

Coastal Features

INFORMATION
ABOUT THE RHODE
ISLAND COASTAL
RESOURCES
MANAGEMENT
PROGRAM

Fall 1998

Volume VII, No.1

Preferred Disposal Sites for Providence River Dredged Material Identified

The Army Corps of Engineers released its much awaited Draft Environmental Impact Statement (DEIS) for the Providence River dredging project on August 18, 1998. The dredging project involves the removal of about four million cubic yards of material, of which an estimated 1.2 million cubic yards are considered to be unsuitable for unconfined open water disposal. An additional 458,000 cubic yards of material from non-federal projects could also be disposed of at the preferred site. This material would be dredged from six marine terminals and facilities that are directly dependent upon the navigation channel, and from marinas and other facilities throughout the Bay that have expressed an interest in utilizing the disposal site.

The DEIS was developed in cooperation with affected federal and state agencies, as well as a technical advisory group assembled by the CRMC with representatives from a variety of interest groups. The DEIS contains a detailed evaluation of 29 disposal options at 18 different locations which were identified from an original list of over 150 potential upland, open water and beneficial use sites. The sites that are evaluated in detail include three open water sites in Narragansett Bay, four open water sites in Rhode Island Sound, seven beneficial use habitat creation sites, two beneficial use park creation/expansion options, and five upland alternatives, including a landfill option. The major advantages and disadvantages of the alternatives are listed in the Table on page 4, along with the alternative of not dredging.

Based on its findings, the DEIS proposes the following preferred alternative:

1. Allow marina facilities outside of the upper Providence River to dispose of dredged material that qualifies as "suitable for ocean disposal without management" (i.e., clean material) at Site 3 -Hog Island South.
2. Dredge all reaches of the Federal channel and harbor using an enclosed clamshell bucket dredge and allow no overflow of the scow (dredged material barge) while it is being filled.
3. Dispose of material from the Fox Point Reach of the channel that is classified as unsuitable for open water disposal in a Confined Aquatic Disposal (CAD) cell at Site 150, Watchemoket Cove. Allow non-Federal dredging projects with material classified as unsuitable for open water disposal to dispose of their material in the CAD cell by paying the incremental cost through the state.
4. Use material from the lower Fox Point/upper Fuller Rock Reaches, suitable for open water disposal without restrictions, to cap the unsuitable material in the CAD cell with at least 60 cm (24 inches) of material.
5. Dispose of the material excavated to create the CAD cell classified as suitable for open water disposal at Site 3. During construction, temporarily store the unsuitable surface material excavated from the CAD cell. Permanently dispose of the unsuitable surface material in the CAD cell.

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South Coast Habitat Restoration Project

A site visit for state, federal and local representatives with an interest in the South Coast Restoration Project currently under study by the Army Corps of Engineers was held on September 3rd. In addition to CRMC staff, the meeting was attended by representatives from the Charlestown Coastal Ponds Commission, the Rhode Island Historic Preservation Commission, the RI Department of Environmental Management, the Office of Statewide Planning, and the U.S. Fish and Wildlife Service. The purpose of the site visit was to provide a brief overview of the projects associated with the study, and to solicit comments and exchange information with attendees.



Meeting participants view area in Ninigret Pond where dredging would take place under the proposed restoration plan.

As previously reported in *Coastal Features* (Spring, 1998), the Army Corps of Engineers (ACOE) South Shore Habitat Restoration Project is the result of a resolution adopted by the U.S. Congressional Committee on the Environment and Public Works of the U.S. Senate on August 2, 1995 and funded by Congress in fiscal year 1997. The project has four phases: a Reconnaissance Study, which has been completed; a Feasibility Study, which is currently underway and the focus of this meeting; Implementation; and Operation and Maintenance.

The reconnaissance study encompassed an area from Watch Hill to Narragansett and was authorized to determine whether previous Army Corps

recommendations with respect to the area remained advisable in the interest of improved flood control, frontal erosion, coastal storm damage reduction, watershed, stream and ecosystem viability, and other purposes. This phase of the project identified several specific problem areas including, a decline of eelgrass beds in the salt ponds, beach and dune erosion, impaired fish passage, and salt marsh degradation due to tidal restrictions. The reconnaissance study also identified several opportunities for habitat restoration. These include: restoration of aquatic habitat, particularly eelgrass, fish and shellfish habitat, through selective dredging and planting; improvement of nesting bird habitat through nourishment of barrier beaches; improvement of waterfowl habitat in the intertidal areas around the ponds; fish passage restoration; restoration of salt marsh through improvements in tidal flow; and improvements in boat access to the ponds. Based on these identified problems and opportunities, the next phase of the project, the feasibility study, will focus on three major areas for habitat restoration: dredging of the breachways and tidal deltas in Winnapaug, Quonochontaug, and Ninigret Ponds with eel grass restoration; salt marsh restoration in Quonochontaug Pond; and fish passage restoration in Charlestown and South Kingstown.

Representatives from the Army Corps of Engineers started the September 3rd meeting at the Charlestown Breachway to Ninigret Pond where the basic outline of the feasibility study was explained and the areas of excessive shoaling were pointed out. From the Breachway, the group went to Cross Mills and Factory Ponds to view potential fish passage restoration sites. The meeting ended at the proposed salt marsh restoration site at the east end of Quonochontaug Pond. At each location a valuable exchange took place between Army Corps representatives and meeting attendees. In particular, the site visits provided the Corps with an opportunity to obtain local knowledge and hear of the variety of projects, initiatives, etc. that had taken place in the past.

Fifty percent of the cost of the feasibility study is the responsibility of the state and each of the three towns involved in the study area has contributed to the state's share. Additional support was obtained through the Oil Spill Contingency Fund administered through the RIDEM and supported by a fee charged on oil shipped into the state. This phase of the project is expected to last approximately two years and will result in a Feasibility Report which will provide all the necessary documentation to permit project implementation by the Army

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Coastal Features

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This issue of *Coastal Features* was edited by Laura Miguel. To comment on any article or to make address changes, write the CRMC at the Oliver Stedman Government Center, 4808 Tower Hill Road, Wakefield, RI 02879 or contact us online at ricrmc@ricconnect.com.

Corps. Specifically, the Feasibility Report will build upon the information contained in the Reconnaissance Report and, among other things, will include:

- a detailed examination of environmental restoration opportunities
- mapping of eelgrass habitat
- an investigation of site characteristics
- hydrodynamic modeling of the salt ponds and marshes
- water quality sampling and assessment of the salt ponds
- a series of practical alternatives considering the nature of the problem, site characteristics, and the area's resources
- a thorough consideration of the multiple purpose potential of restoration projects
- compliance with the requirements of various federal laws including an assessment of environmental effects in accordance with EIS or EA requirements
- preparation of necessary design drawings and quantity estimates
- an estimation of project costs and benefits
- an evaluation and ranking of feasible solutions
- a public involvement program
- an analysis of project implementation requirements

The Feasibility Report will also contain a final recommendation for authorization and construction should it be determined that a project(s) is economically justified and supported by a non-Federal sponsor(s).

The CRMC, as the local cost-sharing sponsor, will continue to work closely with the ACOE during the Feasibility Study phase of this project to ensure the project utilizes existing data, considers the multitude of impacts to a wide variety coastal resources and uses, relies upon a valid and useful sampling procedure, and, most importantly, will result in long-term benefits to the coastal ponds. Regardless of the final recommendations contained in the Feasibility Report, it is hoped that this project will provide the state with new data useful to improved planning and management of the south coast's resources.

Legislative Update

During the 1997-1998 legislative session the General Assembly adopted several pieces of legislation significant to the Council. The following is a summary of each of these actions:

- **Pre-Existing Residential Boating Facilities Program (RIGL 46-23-6)**
The General Assembly has, once again, extended the Pre-existing Residential Boating Facilities Program, originally adopted in July, 1993. Under this program, residential dock owners have the opportunity to obtain required permits for previously unauthorized docks without the threat of penalty. In accordance with the program, all residential docks built prior to 1985 without a valid CRMC permit are eligible to receive a 50-year permit and a dock registration plate provided: the facility exists in substantially the same configuration as it did prior to 1985; the facility is intact and functional; and the facility presents no significant threat to coastal resources and human safety. Residential docks constructed after January 1, 1985 are not eligible under this program and are required to meet current CRMC rules and regulations. Applications under this program will be accepted until January 31, 1999.
- **Municipal Enforcement of Beach Vehicle Regulations (RIGL 31-8-1)**
In an effort to strengthen the enforceability of the Council's beach vehicle regulations, the General Assembly passed legislation allowing municipalities to assess and collect fines against anyone operating a vehicle that is required to be registered with the CRMC. In the past, municipal police had had little incentive to enforce beach vehicle regulations since fines were paid to the state, rather than the municipality.
- **Enabling Legislation for Harbor Management in Westerly and Warren (RIGL 46-4-6.16 and 46-4-6.17, respectively))**
Under these separate acts, both Westerly and Warren are authorized to regulate harbor activities, including the management of moorings and the operation vessels within the confines of each town. Westerly was further authorized to appoint a harbor master to implement and enforce harbor management regulations.
- **Management of Public Trust Resources (46-23)**
In response to two recent court cases involving the state, which questioned the public interest in previously filled land, the General Assembly amended the CRMC's enabling legislation. The amendments clarify that lands filled under a CRMC permit remain subject to the public trust, and that no title is conveyed by such permits. Further, the amendments state that there is no guarantee of permit renewal and that the permits are valid only with the conditions and stipulations with which they are granted.



6. Dispose of material from the Fuller Rock-Sabin Point Reaches south to the Rumstick Neck Reach at Site 3. This material is classified as suitable for open water disposal without management. Proceed with dredging and disposal southward.

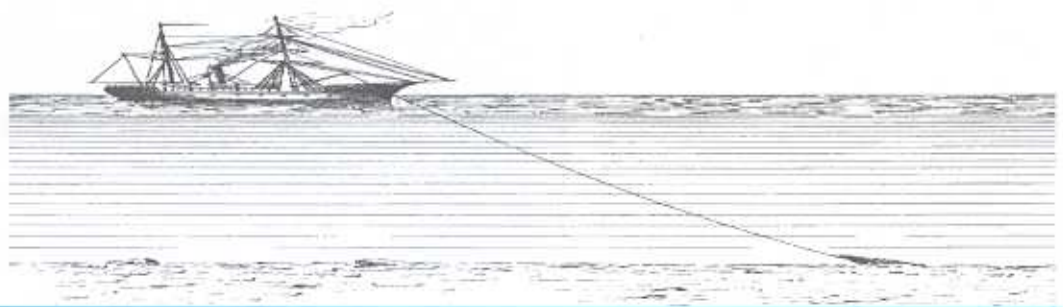
A series of public workshops have been scheduled to discuss the DEIS and solicit comments. Additional workshops may be scheduled based on input. The 60-day public comment period ends on November 19 after which all public comments received will be reviewed and considered. The Corps will then make a final determination of the preferred alternative for the dredging project. If the Corps determines that no significant objections to the preferred alternative are expressed, then the final EIS can be expected in the Spring of 1999. Should substantive objections to the proposed preferred alternative be made based on scientific information that had either not been included or not been adequately weighted, the preferred alternative could be reconsidered. The dredging project then would be delayed until a thorough review of alternatives in light of the new information could be made.

Copies of the DEIS are available by request at the following address:

Mr. Edward O'Donnell
New England District,
Army Corps of Engineers
696 Virginia Rd.
Concord, MA 01742-2751
The DEIS can also be downloaded as a text file from the New England District's homepage at www.nae.usace.mil/publicac/publicac.htm

Type of Alternative	Primary Advantages	Primary Disadvantages
NO ACTION		
Dredging no Implemented	Results in no impact to disposal site and dredging site resources over existing conditions and may eventually result in restoration of some of the former characteristics of the upper estuary	Would result in the eventual elimination of commercial navigation from the harbor and channel and severe economic impacts
CONFINED AQUATIC DISPOSAL (CAD) CELLS		
Disposal in CAD cells in the ship channel	Results in isolation of contaminated sediments in the vicinity of dredging and their present location and over a relatively small surface area	Requires dredging and disposal of additional volume prolonging the duration of dredging, and is relatively expensive. May not be affordable for smaller marina facilities
OPEN WATER SITES		
Disposal at open in water sites Narragansett Bay or Rhode Island Sound	Does not result in a long term change in habitat type, impacts are of short duration, and cost is lowest amount alternatives. Contaminated sediments can be capped and isolated from the environment.	Results in short term (up to three years) impacts to water quality, sea bed habitats, and fishing industry. The cap must be suitable to allow all existing uses in a heavily used area to continue.
UPLAND SITES		
Upland disposal (i.e., disposal on existing land)	Avoids disposal in the aquatic environment and associated impacts	Is very expensive, requires multiple handling of dredged material with associated water quality impacts, results in land use, air quality and traffic impacts
Upland landfill disposal	Avoids disposal in the aquatic environment and associated impacts	Is very expensive, requires multiple handling of dredged material with associated water quality impacts, results in air quality and traffic impacts and loss of landfill space.
BENEFICIAL USE SITES		
Salt marsh construction	May result in a net increase in the value of aquatic habitats and enhance the value of surrounding habitats	Results in a permanent change in the type of aquatic habitat and is relatively expensive. Capacity is low relative to the total quantity
Park construction	May provide important shoreline recreational facilities.	Results in the permanent conversion of aquatic habitat to upland and is relatively expensive. Would not be usable until the material properly dewatered.
Island construction	May provide important water bird habitat and may minimize the surface area affected by disposal.	Results in the permanent conversion of aquatic habitat to upland island habitat, is difficult to construct and relatively expensive. Impacts to existing waterbird use may occur while the material dewatered

Source: Army Corps of Engineers DEIS

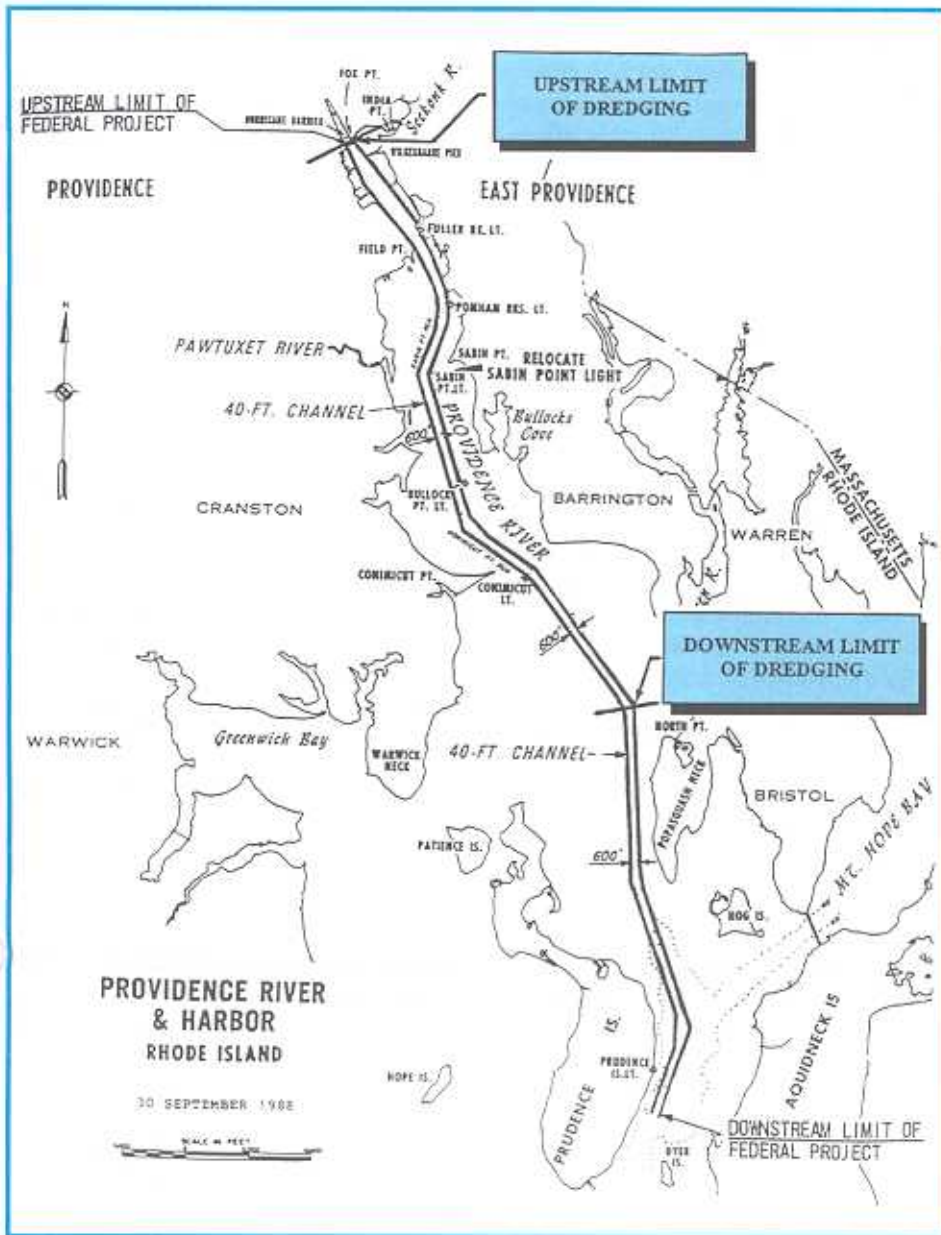


Rhode Island Rivers Council Reminder

The Rhode Island Rivers Council is currently soliciting applications for official designation as a Watershed Council (also called local watershed associations) to interested parties. The Rivers Council will recognize one local watershed council for each of the 18 Rhode Island watersheds described in the Rivers Policy and Classification Plan, adopted as RI State Guide Plan Element 162.

To be eligible for recognition, a watershed council must take responsibility for and represent the entire watershed area. The watershed council must include in its membership at least one representative from each municipality within the watershed area. Applicants should be able to demonstrate participation and support from grassroots, business and governmental interests in the watershed. Public education as well as involvement in municipal decision making should be important activities of each watershed council's mission.

Applications for designation are due by November 10th and may be obtained by contacting Victor Parmentier at 222-6478.



Volunteers Assist in Dragonfly Survey

Over the past summer, Charles Brown, CRMC Environmental Scientist, has been involved in a statewide effort to identify and inventory dragonflies and damselflies found in Rhode Island. Under the direction of Virginia Carpenter, Director of Science and Stewardship for the Rhode Island field office of the Nature Conservancy, and with the assistance of volunteers throughout the state, this five-year study will, for the first time, survey and document the various species of dragonflies and damselflies found in the state. Ms. Carpenter completed a similar inventory for Cape Cod during the 1980s. Upon completion, an atlas of the species found will be published.

Dragonflies and damselflies spend the juvenile stage of life in an aquatic environment and therefore can be considered an indicator of water quality. In addition, they consume large amounts of insects, including mosquitos, on a daily basis. Dragonflies and damselflies can also occur in a variety of colors and sizes.

As part of his efforts, Charlie was the first to document the presence of two varieties of dragonflies in Rhode Island this summer; the Unicorn Clubtail and Needham's Skimmer. These, along with the other specimens collected, will become part of a permanent collection maintained by the Nature Conservancy and will be listed in the atlas of dragonflies and damselflies of Rhode Island.

For more information on this project, contact Virginia Carpenter at the Nature Conservancy, telephone 331-7110.



Revisions to Special Area Management Plans Complete

After an extensive, three-year effort, the Council's Planning and Procedures subcommittee recently approved for public review the revised Special Area Management Plans (SAMPs) for the Salt Ponds and Narrow River watersheds. The Salt Ponds SAMP region falls within the Towns of Westerly, Charlestown, Narragansett and South Kingstown. The Narrow River SAMP region falls within the Towns of South Kingstown, North Kingstown and Narragansett. The original Salt Pond SAMP was adopted in 1984 and the Narrow River SAMP in 1986. Since then, numerous amendments had been made to each plan and significant changes have taken place within each of these regions.

The SAMPs rely on the review process mandated under the Land Development and Subdivision Review Enabling Act so that initial municipal and state concerns are known early in the planning process. Further, the SAMPs are designed to work in conjunction with local zoning regulations to ensure implementation for development outside the scope of CRMC's jurisdiction. Under the Coastal Resources Management Program, any development activity within 200 feet of a coastal feature is subject to Council review. Additionally, within the SAMP boundaries the CRMC reviews: subdivisions of six or more units; any structure serviced by an ISDS serving 2,000 gallons or more a day; any activity which results in the creation of 40,000 sq.ft. or more of impervious surface; construction or extension of municipal sewer lines or treatment facilities; and the construction or extension of water distribution systems and/or supply lines.

In undertaking the revisions to each of these SAMPs, the Council sought to evaluate their effectiveness in protecting coastal resources in these critical areas, and account for land use changes and trends since their adoption. Based on new information provided by the Coastal Resources Center at URI, Rhode Island Sea Grant, URI Department of Geology, the Rhode Island Historic Preservation Commission and the RIDEM, Division of Fish and Wildlife, the revisions

incorporate new research on cumulative impacts and nutrient loading, new geologic processes data, recent changes in state land use laws, and updated mapping technologies.

The SAMPs continue to rely on a land use classification system for managing development activities in critical areas. Under this scheme, lands are designated as one of the following:

- **Self-Sustaining Lands** - Generally, these are lands that are undeveloped or developed at a density not exceeding 1 residential unit per 2 acres. Due to the geographic location of these lands and past management efforts, minimal impacts to watershed are expected if development safeguards remain in place.
- **Lands of Critical Concern** - Similar to Self-Sustaining Lands, these areas are generally developed at densities no greater than 1 residential unit per 2 acres. In addition, however, these areas are characterized by natural features or development constraints (such as poor soils or the presence of wetlands), or are located in close proximity to the Narrow River or coastal ponds, such that inappropriate development poses a threat to the regions' water quality and natural resources
- **Lands Developed Beyond Carrying Capacity** - These lands are developed or zoned at densities greater than 1 residential unit per 2 acres and are often developed at densities of 1 residential unit per 1/2 to 1/8 acre. These areas present a major source of nutrient and bacterial contamination to ground and surface waters and contain a high number of sub-standard septic systems.

Modifications to the existing land use classification boundaries have been proposed in the revised SAMPs based on new hydrological data and modeling. The existing SAMPs rely primarily on roadways to delimit watershed boundaries since, at the time of their development, more sophisticated map-

ping tools were not available. As a result of new information incorporated into the revised SAMPs, a net loss of 799 acres in the Narrow River and 1,670 acres in the salt ponds watersheds is proposed.

The proposed revisions also recommend that the maximum density of development in Lands of Critical Concern be decreased from 1 residential unit per 2 acres to 1 residential unit per 3 acres. This is proposed to address the need to limit nitrate-nitrogen concentrations in groundwater in order to protect public drinking water supplies and the water quality of the salt ponds and Narrow River.

Recognizing the growing impact of nitrogen on these sensitive watersheds, town officials and the Council worked closely to develop a reasonable approach to manage nitrogen inputs. As a result, requirements for the use of nitrogen-reducing technologies for individual sewage disposal systems (ISDS) have been proposed in the following cases:

- Lands of Critical Concern where town zoning allows for a 2-acre density;
- all new development and redevelopment in Lands Developed Beyond Carrying Capacity;
- all new development and redevelopment on lots in Self-Sustaining Lands that do not meet the current density limits.

Additionally, the revisions include a requirement that all components of an ISDS be setback a minimum of 200 feet from coastal features, tributaries or tributary wetlands.



The format of the SAMPs has also been revised to make them more "user friendly". All of the regulations are now in a single chapter and the Findings of Fact are in individual chapters on Water Quality, Geologic Processes, Living Resources and Critical Habitats, Storm Hazards, Cultural and Historic Resources, Cumulative and Secondary Impacts, and Land Preservation and Acquisition.

Throughout the process of revising the SAMPs, CRMC staff have met with numerous groups and have held several public workshops. By soliciting input throughout the process, the Council is confident that the revised SAMPs will be an important tool for managing land use and protecting water quality in these critical coastal areas.

A forty-five day public review process will take place this fall after final editing is complete. Copies of each SAMP will be available at the town halls and libraries of the communities included in the SAMP. Copies are also available for review at the Council's Wakefield office. Following the public review period, and provided there are no significant objections to the SAMPs, the full Council will consider adopting the revised SAMPs at a regularly scheduled bi-monthly meeting.

Council Adopts New Policies for the Protection of Submerged Aquatic Vegetation

Effective September 7, 1998, the Council adopted a new section to the Rhode Island Coastal Resources Management Program (RICRMP) to protect submerged aquatic vegetation (SAV) in the state's waters. SAV refers to rooted, vascular, flowering plants that, except for some flowering structures, live and grow beneath the water line. SAV occurs in all the coastal states of the US with the exception of Georgia and South Carolina where freshwater inflow, high turbidity and tidal amplitude combine

to inhibit their occurrence (Atlantic States Marine Fisheries Commission, 1997) In Rhode Island waters the most common type of SAV is eelgrass (*Zostera marina*). Widgeon grass (*Ruppia maritima*) is also a SAV species of concern.

SAV communities perform a broad range of important functions and are among the most productive ecosystems in the world. They provide food for waterfowl and critical habitat for many important shell fish and fin fish species including winter flounder, lobster and striped bass. SAV beds can also aid in baffling wave energy and slowing water currents, consequently reducing erosion and the amount of suspended sediments in the coastal environment. SAV cycle nutrients, taking them out of the water column and removing them as a food source for microalgae.

Eelgrass roots and rhizomes can occur in bottoms that range from soft mud to coarse sand and are tolerant of wave and tidal action as well as shifting sediment. Eelgrass can occur as a single plant or as part of a meadow of many acres. There are both annual and perennial forms of eelgrass.

Historically, SAV existed in Narragansett Bay in shallow water embayments and areas that were poorly flushed by tidal currents. Eelgrass beds were once widespread in the Bay and, in the 1860s, extensive eelgrass beds were present even in the Providence River. In the 1930s, 90% of eelgrass beds in the Atlantic range were wiped out by "wasting disease", but healthy populations were generally re-established by the 1960s.

Today, eelgrass beds cover fewer than 100 of the 96,000 acres that comprise Narragansett Bay. Scientific evidence suggests that the most important factor contributing to the continuing decline of eelgrass has been the introduction of increasing amounts of nitrogen. Like all plant life, SAV requires nutrients. However, excessive levels of nutrients in coastal waters, particularly nitrate-nitrogen, has had

serious impacts on SAV communities. Excessive nutrients stimulate the growth of marine algae which collect on the leaves and in the water column. High amounts of algae limit the ability of light to reach SAV and therefore interfere with the plants' capacity for photosynthesis. Excessive levels of sediments within the water column can also prevent adequate levels of light from reaching the plants.

Many activities under the Council's jurisdiction have the potential to directly or indirectly impact SAV. Some examples of such potential impacts include the shading of eelgrass beds associated with residential docks, actual physical destruction of SAV habitat due to dredge and fill activities, and loss of adequate levels of sunlight due to sedimentation associated with construction activities. Recognizing the need to address these impacts, and consistent with other regional and national efforts to protect SAV, the Council has adopted policies to protect and where possible, restore Rhode Island's SAV resources. In addition, the Council is proposing new requirements for nitrogen-reducing septic system technologies for use in the Salt Ponds and Narrow River watersheds where excessive levels of nitrogen have been associated with eelgrass declines. (see related story on opposite page)

To assist the Council in its efforts to protect SAV resources, an advisory committee, comprised of representatives from state and federal agencies as well as interest groups has been established. The purpose of the advisory committee is to make recommendations to the Council's Planning and Procedures subcommittee on a variety of issues related to the protection and management of SAV resources. Issues to be considered by the committee include requirements for applicants with respect to conducting SAV inventories, mitigation strategies, and restoration activities.

Progress in the Council's efforts to protect and restore SAV will be reported on in future issues of Coastal Features.

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