parks along the coastline that are owned and maintained by the different levels of government, public and private institutions and residents. These parks provide access to the shore, visual landscapes and habitat for birds and other marine life. Efforts are underway to create new coastal parks that are linked by greenways. The Bay Islands are the first of many areas in and along Narragansett Bay that are targeted for use as part of the state's coastal park system.
5. An important part of Rhode Island's heritage and quality of life is reflected in the traditional coastal landscapes of our region – harbors, waterfronts, lighthouses, salt marshes and tidal

³ Timothy Tyrrell, Gabriela Dobrot, Elissia Wahl. 2004. Rhode Island's Marine Tourism Economy. University of Rhode Island. Department of Environment and Natural Resources Economics.

flats that are characteristic of this part of the world. This landscape remains at a human scale, and stands apart from much of the rest of the sweep of megalopolis along the East Coast.

Healthy Marine Resources that Increase Recreational Opportunities

1. For centuries, fishing and shellfishing has contributed to Rhode Island’s maritime and recreation based economies. These activities continue to be popular among residents and visitors today. Everyday in places similar to Galilee, dozens of people can be seen combing the bottom for oysters, clams and other sea creatures. The popularity of recreational and sport fishing and shellfishing reflects the improved health and accessibility of Rhode Island’s waters to support marine life.
2. The Audubon Society of Rhode Island, in cooperation with the Rhode Island Ornithological Club, publishes a Checklist of Rhode Island Birds that lists 322 species that may be seen in the state at different times of year, along with 90 other species that have been identified but are only rarely seen. The state is located along traditional migratory routes, which support great bird watching year-round.

Public Access

Access along the shore has been a legal right for generations of Rhode Islanders. The Rhode Island Constitution guarantees that: *“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, including but not limited to fishing from the shore, the gathering of seaweed, leaving the shore to swim in the sea and passage along the shore...”* (Article I, Section 17).

CRMC has the authority to designate public rights-of-way to the tidal waters of the state (R.I.G.L 46-23.6), which provides shore goers with clear and legally defined pathways to the shore. The designation of public rights-of-way also ensures the preservation and protection of these access sites for subsequent generations of Rhode Islanders. Like an easement over private property, a designated right of way relates to public use not ownership. In addition, CRMC creates public access via Section 335 regulations in the Rhode Island Coastal Resources Management Program.

There are many parks and recreational areas owned by municipal and state government which provide access to the shore. The RI Department of Environmental Management (RIDEM) oversees the management, including maintenance and acquisition, of state parks and beaches. RIDEM also oversees the management of open space bond money for state or municipal acquisition and/or development of various coastal open space areas. RIDEM maintains boat ramps for fishing access to salt and fresh waters statewide.

3. There are numerous coastal wildlife refuges in the state that provide critical habitat for many marine-dependent species. These refuges attract visitors year-round and provide valuable educational activities for students to learn about the state’s marine resources. The health of these protected habitats is crucial to building a strong eco-tourism economy.
4. Sea grass beds and protected coves provide an ideal spot for scuba diving and snorkeling in Rhode Island. Scuba diving attracts those who wish to view the state’s underwater habitats and the diverse species living there. The transplanting of new sea grass beds has been an

ongoing initiative in the state for many years in order to expand the underwater habitats that support the vibrant marine life attractive to divers, snorkelers and the fishing industry.

Water Quality that Allows for Use and Enjoyment of Marine Resources

1. Rhode Island's beaches and underwater geological features provide excellent surfing conditions with over 30 surf spots within its 40 miles of coastline. The surfing community is multi-generational and multicultural—allowing people of all ages and ethnic backgrounds to exchange stories of the subtle changes they witness in the coastal environment. This surfing community actively participates in sampling water quality and in monitoring coastal events that may go unnoticed by local and state officials.
2. There is clear acknowledgement of the multiple benefits in promoting a creative economy, one that embraces those who would see Rhode Island's broad spectrum of coastal recreational opportunities as a key quality-of-life factor that would attract them to live and work here. Kayaking, boating, swimming, sailing and many other water-related sports provide a healthy, active and attractive quality-of-life.
3. The demand for slips at marinas is creating waiting lists that are years long. Although the public's desire to fish, swim and boat is increasing, the public facilities available to support this growth are not available. Limitations have been placed on marina and mooring field expansion resulting in a higher demand for upland space to dry-store boats.
4. Harbor plans can provide for the proactive planning as well as mitigation of conflicts on the water, which may arise between recreation, navigation and commercial activities. Harbormasters enforce many regulations that are designed to ensure the safety of recreational users of the state's waters. The availability of municipal funds to support these positions has decreased in recent years, threatening the safety of Rhode Island's harbors. Many harbor management plans are outdated and no longer reflect the present conditions in the harbor.

Vision of Marine Resources Use and Enjoyment

In 2025, Rhode Island offers a broad mix of recreational activities and opportunities meeting the needs of all groups, not just those of tourists and out-of-state second home and boat owners. These offerings appear as a diverse mosaic, which form an integral part of the daily life of every Rhode Islander. At a minimum, levels of access to the coast have been increased significantly. The Bay Islands join this flourishing network of large and small parks, and local and statewide access points. Recreational boating and marine transport of all kinds has been harmonized to a degree not thought possible, resulting in a much higher proportion of Rhode Islanders who are accessing the water for the first time, and who are directly experiencing the Bay and ocean waters on a regular basis. These new-found levels of contact with the coast spawn new economic opportunities, such as ecologically oriented tourism that ranks in quality with more exotic and well-known international locations. Development intensifies in some key highly attractive coastal places, concentrating and reducing the impacts elsewhere, and increasing the economic viability of ecotourism and ecological recreation. Developers, the environmental community, and regulatory agencies are working creatively and collaboratively to achieve these new capabilities.

Strategies for Marine Resources Use and Enjoyment

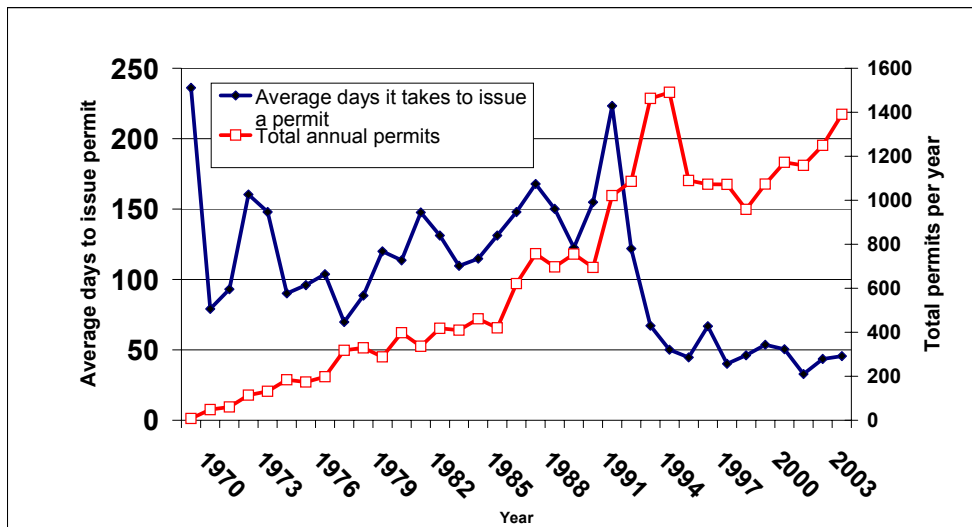
1. The CRMC, in collaboration with the Department of Environmental Management Division of Parks and Recreation and other agencies, will promote and facilitate a network of coastal parks and dedicated water trails, which provide amenities for a broad variety of marine-based recreational uses. The CRMC will recognize the value of coastal amenities and strengthen policies to incorporate these amenities into new development and redevelopment proposals that it reviews.
2. The CRMC will recognize extraordinary, high visual aesthetics, and promote the maintenance and enhancement of visual access from the water and from scenic overlooks, including highways along the shore. This will increase the sense of stewardship and connection to the Ocean State's valuable coastal resources by residents and visitors alike.
3. The CRMC will maintain and expand public access and support a variety of recreational activities to and along the shore and within the Bay and coastal waters. Access in all of its facets will serve visitors and eco-tourists as well as provide for the outdoor recreation, health and quality-of-life needs of all Rhode Islanders.
4. The CRMC, in collaboration with the Department of Environmental Management Division of Fish and Wildlife and other agencies, will partner with higher education institutions and the private sector to enhance and expand natural and manmade environmental infrastructure that supports marine fish and wildlife. This infrastructure will be used to provide critical habitat for fish, birds and other marine dependent species that attract thousands of visitors each year. Educational programs will be created that highlight the improvements made to support these habitats and the benefits of maintaining a high quality marine ecosystem.
5. The CRMC will collaborate with DEM and other agencies in efforts to restore fisheries. This will require a redesign of the marine ecosystem including: 1) making continued improvements in water quality; 2) protecting and restoring key spawning and nursery areas; 3) removing blockages in streams; and 4) making a coordinated regional effort to better manage catches of migrating and local species.
6. The CRMC will continue to provide technical expertise in cooperation with DEM and Department of Health (DOH) to monitor the health and functionality of the state's bathing beaches. The CRMC will work to promote the health and safety of Rhode Island's beaches and provide solutions to problems that may occur due to pollution or contamination of the waters.
7. The CRMC will collaborate with EDC and other agencies to market the diversity of water sports in the Ocean State by focusing on the physical activities available and the quality-of-life these activities support.
8. The CRMC will take a leadership role in working with coastal communities to update their harbor management plans. These plans will incorporate the policies of the MRDP and appropriate SAMPs. The CRMC will ensure harbor plans optimize the areas available for future expansion while mitigating any perceived or real conflicts with public access and environmental impacts.

700.5 Coastal Resources Management Program Leadership and Coordination Roles, Responsibilities and Capabilities

Current and Emerging Conditions

1. Rhode Island's state-level governance structure includes a high proportion of functions typically handled by county and municipal governments in other states – for example, public health and environmental management. Rhode Island cities and towns may not have the technical expertise or decision-making authority to deal with these functions along the coast. Municipalities generally issue the first approvals for land development and rely on the procedures, rules and regulations of the CRMC and DEM to address environmental aspects of proposed developments.
2. Environmental management in Rhode Island is strongly influenced by federal laws and funding programs, many of which have different priorities and strategies from each other. However, a new emphasis on watershed and land use planning combined with a focus on creating vibrant coastal places can provide Rhode Island specific definition to regulatory programs and serve as a basis for building the capabilities needed to increase collaboration.
3. The Rhode Island Coastal Resources Management Program is unusual among such agencies/programs in the United States in terms of its jurisdiction and the depth of its legal powers. This includes the power to set policy, make and enforce rules, and adjudicate disputes. The Council has authority over land uses (primarily within 200 feet of mean high water) and certain coastal features and all of the state's marine and coastal waters. This jurisdiction extends to anywhere in the state for a limited set of land uses, including:
 - Power plants that generate over forty (40) megawatts
 - Chemical or petroleum processing, transfer, or storage
 - Minerals extraction
 - Shoreline protection facilities and physiographical features, and all directly associated contiguous areas
 - Coastal wetlands and all directly associated contiguous areas which are necessary to preserve the integrity of the wetlands—including any freshwater wetlands located in the vicinity of the coast.
 - Sewage treatment and disposal and solid waste disposal facilities
 - Beneficial use, dewatering, and disposal of dredged material of marine origins
 - Desalinization plants
4. The adoption of the amended RI Coastal Resources Management Program, also known as the "Red Book," in 1983 formally established the Type B Full Council Review category of permit. Currently, Type B and contested applications average about 40 per year. In 2004, CRMC issued 1391 permits and determinations, only 41 of these (less than 3 percent of the annual total) were reviewed and decided by the full CRMC. (See Table 2).

Figure 7. Total Annual Assents (Permits) Issued by CRMC 1970 -2004 and Average Number of Days Required to Issue an Assent Once the Application is Deemed Complete by CRMC



Source: CRMC database, 2004, preliminary analysis

Table 2. List of Type B Projects Reviewed and Permitted by the Full CRMC, 2004.

Project Description	Type B Permits Issued
Residential Docks, Piers, Floats	14
Marina Alterations	5
Commercial Structure	4
Commercial Docks, Piers, Floats	3
Dwelling with ISDS	2
New Shoreline Protection	2
New Marinas	2
Subdivision not sewerd	1
Private Roadways and Bridges	1
Aquaculture/Water Based	1
Dredging Maintenance	1
Utility Transmission	1
Marina perimeter limit	1
Buffer zone alteration	1
Boat Lift	1
Marina certification	1
Total Type B Permits Issued	41

As Figure 7 illustrates, the overall work load of the CRMC has continued to increase, while their efficiency in processing the wide range of requests for permits and determinations has improved considerably as indicated by the reduced average waiting time.

5. The CRMC's legislation emphasizes the role of the full Council in planning, policy-setting and coordination. The Rhode Island Coastal Management Act sets out the important coordinating powers and duties for the Council:
 - 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 or more municipalities or state agencies;
 - Consulting and coordinating actions with local, state, regional, and federal agencies and private interests;
 - Conducting or sponsoring coastal research;
 - Advising the governor, the General Assembly, and the public on coastal matters; and
 - Serving as the lead state agency and initial and primary point of contact for dredging activities in tidal waters and in that capacity, integrating and coordinating the plans and policies of other state agencies as they pertain to dredging.
6. Until now, Rhode Island's ability to make sound marine resource use decisions and support them with coordinated financial and institutional commitments has worked best when the focus is on a single issue or purpose, such as municipal wastewater collection and treatment, maintenance dredging of the Providence ship channel, the Salt Ponds special area management plan, or the River Relocation and Capital Center District projects. All of these have involved marine resource management decisions where levels of government and a broad spectrum of stakeholders converged and worked together, some times for several years, to define a common purpose and achieve the desired result. Today and looking ahead, collaboration and integrated choices are expected to be the norm, not the exception. Yet there continue to be many situations where one or more of the key ingredients of successful coordination are missing, and this constitutes a major risk factor for the quality of future decision-making. Trust among the network of actors engaged in debate and choice-making on marine and coastal resource use is one of these key ingredients.
7. The water area use zoning adopted by the CRMC in 1983 has proved to be an invaluable contribution to conserving habitat, as well as offering incentives for, development in appropriate areas. More than 80 percent of the water areas adjacent to the shore are in conservation or low intensity use. Recreational marinas are concentrated in the 4 percent of the shore area assigned as use type code 3, as seen in Table 3.
8. The CRMC has provided leadership in developing SAMPs. Rhode Island already has such plans for five regions of the state, three of which have undergone substantial revisions in order to adapt to changes in knowledge and development trends. Citizens, scientists, businesses and public officials will work together to create SAMPs in new areas. The Rhode Island General Assembly anticipates that SAMPs will be a primary method for implementing the MRDP. (see Appendix I).

Table 3. Proportion of Coastal Waters Designated in Five Main Use Categories by the CRMC.

DESIGNATED USE	USE TYPE CODE	APPROXIMATE PERCENT OF COASTAL AREA
Conservation	1	27
Low intensity conservation & recreational use	2	57
High intensity recreation and marinas	3	4
Multiple purpose	4	open water areas not adjacent to the shore
Commercial and recreational waterfront	5	1
Industrial waterfront	6	10

9. The EDC dates from 1974 (as the Department of Economic Development, just a few years after the inception of the CRMC) and was given a number of tools to jump-start economic redevelopment. These include the ability to acquire and manage industrial sites, in particular former Navy bases and facilities; to attract and work with outside investors; to foster the growth of local firms; and to promote a broad range of economic projects. As a land manager, the EDC plays a role similar to that of any applicant for a development project and is subject to permit reviews and assents from the CRMC. As a promoter of development activities by other parties, the EDC attempts to expedite permits for projects that have limited windows of opportunity. As well, the EDC advocates for large projects—the scale and complexity of which pose a major challenge for coastal managers.

10. The DEM emerged from state government reorganization in 1978, taking on roles from the old Department of Natural Resources and the Department of Health and assuming new responsibilities established to implement federal environmental protection laws, most notably those pertaining to air, water pollution control, solid and hazardous waste management, endangered species, and protection and fisheries management. DEM sets discharge limits in the permits it issues for a wide range of facilities and contaminants, through delegation of regulatory authority from the EPA. The Rhode Island General Assembly assigned regulation of coastal fresh water wetland permits to the CRMC. DEM implements functions such as regulating wetland modifications and individual sewage disposal systems. In addition to these regulatory powers, DEM manages extensive properties for recreation and conservation purposes, including portions of several islands in Narragansett Bay as well as fishing port facilities and boat ramps.

11. Fragmented decision-making impairs efficiency. Thin staffing in agencies undermines even well-thought-out policies and procedures, slowing down response time and reducing the quality and thoughtfulness of reviews and decisions. Furthermore, the chain of decision-making is time consuming and inefficient for both applicants and public bodies. Increasingly, development opportunities are focusing on the state’s urban waterfronts, where decisions made today involve infrastructure investments that will be in place for 50 to 100 years hence, and the best solutions require synchronized private and public investments that take

advantage of windows of opportunity generated in the marketplace. Piecemeal, rule-driven decisions may miss the greater opportunity.

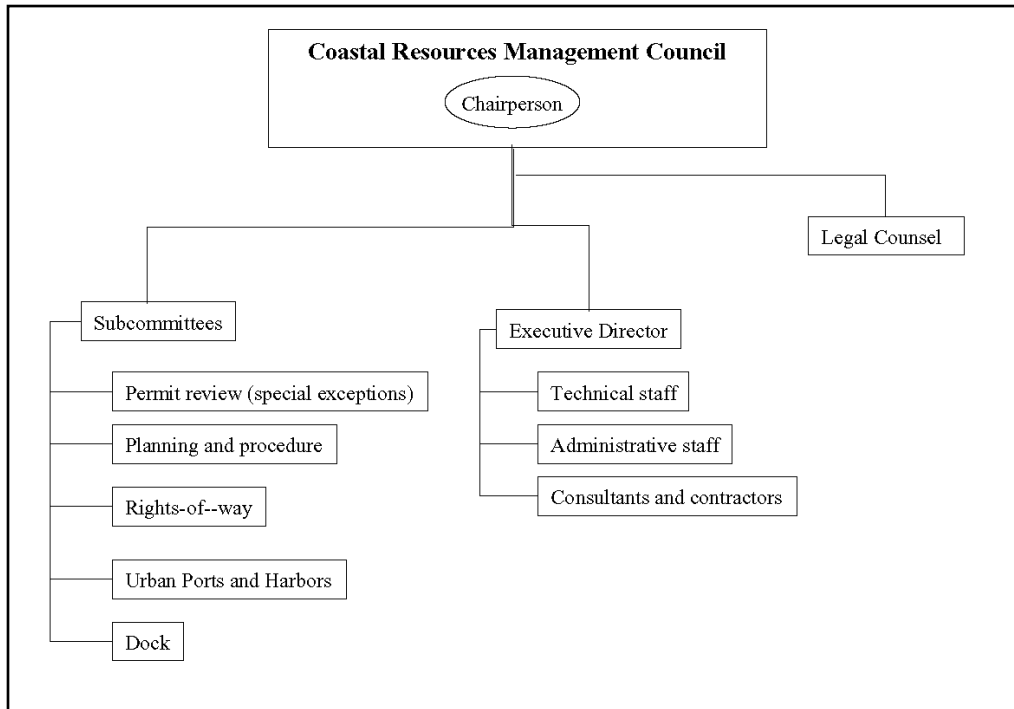
12. Decision-makers rarely are actively working together in analyzing, monitoring and assessing choices and opportunities. There is little information-sharing among government agencies at the state level, and perhaps even less between the layers, especially between the municipal and state levels. The system of governance may be able to identify and correct the worst mistakes and abuses of the environment, but the system may also be self-limiting and incapable of generating momentum. Focus and intensity of collaboration are needed to get exceptionally good results for all parties.
13. Ocean policy and regional governance is the next frontier for coastal and marine resource management in the United States. Rhode Island's Governor Carcieri, as leader of the New England/Canada consortium of heads of state, has promoted such an agenda recently for the region, consistent with the National Agenda of the 2003 Ocean Commission. In initial discussions, neighboring states have shown an interest in developing a tri-state special area management plan to address common issues within adjacent New England state waters.

Strategies for Leadership, Support and Coordination

1. The CRMC will maintain and use the MRDP as a strategic guide to action and practice—one that is clear, flexible, kept up-to-date and subject to comprehensive review every five years. The CRMC will assess the progress of the MRDP objectives, policies and implementation actions routinely prior to updating the MRDP. In order to assess the effectiveness of the MRDP and associated coastal and marine management programs, the CRMC will facilitate the preparation of a document entitled "State of the Marine Resources." This assessment is to be developed in collaboration with other state agencies, university researchers, and non-government organizations working on the state's marine resources and coastal development. The CRMC will identify, track and publish performance measures for the MRDP, drawing upon the example set by the Economic Policy Council and other agencies.
2. The CRMC will provide leadership in collaborative decision-making aimed at promoting intentional design, while ensuring efficiency and effectiveness, in concert with four key state agencies—CRMC, EDC, Department of Administration (DOA), and DEM and through the Bays, Rivers, and Watersheds Coordination Team. Collaborative decision-making will give priority to questions/issues that have statewide implications.
3. The Council will establish such permanent standing subcommittees as may be necessary to manage efficiently and effectively its workload and the full range of its powers and duties.
4. The Council will dedicate requisite effort to its planning, policy-making, and coordination roles. To accomplish this, the Council will make greater use of its authority to create subcommittees and advisory groups, which can in turn identify and gather information about issues, debate policy options, and formulate plans and policy statements for review and approval of the full Council.

Figure 8. Organizational Chart, Rhode Island Coastal Resources Management Council.

The CRMC is supported by the work of several subcommittees of its members, which handle regulatory decisions, planning and policy development, engage in special area management planning and other special topics. The CRMC staff and its consultants manages the regulatory program, planning and policy projects, communications and information systems. The legal counsel advises the CRMC on its individual permit decisions, handles court cases and reviews all planning and policy documents.



5. The CRMC will collaborate with DEM, EDC and DOA in managing federal consistency determinations that affect marine resource development. This includes but is not limited to the Federal Energy Regulatory Commission, the Department of Housing and Urban Development, the US Army Corps of Engineers, the Bureau of Land Management and National Park Service.
6. The CRMC will catalyze and unify the response of networks of stakeholders required to implement SAMPs and to cultivate and renew the trust, confidence and support of citizens. New and revised SAMPs will be developed in collaboration with local communities as a way to be proactive in ecosystem management planning while better integrating with state policies, including those of the MRDP.
7. The CRMC will attain the level of performance required to implement the MRDP in part through Council and staff development. The Federal Section 312 program review held in Rhode Island every three years provides an important opportunity for the review of progress and performance based indicators.

700.6 Implementation Activities 2006-2011

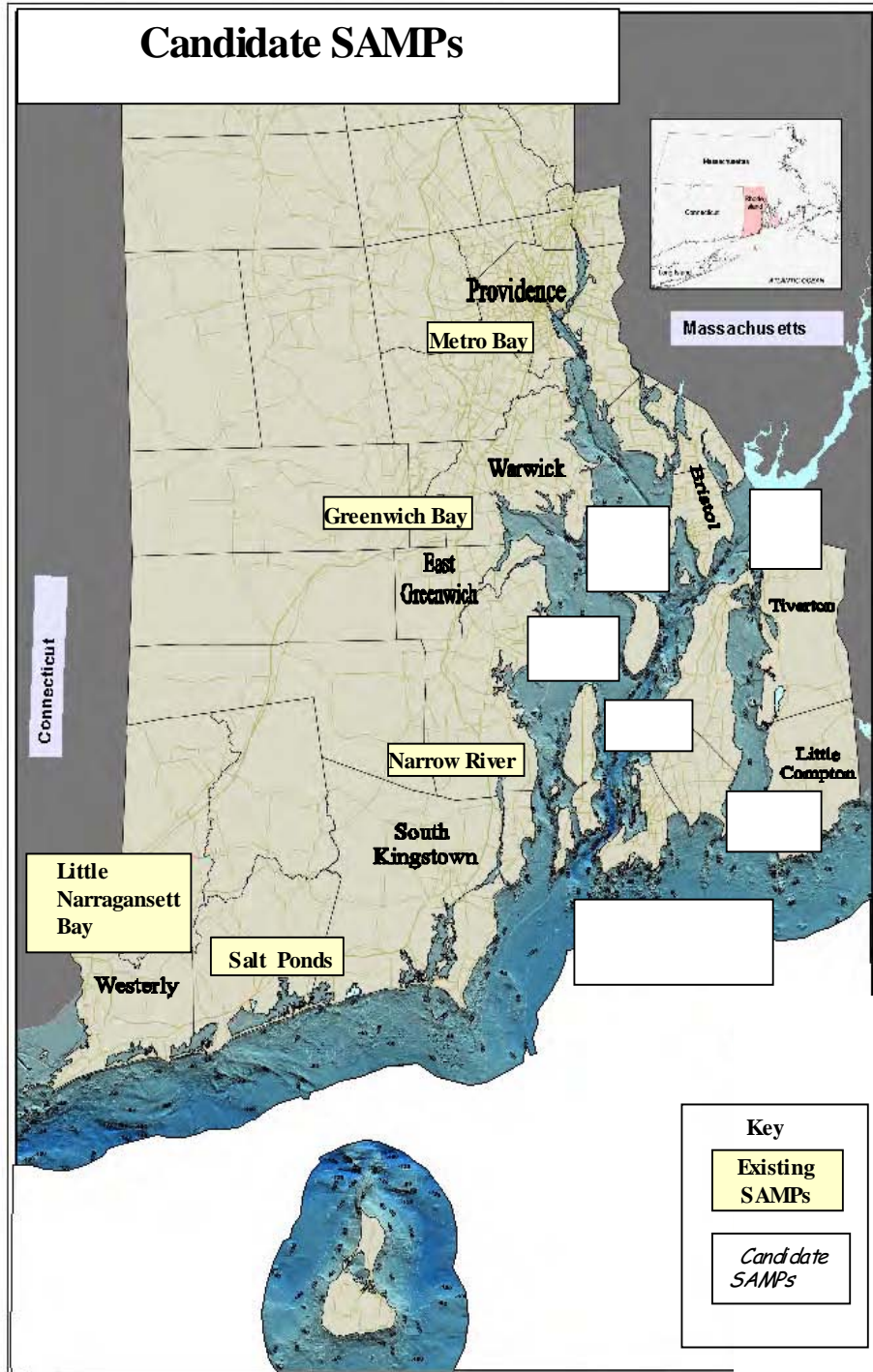
Implementation of the MRDP hinges on the internal capabilities of CRMC to provide leadership, utilize design thinking, and generate policy guidance for managing the marine resources of the state. These new capabilities will enhance CRMC's effectiveness when working with other agencies as well as coastal communities and will build CRMC's reputation as a partner and ally in managing the state's marine environment. When implemented, the following activities will build the internal capabilities of CRMC to achieve the strategies within the MRDP.

1. The CRMC will strive to have vision, strategic leadership, coalitions and networks, and to think in multiple dimensions in parallel (environmental, economic, social, and cultural).
2. The CRMC will participate as an active partner of the Coordination Team for Rhode Island's Bays, Rivers and Watersheds and recognize the Team as a primary vehicle for inter-agency collaboration among the seven appointed agencies.
3. The CRMC will sharpen its monitoring expertise to become a premier "listening post" for identifying trends in the state's coastal development and marine resource conditions. The staff will combine this information along with permit data to identify and estimate development patterns and to analyze water types and levels of use to determine how best to effectively manage resources. The CRMC will work with and draw upon the information generated by the Environmental Monitoring Collaborative and Economic Monitoring Collaborative in its policy, planning and self-monitoring of performance.
4. The CRMC will augment its performance monitoring system to serve as a source of guidance in strategy and decision making, for setting priorities, and to aid in the federal Section 312 review process.
5. The CRMC will work with the Statewide Planning Program to incorporate the MRDP as an element of the State Guide Plan. This new element will reinvigorate the original intent of the Guide Plan as a "means for centralizing, integrating, and monitoring long-range goals, policies, plans and implementation activities related thereto." (RI G.L. 42-11-10 d).
6. The CRMC will, in partnership with other Coordination Team members, promote in Rhode Island the establishment of four or five mega-watersheds/economic sub-regions—with one or more SAMPs incorporated in each. These sub-regions will take advantage of CRMC's jurisdiction over tidal waters but will allow for incorporating other agencies' regulatory jurisdictions. These mega-watershed initiatives will become magnets for public and private resources.
7. The CRMC will pursue linkages with academic institutions and research organizations that are studying trends in the coast's conditions, uses, and ecological changes and that are formulating innovative place designs and marine resource uses.

8. The CRMC will evaluate the review procedures for Type B assents and contested cases and determine if a standing subcommittee, the executive director and staff, or if the full Council should address this workload.
9. The CRMC will conduct an assessment of the cumulative results-to-date of the 1983 Red Book as amended, focusing on the effects at the municipal level as well as by water area type. The CRMC recognizes that water use zoning is a powerful design tool that can be refined through such activities as drafting new SAMPs, and can help other state agencies and municipalities to rethink their policies and regulatory programs.
10. The CRMC will select one or two priority areas within which to begin developing a mosaic of SAMPs (see Figure 9). SAMPs need to forge new alliances, collaborations and networks for implementation, and obtain tangible, credible commitments from those engaged in the process. The following is a list of priority candidates for new special area management plans:
 - East Passage/Aquidneck Island
 - The Bay Islands/Upper Bay
 - State coastal waters of Rhode Island and of the neighboring states of Massachusetts and Connecticut
 - West Passage
 - Mount Hope Bay
 - Sakonnet River

Appendix II provides guidance on SAMP preparation.

Figure 9. Existing and Candidate Special Area Management Plans



Appendices

Appendix I. The Portfolio of Rhode Island Special Area Management Plans

The Portfolio of Rhode Island Special Area Management Plans (from Robadue, 2005)				
<i>Geographic location and plan information</i>	<i>Context of collaboration</i>	<i>Issues related to change of ecosystem state</i>	<i>Planning process; robustness of institutional arrangements</i>	<i>Impacts, and innovations</i>
Providence Harbor, 1983. Headwaters of Narragansett Bay, confluence of four rivers draining Bay watershed. [Took five years to prepare and adopt]. To be revised in 2005 and 2006.	Six municipalities, urbanized estuary headwaters with multiple river inputs, little regional / state cooperation	Declining port industry, water pollution crisis in municipal wastewater treatment facilities, shorefront redevelopment and public access and use	New socio-economic and environmental studies, joint planning committee combining agencies and stakeholders, included recommendations for other state agencies and municipalities	Focus remained on major project decisions through CRMC regulatory role, little funding for action projects. Debris removal on a case by case basis. Permitting a major dredging project. Changed water area zones to accommodate waterfront renewal.
Salt Pond Region, 1984. Coastal lagoons behind barrier beaches. [eight years to prepare and adopt]. Revised in 1999.	Four municipalities, coastal lagoons, barrier beach system, no regional planning, citizens groups organized to fight nuclear power plant	Rapidly developing watershed, protecting pristine and developing lagoon ecosystems, fisheries, recreation, breachway management, beach erosion, flood hazards	New socio-economic and environmental studies, integrated science project, joint planning committee combining agencies and stakeholders, included recommendations for other state agencies and municipalities, citizen monitoring	Municipal zoning changes reduced density in watershed, innovative onsite waste systems to control nutrients, numerous action projects to restore beaches and lagoons
Narrow River, 1989. Fjord-like tidal channel. [two years to prepare and adopt] Revised 1999.	Three municipalities, unique fjord-like estuary, active citizens groups, contentious development cases	Rapidly developing watershed and shoreline, pollution control and recreational activities, conservation of unique features	Use of mainly secondary information sources, collaboration with civic group and tri-town commission focused on the estuary. Recommendations to other agencies and towns	Municipal adoption of land use controls, stormwater management to reduce pollution, limit disruption to coastal features

Appendix I, continued.

<i>Geographic location and plan information</i>	<i>Context of collaboration</i>	<i>Issues related to change of ecosystem state</i>	<i>Planning process; robustness of institutional arrangements</i>	<i>Impacts, and innovations</i>
Pawcatuck River/ Little Narragansett Bay, 1992. Embayment at the mouth of small river. [four years to prepare and adopt].	Two municipalities in two different states, rapidly changing watershed and busy recreational harbor, organized citizens	Rapidly developing watershed, recreational harbor use conflicts, water pollution	Primary and secondary information sources, bi-state commission, agreements on joint notification of major projects, modification of coastal and municipal policies	Coordinated development of recreational waterfront, expanded efforts to manage watershed
Greenwich Bay, 2005. Embayment and coves with an open connection to Narragansett Bay. [two years to prepare and adopt. Ten years counting the prior Greenwich Bay Initiative.]	Two municipalities, coastal embayment important for shellfishing, boating, low level of civic organization	Developed watershed facing intensification of urban uses, water pollution, recreational and cultural resources, public access, water dependent uses	Primary and secondary information sources including predictive model for water quality; technical and citizens committees,	Amended water area zones protect key sites, citizen involvement promotes accelerated completion of pollution control measures, protect shellfish beds

Appendix II. Summary of Guidance in Preparing Special Area Management Plans

Definition of a Special Area Management Plan (SAMP)

The term "special area management plan" means a comprehensive plan providing for natural resource protection and reasonable coastal-dependent economic growth containing a detailed and comprehensive statement of policies; standards and criteria to guide public and private uses of lands and waters; and mechanisms for timely implementation in specific geographic areas within the coastal zone. 16 USC 1453 (17)

The Regulatory Basis for Special Area Management Plans

The Council shall adopt such special area management plans as deemed necessary and desirable to provide for the integration and coordination of the protection of natural resources, the promotion of reasonable coastal-dependent economic growth, and the improved protection of life and property in the specific areas designated by the Council as requiring such integrated planning and coordination.

The Special Area Management Plan Preparation Process

1. Formulation of a SAMP preparation proposal for review by the CRMC Planning and Policy Sub-Committee
2. Terms of Reference and funding proposal
3. Confirmation of funding and SAMP preparation work plan
4. Appointment of a CRMC subcommittee to oversee plan preparation
5. Organizing the project team, and incorporating scientific knowledge and technical expertise
6. Public and key actor participation mechanisms

The Adoption Process

1. Presentation to Planning and Policy Committee
2. Public comment and Public hearing
3. Coastal Resources Management Council approval, modification, rejection
4. Submission to Secretary of State
5. Submission to the Office of Ocean and Coastal Resources Management for acceptance and federal consistency
6. Incorporation into the State Guide Plan
7. Municipal adoption of regulations, guidelines, design criteria

Typical Considerations and Contents of a Special Area Plan

1. Geographic scope of a SAMP
2. Issues for inclusion in a SAMP
3. Engaging stakeholders and authorities in a SAMP
4. The SAMP document
 - Setting the context
 - Documentation of participation process
 - Findings of fact
 - Vision, goals, objectives
 - Policies
 - Performance measures and monitoring
 - Program of actions and implementation priorities
 - Implementation agreements