

The Coastal and Estuary Habitat Restoration Program and Trust Fund

R.I.G.L.CHAPTER 46-23.1

**Projects Approved for Funding
FY2003**



TO: RI HABITAT RESTORATION TEAM

FROM: MEGAN HIGGINS

Re: **Update of Projects Approved for Funding under Trust Fund**

The Coastal and Estuary Habitat Restoration Program and Trust Fund, legislation allocating \$250,000 from the Oil Spill Prevention, Administration and Response Fund (OSPAR), established within the Coastal Resources Management Council a Rhode Island coastal and estuarine habitat restoration trust fund. Pursuant to the legislation, the “trust shall be available for disbursement *by the council* in accordance with the restrictions and purposes of this chapter and subject to an annual appropriation by the legislature.” (RIGL §46-23.1-3, emphasis added).

On November 26, 2002, the Coastal Resources Management Council unanimously approved funding for eight coastal habitat restoration projects chosen by the Rhode Island Habitat Restoration Team, an advisory technical committee as mandated by the Coastal and Estuary Habitat Restoration Program and Trust Fund. The projects are a result of the efforts of the Rhode Island Habitat Restoration Team, a public/private partnership dedicated to creating a plan and finding funds to complete restoration projects around the state. The Restoration Team is managed collaboratively by the RI Coastal Resources Management Council, RIDEM Narragansett Bay Estuary Program and Save The Bay.

The Restoration Team drafted and adopted the State Estuary and Coastal Habitat Restoration Strategy, a program describing the state’s coastal and estuarine habitats, restoration goals, inventory of restoration projects, projected comprehensive budget and timeline to complete the goals, funding sources, an outreach element, and provisions for updating the plan and project inventory. The Team conducted meetings beginning on June 2, 2002 on a regular basis during FY03 to assess potential, as well as on-going, restoration projects throughout Rhode Island based on the adopted Strategy.

An open and competitive process solicited applications for restoration projects state-wide, ranging from salt marsh restoration to the construction of fish ladders in urban rivers. The applicants adhered to an application format developed by the Team where the applicant had to submit the following information to CRMC: a description of the project which included the type of restoration initiative to take place, the historical impact to the site, the natural resources benefited and impacted (target species), any physical, ecological, biological, cultural/historical, geological and survey data collected to date, a site map, any available aerial photography and photographs of the site, preliminary restoration drawings, maps and engineering plans, and proof of property owner

permission for the restoration activity to take place. On October 6, 2002, the Team reviewed applications submitted to CRMC and selected eight habitat restoration projects to receive funding for FY03 based on the factors to be considered for the purposes of granting monies for estuary and coastal habitat restoration activities as stated in the legislation.

The factors are:

- (1) consistency with the state estuary and coastal habitat restoration strategy, the Narragansett Bay comprehensive conservation and management plan, the state coastal nonpoint pollution control plan, the coastal resources management program, the department of environmental management regulations, and pertinent elements of the state guide plan;
- (2) the ability of the applicant to provide adequate personnel funding, and authority to carry out and properly maintain the estuary and coastal habitat restoration activity;
- (3) the proposed monitoring plan to ensure that short-term and long-term restoration goals are achieved;
- (4) the effectiveness of any nonpoint source pollution management efforts upstream and the likelihood of re-impairment;
- (5) whether the estuary and coastal habitat restoration activity can be shown to replace habitat losses that benefit fish and wildlife resources;
- (6) potential water quality improvements;
- (7) potential improvements to fish and wildlife habitats for species which are identified as rare or endangered by the Rhode Island Natural History Survey or the federal Endangered Species Act;
- (8) the level and extent of collaboration by partners (e.g., municipality, nongovernmental organization, watershed council, federal agency, etc.); and
- (9) potential direct economic benefit to a community or the state.

The Restoration Team has assessed potential, as well as on-going, restoration projects throughout Rhode Island. By the end of 2002, the Restoration Team compiled a list of priority habitat restoration projects to receive funding for FY03 under the Coastal and Estuary Habitat Restoration and Trust Fund and subsequently presented the list to the CRMC, the overseer of the Trust Fund monies. The projects chosen by the team consisted of coastal wetlands restoration projects, the creation of anadromous fish runs, and restoration of eelgrass beds.

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The Projects

A. Explore The Bay, Fields Point, Providence (\$24,323.45)

Partners: Save The Bay and Natural Resources Conservation Service.



Photo of Fields Point (post-restoration)

Photo credit: Save The Bay

Throughout the summer of 2004, Save The Bay, along with numerous volunteers, restored filled coastal marsh and intertidal habitats and a coastal buffer at Fields Point in Providence, Rhode Island. Save The Bay is currently in the process of constructing a Bay Education Center at Fields Point, located on the Providence River in Narragansett Bay, the Bay's most urbanized waterfront. The proposed restoration is part of the effort to restore a six-acre coastal urban brownfield that will demonstrate environmentally responsible design, brownfield redevelopment ethics, and ecological restoration. (See: www.savebay.org for more information).

Historically, Fields Point was once an island with salt marsh, intertidal sand and mud flats, adjacent subtidal areas, and barrier beach with public access to Narragansett Bay. In the 1950's, the city of Providence filled Fields Point with construction and demolition debris, thereby eliminating the island and its associated coastal wetland habitats. Today, the derelict land is characterized by extremely steep and unstabilized slopes with construction debris that juts out into Narragansett Bay.

Restoring the coastal salt marsh habitat at Fields Point, specifically intertidal low and high salt marsh, provides a wide range positive ecological changes to plant and animal communities and increase stewardship of this important estuarine habitat. It is anticipated that restoring the coastal habitats at Fields Point will result in increased utilization by salt marsh associated faunal assemblages (nekton, avian species, shellfish, and estuarine invertebrates, etc.). Atlantic Menhaden, Bay anchovy, tautog, Atlantic Silverside, winter flounder and other commercial and recreationally valuable finfish species, known to occur adjacent to Fields Point may benefit by the restoration of this site. (These finfish were located at this site in the U.S. Army Corps of Engineers Providence River Dredging FEIS survey data).

The restoration has focused on the existing marsh point and the eastern shoreline of Fields Point. Approximately one acre of salt marsh habitat has been created. Methods of restoration included removal of debris, regrading, spreading of suitable planting medium for salt marsh plants, planting, establishment of protection for newly planted areas, and maintenance of the newly planted area. Community participation in the project was supplied by volunteers who assisted in the salt marsh and coastal buffer planting.

The coastal upland restoration included planting the slope and top of the bluff with a combination of warm season grasses and native shrubs to act as a buffer demonstration site for coastal property owners and for future Brownfield redevelopment projects on the Providence and Seekonk Rivers. The estimated size of the coastal buffer planting is 1.5 acres.

B. Narragansett Bay Seagrass Restoration, Narragansett Bay (\$29,096.45)

Partners: Rhode Island Department of Environmental Management's (RIDEM) Narragansett Bay Estuary Program; National Marine Fisheries Service; URI's Graduate School of Oceanography; and Save the Bay



Photo of eelgrass transplant using TERF™ method
Photo credit: Save The Bay

Rhode Island's primary seagrass is *Zostera marina* or eelgrass. Eelgrass produces organic material that becomes part of the food cycle, provides a settling substrate for scallops, helps cycle nutrients, prevents shoaling and erosion by binding sediments, and provides nursery habitat for many finfish and shellfish. There are approximately 100 acres of eelgrass remaining in Narragansett Bay (NBEP 1999). Historical accounts indicate that eelgrass once covered many acres in the upper bay where today only a few remain. The coastal ponds of the state are seeing similar losses of seagrass beds; Ninigret Pond on the south shore of the state has lost an estimated 41% of its seagrass since 1960.

The major causes of eelgrass loss in Rhode Island include nutrient loading from development and sewage outfalls, physical damage from dredging and boating activities, disease, and shading from fixed piers and docks. The most serious threat to Rhode

Island's eelgrass is increased nutrient levels (usually nitrogen) from polluted runoff, septic systems, and sewage treatment plants. The resulting enrichment leads to excessive blooms of algae -- both microscopic plankton and large nuisance drift algae such as sea lettuce (*Ulva lactuca*) -- which limit the available light required by eelgrass to grow.

Eelgrass is also being directly transplanted into areas of the harbor using volunteer divers and eelgrass grown in aquaria from local schools. Previous efforts to transplant eelgrass have been undertaken by Rhode Island Department of Environmental Management's (RIDEM) Narragansett Bay Estuary Program, National Marine Fisheries Service, and URI's Graduate School of Oceanography. Save The Bay is incorporating the knowledge gained from these efforts to transplant eelgrass to other areas of the bay, such as Wickford Harbor. (See: www.savebay.org or www.gso.uri.edu/eelgrass/Index.htm or www.edc.uri.edu/restoration or www.nbep.org for more information on eelgrass restoration initiatives)

C. Stillhouse Cove, Cranston (\$7,323.45)

Partners: Rhode Island Department of Environmental Management's (RIDEM); Environmental Protection Agency; Save The Bay; DEM Mosquito Abatement Coordination Program; Friends of Stillhouse Cove, Natural Resources Conservation Service; Northern RI Conservation District; and the City of Cranston.

The Stillhouse Cove revitalization project, located in Cranston, includes wetland restoration and storm-drain improvements. Stormwater run-off into the salt marsh has created a sediment plume in the marsh, allowing phragmites to grow uncontrollably. Two units will be constructed to remove sediment from the marsh in order to eradicate or stop the spread of phragmites. Buffer restoration will also take place as a component of the habitat restoration project.

D. Palmer River, Warren (\$14,323.45)

Partners: Save The Bay; Warren Land Trust; Natural Resources Conservation Service; RI Department of Environmental Management/Aqua Fund; and Narragansett Bay Estuary Program.

The Palmer Avenue restoration project is taking place on the eastern shore of the Palmer River, north of Belcher Cove. The Warren Land Trust, owners of the property, has received funding under WHIP (Wildlife Habitat Incentives Program) and the Aqua Fund (administered by RIDEM) to remove fill material from the site. Marsh filling occurred on the project site, originally from an adjacent site. The project will remove the fill and plant a buffer of native upper marsh vegetation. Subsequent studies conducted on-site revealed more historic fill; therefore, additional funding is necessary to complete the project.

E. Big Mussachuck Creek, Barrington (\$9,323.45)

Partners: Save The Bay; Natural Resources Conservation Service; and Rhode Island Country Club.

The habitat restoration project at Big Mussachuck Creek, located in Barrington, will restore salt marsh and create an anadromous fish-run. Tidal flow will be restored at Big Mussachuck Creek by installing a self-regulating tidegate at the Washington Road culvert (or tidal restriction). The project will also facilitate fish passage to Echo Lake and Brickyard Pond. (See: www.savebay.org for more information)

F. Napatree Dunes Restoration, Westerly (\$6,323.45)

Partners: NOAA Restoration Center; US Fish and Wildlife; and Watch Hill Fire District



Napatree Point Conservation Area (post-restoration)
Photo credits: NOAA Restoration Center and CRMC

Napatree Point Conservation Area, located at the southwestern tip of Rhode Island, is owned and managed by the Watch Hill Fire District. This long barrier beach separates Little Narragansett Bay from the ocean and contains one of Rhode Island's few, and most valuable, natural dune systems. Its sandy spit is one of the most important migratory bird stopover points on the East Coast and is also nesting habitat for the federally endangered piping plover (*Charadrius melodus*) and state threatened least tern (*Sterna antillarum*).

Napatree Point is heavily used by walkers, fishermen, and beachgoers alike. Foot traffic across the dunes has created many sandy paths, damaging native dune grass (typically beachgrass, *Ammophila breviligulata*, and seaside goldenrod, *Solidago sempervirens*) and slowly fragmenting and eroding the dunes. In addition to erosion, the pathways facilitate human disturbance to both nesting and migratory species as walkers access their habitat by these pathways. Plovers and terns are especially vulnerable to human disturbance during the nesting season, and the United States Fish and Wildlife

Service (USFWS) must expend additional staff time and resources to rope off these paths in an attempt to reduce disturbance.

A community-based restoration project is necessary to restore vegetation to the paths, slow erosion, reduce human disturbance to nesting and migratory birds, and help promote the environmentally-sound stewardship of this fragile dune system. Snow fencing will be needed to reduce the number of cross-dune pathways to walkers. The pathways would then be planted with native dune plants by community volunteers and allowed to revegetate.

G. Narragansett Bay Journal Habitat Restoration Issue, statewide (\$6,323.45)

Partners: New England Interstate Water Pollution Control Commission; and RIDEM's Narragansett Bay Estuary Program.



Issue #6 of the NBJ

Courtesy of the NBJ

(See: www.nbep.org for more information on this issue)

Funding was provided for the mailing and production costs for the fall 2003 issue of the Narragansett Bay Journal. Issue #6 of the Narragansett Bay Journal, entitled “Restoring the Bay,” was dedicated primarily to habitat restoration projects which have received funding from the Trust Fund. The statewide distribution will enable citizens of Rhode Island to be informed about habitat restoration projects within their watershed and beyond. The Narragansett Bay Journal was chosen as the sole source to produce the issue because of such factors as its current mailing list of 8,000 recipients, the 7,500 bundles of newspapers found at various state, federal and non-profit agencies, and the 115,000 inserts into local newspapers around the state.

H. The Lonsdale Drive-In Environmental Restoration Project, Lincoln (\$152,962.85)

Partners: Rhode Island Department of Environmental Management; United States Army Corps of Engineers, New England District; United States Fish and Wildlife Service; and United States Environmental Protection Agency



Site of Lonsdale Drive-In (pre-restoration)
Photo credit: CRMC



Post-restoration
Photo credit: CRMC



Lonsdale (post-restoration)
Photo credit: USACOE

The Lonsdale Drive-In is located along the Blackstone River in Lincoln, RI and is owned by the Department of Environmental Management. The site is within the Blackstone River National Heritage Corridor and the Blackstone River Watershed, and is also upstream from the Valley Falls Marshes, one of the most highly valued freshwater wetlands in Rhode Island. It is intended that the Blackstone Bikeway to be constructed in the Spring 2003 will run along the outer perimeter of the drive-in property

The Lonsdale Drive-In site is a broad floodplain terrace that was developed as a drive-in theater in the early 1950's. Before construction of the theater, the site was used as a pasture and farmland for many years. Approximately 20.4 acres of the 36.8-acre site were paved to construct the drive-in. The theater was closed in the early 1980s and the site has been abandoned and unused since that time. The State of Rhode Island

purchased the site in 1998 with the intention of restoring wetland and riparian habitat in conjunction with the US Army Corps of Engineers (USACOE).

Vestiges of the old drive-in, including two dilapidated movie screens, a 75-foot radio tower, and several small structures remain on the site. Significant testing indicated no hazardous materials or hazardous wastes exist on the site. Although the pavement has deteriorated somewhat over the years, most of the site remains very sparsely vegetated and provides little wildlife habitat value.

A restoration plan was developed by an interdisciplinary team, including engineers, biologists, hydrologists, ecologists, and economists. The team included representatives from the USACOE New England District, RIDEM Division of Planning and Development, RI Natural Heritage Program, the US Fish and Wildlife Service, the University of Rhode Island, and the National Marine Fisheries Service.

The restoration plan consists of construction of a 7-acre wetland and restoration of 13.4 acres of upland riparian habitat. Constructed wetlands would include 3.6 acres of emergent and open water habitat and 3.4 acres of scrub/shrub and forested wetlands. The plan includes establishment of a continuous wooded riparian buffer along the Blackstone River.

RIDEM will monitor wildlife use of the site after construction before determining how to manage upland vegetation. Uplands will be either maintained as grassland or allowed to develop into forest through natural succession. The USACOE will monitor development of wetland vegetation as well as areas with the potential for erosion during a 3-year initial establishment phase. No long-term maintenance of constructed wetlands is expected to be required.