Coastal Features

INFORMATION ABOUT THE RHODE ISLAND COASTAL RESOURCES MANAGEMENT PROGRAM

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Special Issue: *Narrow River and Salt Pond Region Special Area Management Plan Revisions*

Special Area Management Plans (SAMP) have been a part of CRMC's strategy to protect and manage Rhode Island's coastal resources since the early 1980s. The federal authority for Special Area Management Planning is the Coastal Zone Management Act (CZMA) which declares a national policy:

"...to encourage the preparation of special area management plans which provide for increased specificity in protecting significant natural resources, reasonable coastal-dependent economic growth, improved protection of life and property in hazardous areas,...and improved predictability in governmental decision making..."(CZMA) (16 U.S.C. §1452) Section 303(K)(3).

However, developers and permit applicants are still often unsure what a SAMP is and how it affects proposed activities in the coastal zone. This issue of Coastal Features addresses CRMC's SAMP program by outlining the development of the Salt Pond Region and Narrow River SAMPs from their inception through their most recent revisions, which went into effect on April 12, 1999. The following is intended to assist developers, permit applicants, and the general public to better understand the purpose and requirements of CRMC's SAMP program in the Narrow River and Salt Pond watersheds.

Origins of the Salt Pond Region and Narrow River SAMPs

The concept for a Salt Pond Region SAMP emerged from a public workshop held at the Quonochontaug Grange in 1977 to address growing concern over declining water quality in the region's coastal salt ponds. The workshop marked the beginning of a partnership between area residents, local officials, and CRMC regarding coastal resource management and planning in the salt pond region. Many of the issues that would shape the initial Salt Pond Region SAMP came from scores of residents and local officials who voiced their concerns and offered ideas to avoid further degradation of the salt ponds at that time.

This strong public interest was the catalyst for a 1978 pilot project by the University of Rhode Island's Coastal Resources Center, to study the ecological history of the salt ponds. This pilot project prompted a major interdisciplinary study of the salt ponds from 1978-1982. The issues that emerged from this subsequent study were:

- a framework for management
- water quality
- land use
- fish and fisheries
- breachways, channelization and sedimentation
- storm hazards
- intensified use

These issues became the framework of the

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initial Salt Pond Region SAMP, which went into effect in 1984, and included the towns of Charlestown, South Kingstown, and Narragansett.

The adoption of the Salt Pond Region SAMP, and the recognition that unplanned development had seriously degraded the Narrow River watershed, led the towns of Narragansett, South Kingstown, and North Kingstown to initiate an effort toward a Narrow River SAMP in 1985. An exhaustive review and analysis of scientific research and official records related to the Narrow River produced a comprehensive profile of the river's watershed. This information provided the basis for evaluating past and present problems, and developing management strategies and initiatives to protect the Narrow River at the watershed level. The Narrow River SAMP established a watershed management approach that seeks to protect and restore water resources by focusing on problems occurring not only in the water, but also on the adjacent land. The initial Narrow River SAMP focused on several problems that had been unsuccessfully addressed in the past:

- Degradation in water quality
- High rate and density of Individual Sewage Disposal System (ISDS) failures
- Development pressures in the watershed forcing encroachment into unsuitable areas, i.e., wetlands, slopes greater than 10%, soils with very high or very low drainage capacity, and along the shoreline
- Potential loss of several rare and uncommon wildlife species and habitat critical for their survival
- Loss of aesthetic value

The Narrow River SAMP was adopted by CRMC in 1986 and guided a nine-year coordinated effort between property owners, the towns, and CRMC to manage activities in the Narrow River watershed.

A Watershed-Based Management Strategy

The Narrow River and Salt Pond Region SAMPs provide regulatory and management strategies that respond to a diversity of issues on a watershed scale. This means more than managing activities that occur directly within the waters confined by the banks of a tidally influenced river or the shores of a salt or coastal pond.

Webster's Dictionary defines a watershed as a "region draining into a river, river system, or body of water." A watershed is distinguished by hydrodynamic pathways that lead to a common destination: tributaries that cut through it, stormwater that flows across it, and groundwater that seeps beneath it, eventually drains into a watershed's basin, which may be a river, pond, or other surface water body.

In effect, a watershed is an ecosystem that strongly connects land and water. This linkage facilitates the transport of pollutants produced by activities in one part of a watershed - in either its land or water component - to other parts via its water transport pathways. As a result, even apparently minor amounts of pollutants from routine activities such as residential or road construction projects can reach a watershed's drainage basin. This is the case in both the Narrow River and coastal salt ponds. Water quality in the Narrow River and coastal salt ponds is threatened by the cumulative impact of pollutants produced by numerous development projects in their watersheds. When the additive effect of seemingly minor pollution inputs from individual development projects is considered, the cumulative impact of development is the most significant cause of declining water quality in the Narrow River and coastal salt ponds.

Despite more than a decade of management, water quality continues to decline in both the Narrow River and salt pond watersheds. Recognizing that cumulative impacts of development have led to these conditions, the revised Narrow River and Salt Pond Region SAMPs focus on managing the following development related activities on a watershed-wide scale:

- Individual Sewage Disposal
- Impervious Areas
- Stormwater Runoff
- Vegetation Removal and Soil Erosion
- Dredging
- Barrier Beach and Flood Zone
- Residential Activities
- Marinas, Docks, and Recreational
- Public Water and Sewer

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Coastal Features

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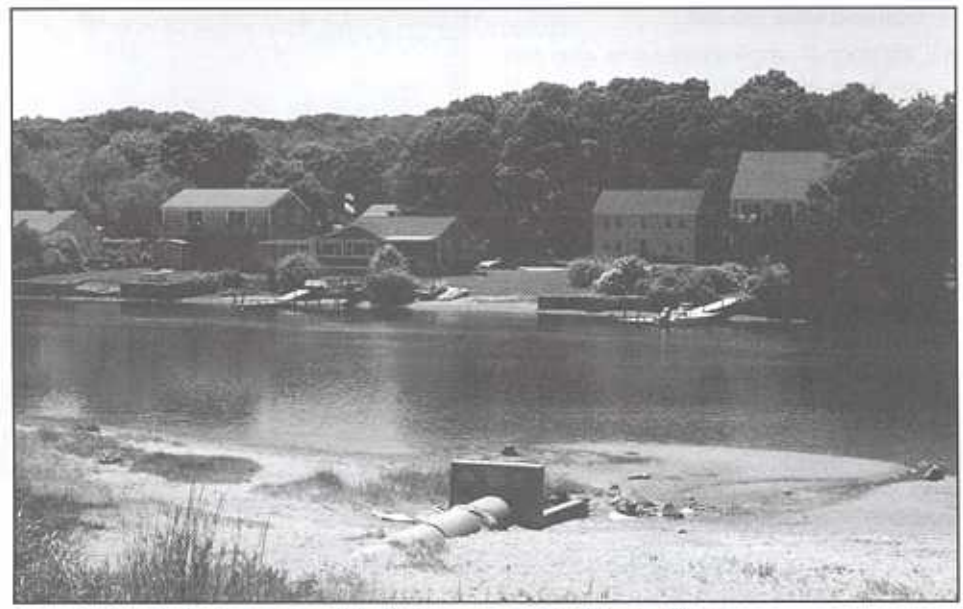
- Wetland
- Noise and Lighting Impacts on Habitat

Nonpoint Source Pollution

The pollution produced by the cumulative impacts discussed above is known as nonpoint source pollution. It is distinguished from point source pollution such as untreated sewage overflows that enter water bodies directly from a discrete point such as a drainage pipe. Nonpoint source pollution typically enters a water body through the various water transport pathways of its watershed. Fertilizers applied to farms, golf courses, lawns, and home gardens, can travel overland in stormwater, below the surface through groundwater, or via tributaries. Domestic pet waste can also travel by these routes. Even ISDS effluent, which typically moves through groundwater, can also travel along the surface in stormwater when leach fields become saturated and the effluent percolates to the surface.



Stormwater drain and residential development at the Narrow River

Nonpoint source pollution has severely impacted water quality in both the Narrow River and salt pond region. The entire Narrow River has been closed to shellfishing since 1994 when the concentration of coliform bacteria in the water exceeded the level safe for human consumption of shellfish. Nonpoint source pollution in the Narrow River is associated with ISDS, lawn fertilizers, domestic pets and atmospheric deposition. In the coastal pond region, the entirety of Green Hill Pond has been permanently closed to shellfishing since 1994, when coliform bacteria concentrations in the pond exceeded the level safe for human consumption. In 1996, this closure was extended into the eastern portions of Ninigret Pond where it connects to Green Hill Pond. In addition, Point Judith Pond is closed to shellfishing in the upper pond, in the vicinity of marinas, and at the Port of Galilee.

Congress has recognized the severity of nonpoint source pollution in coastal waters and responded to the problem through Section 6217 of the Coastal Zone Management Act amendments of 1990. Section 6217 requires each coastal state with a federally approved coastal management program to develop a Coastal Nonpoint Pollution Control Program. Rhode Island's program, co-managed by CRMC, the Department of Environmental Management, and the Department of Administration, applies to four general land use activities: agriculture, urban (new development, septic systems, roads, bridges, highways, etc.), marinas, and hydromodifications. Measures for the protection of wetlands are also included.

Regulated Activities under the Narrow River and Salt Pond Region SAMPs

The Rhode Island Coastal Resources Management Program (RICRMP) should be referred to for specific regulatory requirements on buffers, setbacks, subdivisions, recreational docks, barrier beach development, beach replenishment and *any other activities which occur within the Narrow River or Salt Pond Region SAMP watersheds*. The RICRMP has four categories of applications; Findings of No Significant Impact (FONSI), Category A, B, and A*:

- FONSI may apply to certain construction and alteration activities within 200 feet of a coastal feature if such activities are found to pose little impact or threat to coastal resources. These activities are often associated with existing residential, commercial, and/or industrial sites, or previously assented structures or activities. These associated structures or activities, depending on the extent of alteration and proximity to the coastal feature, may, on a case by case basis, and after preliminary review of the proposed activity or upon staff recommendation, be determined by the Council's Executive Director as having an insignificant threat to coastal resources
- Category A activities are routine matters and activities of construction and maintenance work that do not require review of the full Council if four criteria are met: buffer zone compliance, abutter agreement, and proper state and

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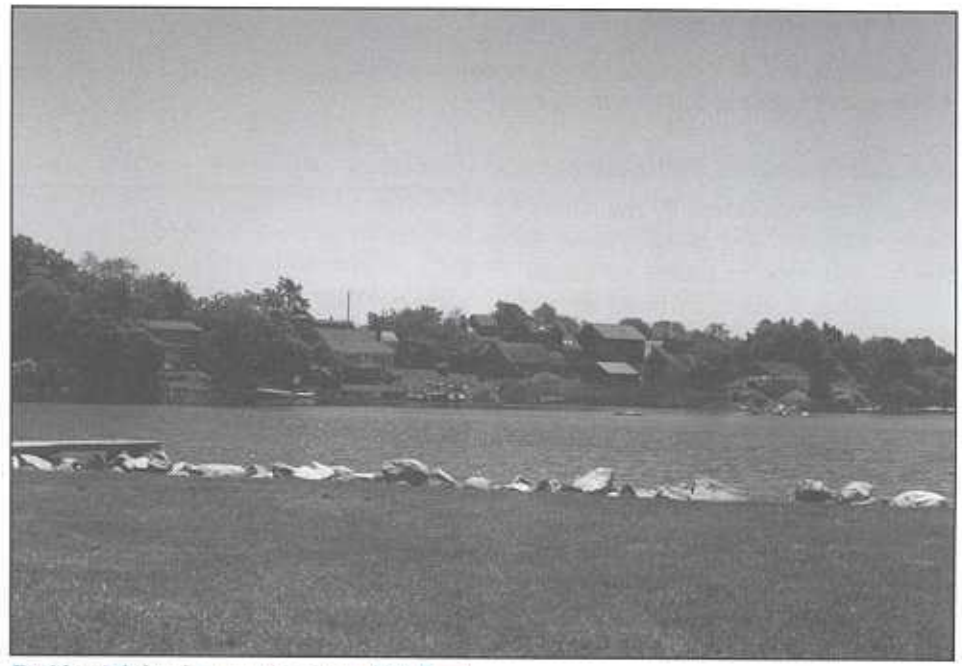
local certifications

- Category A* applications are put out to public notice for the benefit of the abutters to the affected property, and local and state officials
- Category B applications are also put out to public notice and are reviewed by the full Council; the applicant must prepare in writing an environmental assessment of the proposal that addresses all of the items listed in Section 300.1 of the RICRMP and any additional requirements for Category B applications listed for the activity in question

A Category A review may be permitted for A* activities provided that the Executive Director of CRMC determines that all criteria within Section 110.1 A of the RICRMP and the relevant SAMP requirements and prerequisites are met. The proposed activity shall not significantly conflict with the existing uses and activities and must be considered to be a minor alteration with respect to potential impacts to the waterway, coastal feature, and areas within RICRMP jurisdiction. The following activities which occur within the Narrow River and Salt Pond Region SAMP watersheds require a CRMC assent (application approval):

- Activities within 200 feet of a coastal feature (see RICRMP for specific category; Category A, A*, B)
- Watershed Activities (specific activities taking place within the SAMP watershed)
  - (i) New subdivisions of 6 units or more, or re-subdivision for a sum total of 6 units or more on the property proposed after March 11, 1990 irrespective of ownership of the property or the length of time between when units are proposed (Category B)
  - (ii) Facilities requiring or creating more than 40,000 square feet of total impervious surface (Category A*/B)
  - (iii) Construction or extension of municipal, private (individual lots where CRMC has already approved a main sewer line are excepted), or industrial sewage facilities, conduits, or interceptors (excluding onsite sewage disposal systems outside the 200 foot zone). Any activity or facility which generates or is designed, installed, or operated as a single unit to treat more than 2,000 gallons per day, or any combination of systems owned or controlled by a common owner and having a total design capacity of 2,000 gallons per day (Category A*/B)
  - (iv) All roadway construction and upgrading projects (Category A*/B)
  - (v) Water distribution systems and supply line extensions (excluding private residential hook-ups to existing lines; Category A*/B)
  - (vi) Development affecting freshwater wetlands (Category A/B)



Residential development at Green Hill Pond

Coordinated Review with Municipalities

Under the Subdivision Review Act, one or more pre-application meetings shall be held for all major land developments or subdivision applications (Land Development and Subdivision Review Enabling Act, G.L.R.I. 45-23-25 et seq.). Pre-application meetings may be held when a preliminary determination is filed with the CRMC, or informally when the municipality requests information from CRMC. All major land development projects as defined under the act and residential subdivisions of 6 units or more are considered major land development plans and should file a preliminary determination request with CRMC. The purpose of these meetings is to:

- Identify and discuss major conflicts and possible design alterations or modifications to obviate conflicts
- Discuss the likely onsite impacts of alternatives or modifications and on the ecosystem as a whole
- Ensure that there is consensus among the regulatory agencies on any changes, and that conflicts with permit requirements do not arise

SAMP Requirements and the RI Coastal Resources Management Program (RICRMP)

The regulated activities and permit procedures listed above represent only some of the issues addressed by the Narrow River and Salt Pond Region SAMPs. Some activities require the submission of a Stormwater Management Plan, an Erosion and Sediment Control Plan, an Existing Conditions Site Map, and a Proposed Final Site Map. Variances and Special Exceptions are also part of SAMP. These and other permit procedures are addressed in the RICRMP, commonly known as the "Redbook." Whether planning or proposing an activity in the Narrow River or Salt Pond Region

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watersheds, always refer to chapter nine, "Regulations," of the appropriate SAMP, and refer to the Redbook for information on permit requirements. Copies of both SAMPs and the Redbook are available to the public at CRMC's Providence and Wakefield offices.

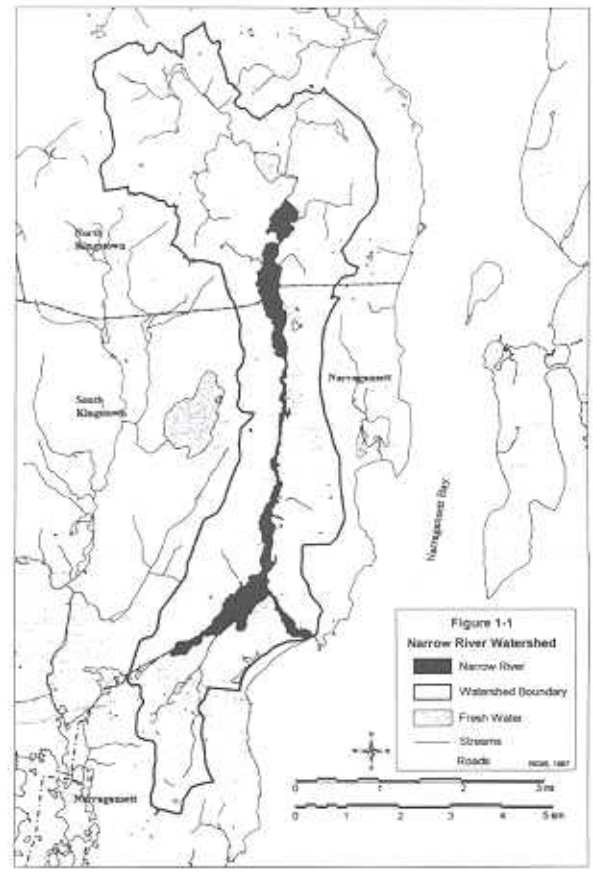
The 1999 Narrow River and Salt Pond Region Revisions and Regulations

The focus of these revisions is primarily on land use density controls and other regulatory requirements that better manage non-point source pollution and cumulative and secondary impacts which can result in habitat loss, erosion and sediment control problems, stormwater impacts, and groundwater contamination from septic systems. The revisions also address other important issues such as wetlands protection, living resources, breachway modifications, dredging, recreational boating, storm hazards, and public access. CRMC also modified the SAMP boundaries to reflect the surface watershed boundaries of the Narrow River and salt ponds as shown on the included maps.

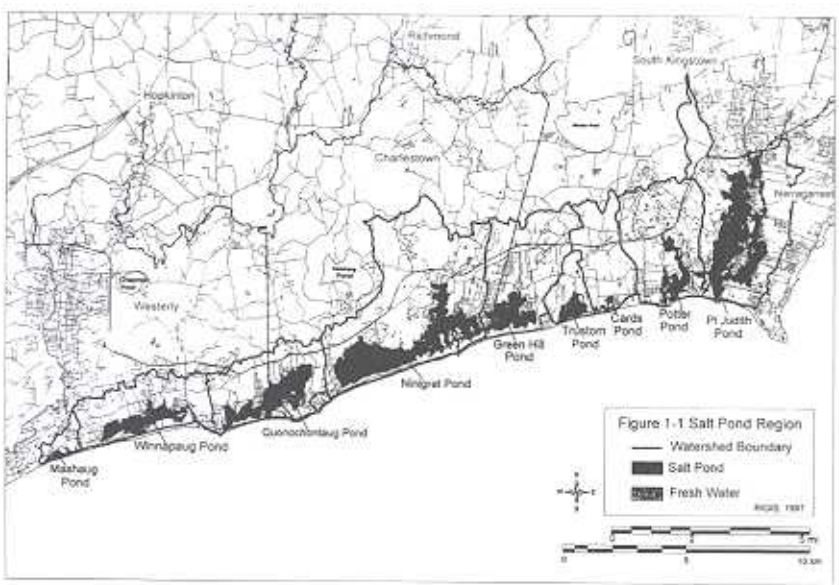
Land Development and Water Quality Protection

The following requirements provide watershed protection through density development controls, setbacks, and nitrogen reducing technology. The table that follows the definitions of the three land use classifications summarizes these watershed protection requirements. Major revisions noted (*) in the table that became effective on April 12, 1999 include:

- Lands of Critical Concern now require a development density of one residential unit per 120,000 square feet. This revision increases the minimum lot size requirement for development in Lands of Critical Concern by approximately one acre compared to the original Narrow River and Salt Pond Region SAMP requirement of one residential unit per 80,000 square feet
- Increasing the Coastal Buffer Zone requirement for Self-Sustaining Lands in the Narrow River watershed from the 100 foot minimum requirement of the 1986 SAMP to a 150 foot minimum requirement
- Requiring ISDS setbacks in Self-Sustaining Lands and Lands of Critical Concern
- Requiring nitrogen reducing technology for all new ISDS installations and alterations in Lands Developed Beyond Carrying Capacity, and for all lands subdivided at less than the land use classifications of 1 residential unit per 80,000 square feet in Self-Sustaining Lands, and 1 residential unit per 120,000 square feet in Lands of Critical Concern



1. Self-Sustaining Lands: undeveloped or developed at a density of not more than one residential unit per 80,000 square feet. Within these areas, the nutrients discharged to groundwater by septic systems, fertilizers and other sources associated with residential activities may be sufficiently diluted to maintain on-site potable groundwater. However, the one residential unit per two acre standard is not considered sufficient to reduce groundwater nitrogen concentrations to levels that will prevent eutrophication, or mitigate for dense development in other portions of the watershed.



2. Lands of Critical Concern: presently undeveloped or developed at densities of one residential unit per 120,000 square feet. These lands may be adjacent to or include one or more of the following:

- sensitive areas of the salt ponds that are particularly susceptible to eutrophication and bacterial contamination
- overlie wellhead protection zones or aquifer

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recharge areas for existing or potential water supply wells
- areas designated as historic/archaeologic sites
- open space
- areas where there is high erosion and runoff potential
- habitat for flora and fauna as identified through the Natural Heritage Program, large emergent wetland complexes, and U.S. Fish & Wildlife lands
- fisheries habitat

3. Lands Developed Beyond Carrying Capacity: developed at densities of one residential or commercial unit on parcels of less than 80,000 square feet, and frequently at higher densities of 10,000 square feet or 20,000 square feet. Intense development associated with Lands Developed Beyond Carrying Capacity is the result of poor land use planning and predates the formation of the Council. High nutrient loadings and contaminated runoff waters from dense development have resulted in a high incidence of polluted wells and increased evidence of eutrophic conditions and bacterial contamination in the salt ponds. Most of the ISDS in these areas predate RIDEM regulations pertaining to design and siting standards, and have exceeded their expected life span.

Narrow River and Salt Pond Region SAMP

CRMC Land-Use Classification Requirements for Density, Setbacks, Buffer Zones and Nitrogen Reducing Technologies for activities within 200' of a coastal feature and all watershed activities as defined in Section 900.B.3 and 900.B.4

Land-Use Classification	Definition[1,2]	Coastal Buffer Zone Requirement[1,2]	Construction Setback Requirement[1,2]	ISDS Setback Requirement[1,2]	*New ISDS installations or alteration[4] [SE, Var]
Developed Beyond Carrying Capacity	Lands developed or underdeveloped at < 80,000 square feet [SE or Var]	Coastal buffer based on RICRMP § 150 [Var]	Coastal buffer plus 25'	*Nitrogen reducing technology required [SE, Var]	*New ISDS installations or alteration[4] [SE, Var]
Critical Concern	*Lands developed or underdeveloped at 120,000 square feet and have sensitive Narrow River salt pond or watershed resources [SE or Var][3]	200' [SE, Var]	Coastal buffer plus 25'	*225' [SE, Var]	*Lands subdivided after adoption of SAMP that do not meet the CRMC density requirement and substandard lots of record [SE, Var]
Self-Sustaining	Lands developed or underdeveloped at 80,000 square feet [SE or Var]	*150' [SE, Var]	Coastal buffer plus 25'	*200' [SE, Var]	*Lands subdivided after adoption of SAMP that do not meet the CRMC density requirement and substandard lots of record [SE, Var]

[SE or Var] indicates if relief from the requirement or regulations requires a Special Exception, Variance or both.

[1] CRMC Land-Use Classification Requirements for Density, Setbacks, Buffer Zones and Nitrogen Reducing Technologies are for activities within CRMC jurisdiction (See Section 900.B.3 and 900.B.4).

[2] A Special Exemption is required for relief from the density requirement, coastal buffer, construction setback ISDS setback or nitrogen reducing technology requirement unless the lot is preplatted (see Section 920 Land Use Classification for Watershed Protection), and cannot accomodate the requirement.

[3] Nitrogen reducing techologies are alternative wastewater systems which can reduce total nitrogen concentrations by at least 50%.

[4] As defined by the Rhode Island Department of Environmental Management, Rules and Regulations establishing Minimum Standards Relating to Location, Design, Construction and Maintenance of Individual Sewage Disposal Systems, as amended.

Other Resource Protection Issues

While water quality protection with respect to land development is a major focus of the Narrow River and Salt Pond Region SAMPs, entire chapters on geologic processes, living resources and critical habitats, storm hazards, and historical and cultural resources are included in both SAMPs. The importance of these issues is reflected in the policies, prohibitions, standards, and recommendations that have been developed to address environmental impacts and resource protection needs associated with them. For proposed activities in either the Narrow River or Salt Pond Region watersheds, chapter nine in both SAMPs outlines specific permit requirements related to these issues.

CRMC Staff Changes

There have been several changes in personnel at CRMC this spring. We are pleased to welcome back an old favorite, **Tim Motte**, to the permit staff. In addition, a new Marine Resource Specialist and a Coastal Geologist have joined the policy staff, and a Freshwater Wetlands Biologist has been added to the permit staff.

Tim Motte has returned to CRMC as a Biologist after a six-month hiatus as an Environmental Scientist with DEM's Office of Water Resources . Tim's work with DEM focused on water quality in the Narrow River. Tim's return adds extensive experience in coastal zone permitting to CRMC's permit staff. Tim's previous coastal experience runs the gamut from wastewater treatment facility work, to tug boat deckhand, plus nearly seven years of CRMC permitting.

Kevin Cute joins the CRMC staff as a Marine Resource Specialist. Kevin has a Master's degree in Marine Affairs from URI, and a Bachelor's degree in Marine Biology from Humboldt State University, Arcata, California. Kevin's interest in aquaculture led him to an internship at Harbor Branch Oceanographic Institute, Ft. Pierce, Florida, and to Coast Oyster Company in Eureka, California, where he managed nursery and field grow-out operations. Kevin is also a former member of Charlestown's Coastal Ponds Management Commission. An avid jazz fan, Kevin can often be found drumming to a Latin-Jazz beat in his free time.

Janet Freedman joins the CRMC staff as a Coastal Geologist. Janet graduated from the University of Rhode Island last year with a Master's degree in Geology, concentrating in sedimentary processes and stratigraphy. Her research interests focus on climate change and its associated environmental effects such as sea level rise. Janet lives in Providence with her husband, Mark, an urban landscape painter, and daughters Gina (14), a budding young genius and Julia (11), an artist in her own right. In her spare time Janet enjoys hiking with her daughters who are still willing to accompany her.

Amy Silva joins the CRMC staff as a Freshwater Wetlands Biologist. Amy has a Bachelor's degree in Wildlife Biology from URI, and worked for a private wetland consultant prior to joining CRMC. While Amy will work on a range of permit issues, her primary contribution to CRMC will be her expertise in freshwater wetlands biology and ecology. Amy is an outdoor enthusiast who counts hiking, biking, and birdwatching among her favorite pastimes. But the sound of a swing band has been known to draw her indoors on occasion, to dance the night away.

CRMC Members

Michael Tikoian, Chair
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Lloyd Sherman
Robert Ellis Smith
Augustino Nunes
Peter Troy
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