

Coastal Features

INFORMATION
ABOUT THE
RHODE ISLAND
COASTAL
RESOURCES
MANAGEMENT
PROGRAM

FALL 1994

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Rhode Island Undergoes Threshold Review of Proposed Coastal Nonpoint Pollution Control Program

On August 24 and 25, representatives from the National Oceanic and Atmospheric Administration (NOAA) and the Environmental Protection Agency (EPA) met with representatives from the Rhode Island Coastal Resources Management Council (CRMC), the Rhode Island Department of Administration, Division of Planning (RIDOP), and several divisions within the Rhode Island Department of Environmental Management (RIDEM) for a threshold review of Rhode Island's proposed approaches for meeting the requirements contained in Section 6217 of the Coastal Zone Act Reauthorization Amendments of 1990 (CZARA). Also represented at this meeting were: the offices of Senator John Chaffee and Congressman Jack Reed; the USDA Soil Conservation Service; the Rhode Island Marine Trades Association; Portsmouth Abbey Farm; the University of Rhode Island Coastal Resources Center and Department of Marine Affairs; and the Kennedy School of Government.

As discussed in past issues of *Coastal Features*, Section 6217, entitled "Protecting Coastal Waters", requires each coastal state participating in the federal coastal management program to develop a Coastal Nonpoint Pollution Control Program (CNPCP) to be approved jointly by the EPA and the NOAA. Failure to develop an approvable CNPCP by July of 1995 will result in fiscal penalties on both the

RIDEM's Nonpoint Source Management Program, developed in accordance with requirements contained in Section 319 of the Clean Water Act, and Rhode Island's Coastal Resources Management Program (RICRMP).

Each state's CNPCP must provide for the implementation of prescribed management measures, referred to as the (g) measures, within the 6217 management area through enforceable policies and mechanisms in order to control nonpoint source pollution to coastal waters. In Rhode Island, the 6217 management area comprises the entire state. The (g) measures address a series of sources and associated activities which have been determined to be leading contributors of nonpoint pollution to coastal waters nationally. These management measures are contained in the *Guidance Specifying Management Measures for Nonpoint Pollution in Coastal Waters* and address: agriculture; forestry; urban areas, including new and existing development, roads, bridges and highways, and onsite sewage disposal systems; marinas and boat-

ing activities; hydromodification activities, including dams, channelization, and shoreline protection; and wetlands protection. States may be excluded from implementation of management measures contained in the *Guidance* when it can be demonstrated: that the source is not present nor reasonably anticipated in the management area; or, that the source, either individually or cumulatively, does not and is not reasonably expected to present significant adverse effects to living coastal resources or human health. Based on these two scenarios, states may request exclusions from individual management measures or entire categories of nonpoint sources. A state's CNPCP must also provide for the implementation of additional management measures where coastal water quality is impaired or threatened even after the implementation of the (g) measures.

As part of its CNPCP development, Rhode Island chose to undergo an informal threshold review of proposed approaches for meeting the new federal requirements contained in Section 6217.

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Projects of Special Merit Update

Section 309 of the 1990 reauthorization of the Coastal Zone Management Act, the Coastal Enhancement Grant Program, encourages states with federally approved coastal programs to voluntarily perform an assessment of how well each program is doing in regard to eight specific areas of national concern, to develop a strategy for program enhancement in one or more of these areas, and to compete for grants to support proposed "Projects of Special Merit". The areas of national concern include: (1) protection and restoration of coastal wetlands; (2) storm hazard mitigation and managing advance effects of sea level rise; (3) increasing public access to coastal waters; (4) reducing marine debris; (5) mitigating cumulative impacts of coastal development; (6) implementing management plans for special regions of the coast; (7) planning for the wise use of ocean resources; and, (8) adopting procedures for energy and government facility siting.

Based on the assessment, areas where improvement and enhancement of Rhode Island's Coastal Resources Management Program were identified. Rhode Island then entered into a competitive grant process for "Projects of Special Merit" to support the findings of the assessment. The CRMC has recently completed a series of program changes based on the findings of a study of Rhode Island's south shore conducted under a Section 309 grant. The CRMC is also in the process of updating two of its Special Area Management Plans and will be using data gathered through a study being conducted by the University of Rhode Island's Coastal Resources Center and supported by a Section 309 grant. The following is a progress report on these two important "Projects of Special Merit".

Regulation Revisions from 309 Project of Special Merit Pass the Council

At the October 11th Council meeting, the Council approved a series of changes and additions to the Rhode Island Coastal Resources Management Program (RICRMP) pertaining to barrier islands and spits, barrier beach protection issues, coastal

beaches, dunes, coastal headlands, bluffs, and cliffs, and the associated management regulations of these features. These regulation changes are a culmination of a year's work of research and extensive regulation review by the CRMC's technical and policy staff and the University of Rhode Island's Geology Department. The CRMC was awarded this competitive federal grant from the National Oceanic and Atmospheric Administration's Office of Ocean and Coastal Resource Management, through monies available under Section 309 of the Coastal Zone Management Act (CZMA) for improvements to coastal programs.

The proposed regulation changes where only part of a project that began in September, 1993. In the wake of a number of coastal storms and erosional events that occurred in 1991 and 1992, the CRMC wanted to better understand the dynamics of local beach accretion/erosion trends, and the effect of existing structural shoreline protection. Under this project, the Geology Department at URI added study sites in Westerly to ongoing beach volume

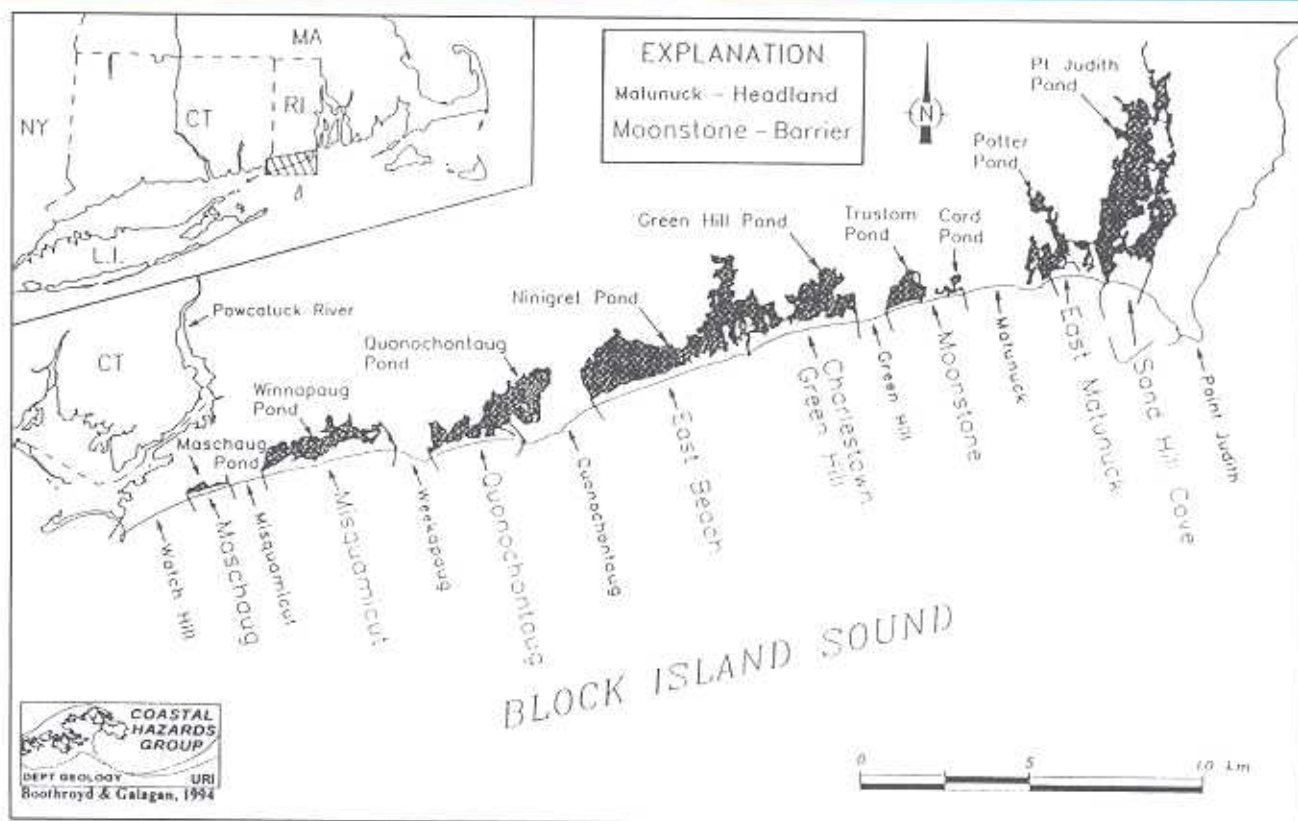
research in Charlestown. Beach profiles were conducted and analyzed, protection structures were mapped, and policy language relative to the project was drafted and revised. New erosion rate maps were generated and will replace the existing erosion rate designation on the RICRMP maps. When the project concluded, revised language not only clarified barrier beach regulations, but also contained new geologic language consistent with that of the University and experts in the field of geomorphology. The chapter on coastal beaches and dunes was split into two separate chapters to clarify the Council's dune regulations, and a "dune set-back" was defined. The section 210.4 on "Coastal Cliffs, Bluffs, and Banks", was changed to "Headland Bluffs and Cliffs". The construction line that was defined in section 210.1 for three developed barrier beaches (Atlantic Beach in Westerly, Coast Guard Beach on Block Island, and Sand Hill Cove in Narragansett) has been deleted from the program, in favor of a the standard setback for construction defined by the program

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Coastal Features

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This issue of *Coastal Features* was edited by Laura Kelley Miguel. To comment on any article or to make address changes, please write to the CRMC at the Oliver Stedman Government Center, Tower Hill Road, Wakefield, Rhode Island, 02879.



Regulation Revisions (continued)

and based on the erosion rate data, in order to be consistent with our setback policy and to ultimately place new development in the most appropriate area in developed barrier beach regions. In addition, related clarifications and wording changes were adopted in various sections throughout the RICRMP. These changes will be available in the an updated addendum for the RICRMP.

We are very pleased with the outcome of both the research and policy portions of this project, and feel that the end result is a better and more easily understood program for the public. We would like to thank Dr. Jon Boothroyd from the University of Rhode Island, as well as the staff at CRMC for their time and effort with this project!

Revisions of Special Area Management Plans Underway

The CRMC is spearheading a three year Special Area Management Plan (SAMP) revision in an effort to technically update the plans and revise their format. The staff at CRMC evaluated both the "Rhode Island's Salt Pond Region: A Special Management Plan" and the "Narrow River Special Area Management Plan" and decided to move to a consistent format for SAMPs, which highlights the CRMC's policies and regulations. Each plan will still contain chapters on land use and water quality, critical habitats and living resources. Revised CRMC regulations, policies, and recommendations for municipal and state actions and future research needs will be contained in each chapter. In addition, more detailed geological processes and storm hazards sections will be incorporated with help from the University of Rhode Island.

Foremost to the update, will be a review of, and any necessary revisions to, the boundary maps con-

tained within the plan. These maps show the watershed boundary and density of development within the watershed and drive the land use regulations contained within the plan. Any changes in mapping will be derived from the "Cumulative and Secondary Impacts Study of the Salt Ponds and Narrow River Watershed" currently being conducted by Virginia Lee and the staff of the Coastal Resources Center under a 309 Project of Special Merit Enhancement Grant. As one of the authors of the original SAMP for the Salt Pond Region, Virginia Lee will provide a good retrospective on the SAMP process and scientific methodology to help minimize the time it will take to make revisions to these plans. This study will conclude in June of 1995 and will provide new groundwater, nutrient-loading, and build-out analysis data that will be the basis for any regulation and boundary revisions that may occur.

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On-Site Waste Water Treatment Program

The University of Rhode Island's Department of Natural Resources Science, in association with the URI Cooperative Extension Program, has developed the Rhode Island On-site Wastewater Training (OWT) Program. Modeled after a similar successful program located in North Carolina, the OWT Program is a collaborative of research scientists, private industry and regulatory agencies. A Steering Committee, composed of the above groups and the Coastal Resources Management Council, has been formed to oversee the program operation. Funding for this program has been provided through the U.S. Environmental Protection Agency, R.I. Department of Environmental Management, R.I. Sea Grant, University of Rhode Island Cooperative Extension and private business. The intent of the OWT Program is to train and educate municipal officials, site evaluators, design professionals, system installers, and regulatory personnel about a variety of innovative and alternative (I&A) on-site wastewater treatment technologies.

The OWT Program provides classroom and field training experience on the design, siting, installation, operation, and maintenance of a variety of I&A technologies. All of the field training is conducted at the demonstration and training center located at the Peckham Farm Campus of the University of Rhode Island. The I&A technologies include: sand filtration systems, trickling filter designs, pressure dosing systems, denitrification systems, alternative drainfield options, extended aeration systems, composting toilets and others. Many of these systems are installed above ground so that trainees can better observe and experience the operation of these technologies. Freshwater is pumped through the systems to simulate actual field operation conditions. The use of po-

table water, as opposed to untreated sewage, in the demonstration systems eliminates the potential for disease transmission during field training observations.

Innovative and alternative technologies can significantly improve the treatment of domestically generated wastewater as compared to a conventional system. While a conventional on-site sewage disposal system consists of a septic tank, a distribution box, and a drainfield, I&A technologies generally incorporate different system components which are designed to meet specific environmental needs. For example, denitrification systems can reduce the total nitrogen contribution from a septic system by 50 to 70 percent. Considering that nitrogen loading to the coastal embayments can result in eutrophication and other water quality problems, the denitrification systems are one method to reduce



the nitrogen input to the coastal environment. Additionally, established sand filter designs can be effective in the removal of pathogenic organisms from septic tank effluent. This particular technology can assist in reducing the incidence of bathing beach and shellfish closures.

Over one-third of the state's population of approximately one million people rely upon on-site systems for the treatment of domestic wastewater. Many of these systems are located within the 21 coastal communities located along

Narragansett Bay and Block Island and Rhode Island Sounds. Of particular concern are the multitude of residential areas adjacent to the coastal lagoons within the south shore region which are not serviced by municipal wastewater treatment facilities. These coastal lagoons are generally very shallow (averaging 3-4 feet in depth) and are not well flushed during tidal exchanges due to outlet (breachway) configurations and locations. In 1984 the CRMC implemented the Salt Pond Region Special Area Management Plan which was an effort to better manage the region as an ecological unit and address pollutant loadings within the watershed area. The region is located within the political boundaries of four separate towns; Westerly, Charlestown, South Kingstown, and Narragansett. Many of the residential areas within this region are former seasonal communities where homes, at the time of septic system installation, were primarily occupied only during summer months. However, in recent times these homes have been converted to year-round residences, thereby significantly increasing the intensity of use of the on-site systems. In addition, many of these lots are extremely small, often less than one-quarter acre in size. Since many of these homes were built prior to the promulgation of RIDEM on-site sewage disposal system regulations, the associated systems are often substandard with many consisting merely of a cesspool.

On-site wastewater disposal system contamination to ground and surface waters most often occurs as a result of system failures, including the continued use of substandard systems. Poor maintenance practices and neglect can lead to high system failure rates. In addition, systems that are properly functioning can also be responsible for contamination due to poor (continued)

On-Site Waste Water Treatment Program (continued)

siting practices related to soil types and water saturation conditions. All of the above factors contribute to the exacerbation of water quality degradation to the coastal environment resulting in shellfish closures and nutrient enrichment of coastal waters.

In an attempt to effectively address water quality degradation within the salt pond region, primarily as a result of failed and substandard septic systems, the CRMC has recently adopted denitrification requirements for on-site sewage disposal systems that is consistent with Section 6217(g) guidance measures. The CRMC and the DEM Division of Groundwater & ISDS have been cooperatively working through a joint committee referred to as the Denite Task Force. This group has been collaborating to implement the regulatory and administrative changes necessary for the establishment of septic system performance standards. The initial requirements apply only to the Green Hill Pond area, as this water body is the most severely affected pond as evidenced by the permanent shellfish closure status imposed this past spring by the DEM. All new installations and upgrades of existing on-site sewage disposal systems require that the influent concentration of total nitrogen is reduced by a minimum of 50 percent before being discharged to the drainfield. The new requirements may eventually be applied to a broader area depending on the findings and recommendations of the current Special Area Management Plan evaluation (see related story on page 2).

New innovative and alternative technologies will play an important role in reducing human-generated inputs of nitrogen and fecal contamination to coastal waters. Therefore, the success of the On-site Training Program is paramount for the proper introduction and acceptance

of these new technologies in Rhode Island. The first training workshop and dedication ceremony was held on October 19, 1994 for invited guests and steering committee members. The subsequent spring training session will be open to all individuals who would like to participate in the program. It is anticipated that further training sessions will be conducted on a quarterly or an as-needed basis to facilitate training of as many individuals as possible.

For additional information,
please contact
OWT Program Director
George Loomis
Research Soil Scientist
Department of
Natural Resources Science
University of Rhode Island
Kingston, RI 02881
Phone: 401-792-4558.

Nonpoint Source Tips

One of the major sources of nonpoint pollution to Rhode Island's coastal waters is failed and improperly maintained septic systems. While the only way to remedy a failed septic system is through replacement, there are several steps homeowners can take to ensure the proper functioning of their existing septic system, to increase the long-term use of the existing system, and to minimize the chances of future system failures.

- Inspect your septic system regularly. In general, most systems need to be pumped about every three years. Keep a written record of septic system inspections and pump outs.
- Limit the amount of wastewater entering your septic system by conserving water: use low-volume plumbing fixtures in showers and toilets; fix leaky faucets; run dishwashers and washing machines only when full.
- Never use septic system additives - most of these products are illegal in Rhode Island and often do more harm than good.
- If your home has a garbage disposal, limit its use. As an alternative, try composting garbage.
- Never pour toxic liquids, such as paint, motor oil, solvents and poisons down the drain.
- Never use your septic system as a waste basket.
- Take care of your system's leachfield: divert gutters and downspouts away from the leachfield; keep trees and shrubs at least ten feet away from the leachfield; do not allow construction or driving over the leachfield.

For more information on septic system maintenance, contact the Rhode Island Department of Environmental Management Division of Groundwater and ISDS. Phone: 277-2306.

Threshold Review (continued from page 1)

This meeting provided an opportunity for the state to ask questions and receive feedback on proposed approaches prior to the July, 1995 deadline for program submittal to EPA and NOAA. The final Threshold Review Document, put together by the CRMC, the RIDEM and the RIDOP, with the assistance of the Interagency Nonpoint Source Advisory Committee and several subcommittees, out-lines how the state proposes to network existing programs in order to meet the requirements of Section 6217, and was the primary focus of the threshold review meeting. The following elements are addressed in the Threshold Review Document and were the subject of discussions with NOAA and EPA: implementation of management measures for sources and activities related to urban areas, marinas, hydromodifications, and wetlands; a proposal for exclusions from the management measures related to agriculture and forestry; the Section 6217 management area; critical areas; public participation; and coordination and implementation.

In general, Rhode Island is proposing that, by networking existing authorities, the (g) measures, with the exception of those related to agriculture and forestry, are, or will be, effectively implemented through enforceable policies and mechanisms. Depending on the particular management measure or source, the state is proposing to rely on one or more of the following: existing RIDEM regulations relating to Individual Sewage Disposal Systems, Freshwater Wetlands, and Water Quality; existing requirements contained in, and proposed amendments to, the Rhode Island Coastal Resources Management Program; the Comprehensive Planning and Land Use Regulation Act and related enabling legislation associated with land use planning; and the State Guide Plan. Regarding agriculture and forestry, the state has

proposed a categorical exclusion from the management measures for both of these sources.

Opening the meeting, which was jointly chaired by the CRMC and RIDEM, NOAA and EPA complemented Rhode Island on the content and organization of the Threshold Review Document as well as the state's efforts, through the use of the Interagency Nonpoint Source Advisory Committee and its various subcommittees, to involve the public at the earliest stages of program development. The meeting then proceeded to focus on specific components of Rhode Island's proposed CNPCP.

Much of the discussion over the two-day period focused on the scope of regulatory controls, the mechanics of regulation implementation, and enforcement. Most questions were easily answered by CRMC and RIDEM staff and required only clarification of how a particular program worked or potential situation could be handled.

While initial verbal comments during the threshold review were quite positive, written comments are not expected until mid-November. At that time, the state should have a better idea of where efforts need to be focused in order to meet the July 1995 deadline for submittal of an approvable program. Articles on various aspects of program development and implementation will continue to be published as a regular feature in *Coastal Features*.

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For more information
on the Coastal
Nonpoint
Pollution
Control Program,
contact
Laura Miguel
at 277-2476.
■

Council/Staff Update

Over the summer, several personnel changes took place at the CRMC. **George L. Sisson, Jr.** was replaced by **Jerry Sahagian** of Narragansett. The Council and its staff will miss George's knowledge and dedication. More on George's experience as a Council member in our next issue. Also, Mr. William F. Hardy, Jr. of Pawtucket has joined the Council.

On the staff level, **Mark Imperial** has moved on to greener pastures (or corn fields) in Bloomington, Indiana. Best of luck to Mark who is working towards a Ph.D. in Public Affairs. **Jim Boyd**, a staff Environmental Scientist since 1992, has made the move upstairs from permitting to the Policy and Planning section where he will be assisting with the development of the Coastal Nonpoint Pollution Control Program and the revisions to the Narrow River and Salt Ponds Special Area Management Plans. **Rich Lucia** has joined the Council's staff as a Civil Engineer. Rich comes to us from DOT where he worked as an engineer for the past six years and holds Bachelor's and Master's degrees in Civil Engineering from the University of Rhode Island.

*Revisions of
SAMPs Underway
(continued from page 3)*

This study will also provide new GIS coverages within these watersheds for the State's GIS system, and will be a valuable tool available for other members of the system. Currently, preliminary draft maps are being used to discuss policy issues and to get a sense of the existing development status within the areas encompassed by the SAMPs.

A meeting on the revisions to the SAMPs was held on Monday, October 17th for various South County town planners and officials. The purpose of this meeting was to brief local officials on the SAMP revisions, discuss the Cumulative Impacts study, and solicit volunteers to assist in the formulation of recommendations to be developed based on nutrient analysis and groundwater monitoring data, as well as local concerns. Additional information obtained for this study will also be taken under consideration and may be useful in the development of the Coastal Nonpoint Pollution Control Program (see related article on page 1).

In conjunction with the nutrient-loading analysis and groundwater monitoring, zoning recommendations contained within the existing plans will be reviewed. These recommendations are particularly important in light of the Comprehensive Planning and Land Use Regulation Act which requires each municipality to amend their zoning within one year of adoption of the community's comprehensive plan. Data generated through the build-out analysis, nutrient loading analysis, and the groundwater monitoring will be used in an effort to reexamine the effectiveness of zoning undertaken when the SAMPs were initially adopted. There are finfish and shellfish resources, wetlands and submerged aquatic habitats,

Coastweeks '94

For the seventh consecutive year, Rhode Island participated in the national COASTWEEKS celebration. This year, COASTWEEKS '94 ran from September 17th to October 10th

and featured a wide variety of activities and events for participants from all age groups. Some highlights of COASTWEEKS '94 were a num-

(continued on page 8, back cover)



*Participant in the Great Pawcatuck River Paddle and Oar Race, one of the many COASTWEEKS '94 Events.
Photo credit: David Clayton*

and valuable upland habitat for rare and endangered species that fall within these SAMP boundaries and increasingly benefit from a watershed approach to management. Accordingly, the RIDEM Division of Fish, Wildlife, and Estuarine Resources will assist in the update of the "Critical Habitat and Living Resources" chapter, and will add valuable field experience and management recommendations to the existing regulations. The revisions to these sections are in the early stages and should progress on schedule.

Overall, the SAMPs are both good working management tools that the CRMC, as well as other state and municipal entities have utilized and would like to continue to utilize in an effective manner. Since 1994 is the tenth anniversary of the Salt Pond SAMP, it is an appropriate time to review the scientific information regarding wildlife and fisheries resources, nutrient loadings and water quality, and habitat quality.

There is a growing awareness of the need for and the comprehensiveness of management on a watershed basis, and the SAMPs can be a valuable tool to achieve that end. It is hoped that the revisions will make a good management tool better, by making the plans dynamic documents that meet our needs in 1994 and beyond. We look forward to working with our newly formed SAMP revision team!

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*For more information
on
the CRMC's
Projects of
Special Merit,
contact
Donna Doyle
at
277-2476.*
■

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Jean Shepard, Esq. Legal Counsel

Coastweeks '94 Events (continued from page 7)

ber of annual events including "Get the Drift and Bag It", a statewide beach cleanup, the Taste of Rhode Island held at the Newport Yachting Center, and, for the second year, the Great Pawcatuck River Paddle and Oar Race. This year's calendar also included a number of new events and activities, including River Boat tours on the Blackstone River, and video contest sponsored by Rhode Island Sea Grant.

The CRMC would like to thank all those who participated in and helped organize Coastweeks '94. In particular, thanks are owed to Rhode Island Sea Grant, Save the Bay and Narragansett Electric for their sponsorship of the Coastweeks '94 calendar.

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*If you or your organization would
like information on how to become
involved in COASTWEEKS '95,
contact Laura Miguel of the CRMC
at (401) 277-2476.*
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RI CRMC
Oliver Stedman Government Center
Tower Hill Road
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