

**Projects Funded Under the  
Coastal and Estuary Habitat Restoration Program  
and Trust Fund For FY2005**



**Contact:  
Megan Higgins, Coastal Policy Analyst  
RI Coastal Resources Management Council  
(401) 783-3370  
[mhiggins@crmc.state.ri.us](mailto:mhiggins@crmc.state.ri.us)**

**Coastal and Estuarine Habitat Restoration Program and Trust Fund**

In 1996, following the North Cape oil spill, Lt. Governor Charles Fogarty introduced legislation establishing the Oil Spill Prevention Administration and Response Act (OSPAR). As part of this law, an oil spill response fund was created through a five-cent fee on each barrel of petroleum products shipped into the state, along with any civil and criminal fines assessed. Under the law, the fund cannot exceed \$10 million.

Legislation was passed in July of 2003 that created a Coastal and Estuarine Habitat Restoration Program and Trust Fund restricted solely to fund habitat restoration projects by amending OSPAR. Under the change, the trust fund received a legislative appropriation in FY2004 of \$250,000 from those monies generated through the five-cent tax under OSPAR. The trust fund was created to also accept private donations and federal matching grants.

This legislation tasked the Coastal Resources Management Council with the creation of a Coastal and Estuarine Habitat Restoration Program. That program was then developed through the legislatively-identified Habitat Restoration Team, tri-chaired by the CRMC, the Department of Environmental Management, and Save the Bay, and consisting of various state, federal and non-profit programs who have restoration objectives as a part of their mission. The CRMC-adopted Coastal and Estuarine Habitat Restoration Program created the process for the eligibility, approval, and disbursement of funds from the Trust Fund. It incorporates the following elements: a description of 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 initial \$250,000 was then made available through a competitive grant application process for projects aimed at improving coastal habitats. These projects ultimately received a vetting through the Habitat Restoration Team with final approval from the CRMC, and are either ongoing or completed restoration projects.

According to the Program, habitat restoration grant monies are dispersed in accordance with RIGL §46-23.1-5(2) which allocates funding for design, planning, construction or monitoring. Eligible applicants include cities and towns; any committee, board, or commission chartered by a city or town; nonprofit corporations; civic groups; educational institutions; and state agencies.

The Program, under the direction of the CRMC, was introduced in 2004 to the General Assembly for a budget request for program costs. Legislation that year was amended (and approved) to fund the Program in perpetuity in the amount of \$250,000 per year, beginning in FY2005.

Under the requirements of the Coastal and Estuarine Habitat Restoration Program, the following six projects were approved by the CRMC for funding for FY2005.

Please visit the CRMC's website for more information (<http://www.crmc.state.ri.us/>).

**Project Name: Walker Farm Salt Marsh Restoration**

**Project Location:** Walker Farm, Wampanoag Trail, Barrington, Rhode Island

**Project Budget: \$213,900**

**Amount received from Trust Fund: \$30,000**

**Property Ownership:** Town of Barrington

**Project Manager:** Wenley Ferguson, Restoration Coordinator, Save The Bay, 434 Smith Street, Providence, RI 02908, [wferguson@savebay.org](mailto:wferguson@savebay.org)

**Organization Responsible for the Project:** NRCS, Joe Bachand, 822-8818, Suite 46, 60 Quaker Lane, Warwick, RI 02886, [joseph.bachand@ri.usda.gov](mailto:joseph.bachand@ri.usda.gov)

**Project Partners:**

- Town of Barrington-landowner and technical assistance
- Natural Resources Conservation Service (NRCS)-technical and financial assistance for the construction of the restoration plan through the Wetlands Reserve Program
- National Oceanic Atmospheric Administration (NOAA)-technical and financial assistance for site assessment, pre-restoration monitoring and design, engineering and construction
- Ducks Unlimited (DU)-design engineering, construction oversight and construction funding
- ESS/Corporate Wetlands Restoration Program Partner- permit application development and submittal
- Save The Bay-project coordination, restoration monitoring and grant management for construction funds

**Funding Partners**

NRCS: Wetlands Reserve Program \$69,900

NOAA-Restore America Estuaries Partnership: \$15,000

NOAA-Ducks Unlimited Partnership: \$69,000

Ducks Unlimited (private funds): \$20,000

RI Department of Transportation mitigation funding: \$10,000

The funds requested from the Coastal Habitat Restoration Fund will be used for the construction of the restoration plan and will be matched by funds secured from NRCS, NOAA, Ducks Unlimited and RIDOT for construction.

**Project Narrative:**

The Walker Farm salt marsh is a 15-acre marsh that has been tidally restricted for the last 60 years. The tidal hydrology has been altered by a number of roads and dam structures that restrict tidal flow to the entire marsh. These structures include a flap-gated earthen dam built to allow agricultural use of the marsh. In the late 1960s, the Town of Barrington made this original dam permanent to establish waterfowl habitat. The dam created a brackish pond that flooded the former salt marsh and restricted saltwater flow into the marsh, allowing the expansion of *Phragmites australis*.

The goal of this restoration project is to restore the tidal hydrology of the Walker Farm salt marsh. The restoration will entail addressing the five tidal restrictions, two former dirt farm roads and three culverts. Tidal exchange will be improved by removing restrictions to tidal flow, increasing culvert sizes, and removing fill placed upon the marsh surface. Restoring tidal hydrology will facilitate the return of a diverse salt marsh plant community, increase nekton production and diversity, and benefit coastal bird diversity and abundance.

Walker Farm salt marsh is located along the Wampanoag Trail in Barrington, Rhode Island. The salt marsh is approximately 15 acres and the open water area, former salt marsh, is approximately 8 acres. Walker Farm salt marsh is part of the Hundred Acre Cove estuary, identified in the United States Fish and Wildlife Service (USFWS) North American Waterfowl Management Plan.

Historically, Walker Farm was used for grazing livestock and both salt and fresh water meadows within the cove were used as sources of food for cattle and horses. Local historic accounts mention the use of salt marshes for grazing in Hundred Acre Cove from as early as 1652. Dams were built in the early 1900s to block tidal flows and to facilitate the use of pastures. Dirt roads were built across the marsh to allow access to the farm. The marsh and adjacent lands across Route 114 were active pig farms until the town bought the land in 1968.

Mosquito ditches were dug throughout the northern portion of the marsh sometime in the mid 1900s. These ditches are currently submerged in the enclosed pond area.

Today, the majority of the Walker Farm salt marsh is contained within the Osamequin Nature Sanctuary, owned by the Town of Barrington. The remaining section of the marsh is adjacent to the Town of Barrington's leaf composting area and community gardens. Prior to this use, the land was a wooded overgrown field. The southern tidal restriction is privately owned by an abutting landowner, Irene and Bernard Wilson.

The *Phragmites australis* invasion of the salt marsh was first addressed in 1980 through the Osamequin Management Plan that suggested controlling its growth. In the mid 1990s, the Barrington Conservation Commission and community members actively supported adopting a restoration plan for Walker Farm to address the loss of the salt marsh habitat.

The hydrology of the Walker's Farm salt marsh has been altered by a number of roads and dam structures that restrict the amount of salt water entering the marsh. Restricted tidal flow, decreasing salinity, and impoundment of water are believed to have resulted in approximately 7

acres of the common reed, *Phragmites australis*, throughout the wetland. The tidal restrictions (from north to south) include an earthen dam, two dirt farm roads, the access road to the composting facility and a permanent breakwall with 3 culverts and defunct flapgates along the southern most portion of the marsh. At the northern end of the marsh, the earthen dam has a culvert and riser water control structure that was built in the early 1900s to allow agricultural use of the marsh. Between 1965 and 1970, the Town of Barrington made the original dam permanent to establish waterfowl habitat. This dam created a brackish pond that only received tidal flow during extreme high tides and storms. This dam restricts salt-water flow and impounds the freshwater within the pond. The impounded water has also resulted in subsidence of the marsh surface. The two farm roads have not been used for a number of years but still restrict tidal flushing to the interior of the marsh. The entrance road off the Wampanoag Trail also contains a small culvert, allowing minimal tidal flow into the interior marsh northwest of the entrance road. The breakwall culverts allow tidal flow into a small portion of the marsh, north of the dam and south of the access road off of the Wampanoag Trail (Route 114).

These tidal restrictions have altered the topographic and hydrologic conditions of the marsh. Due to the impoundment of freshwater in the northern section of the marsh, the historic high marsh vegetation was lost due to flooding and the marsh surface has subsided due to the prolonged flooding. Due to the reduction of tidal flow, *Phragmites australis* has become established in the marsh and has out-competed characteristic salt marsh grasses and other plants resulting in less diversity of plant and animal life in the marsh.

### **Restoration Planning**

In 1996, Walker Farm was identified as a potential salt marsh restoration site through Save The Bay's evaluation of the ecological integrity of Narragansett Bay salt marshes. Trained volunteers from Barrington assessed the major impacts to the Walker Farm Marsh. In 1999, Save The Bay worked with the Barrington Conservation Commission's Salt Marsh Working Group to secure town support for the restoration and to develop a restoration and funding plan.

Save The Bay involved USDA NRCS in the project in the winter of 2001. NRCS secured funding through the Wetland Reserve Program for the Walker Farm Marsh restoration construction. Also in 2001, NOAA began to fund Save The Bay to develop and implement a pre and post restoration monitoring plan, fund URI's sediment characterization and conduct project coordination. NOAA also funded Ducks Unlimited through a separate partnership to conduct the engineering and design of the restoration alternative. Save The Bay involved Ducks Unlimited in the summer of 2001 after site visits in previous years with local DU members. As part of fulfilling compensatory wetland mitigation requirements for filling coastal wetlands along Route 114, RIDOT has pledged approximately \$10,000 to be used toward the Walker Farm Marsh restoration project. In 2001, ESS became responsible for permit preparation as part of the RI Corporate Wetlands Restoration Partnership.

Save The Bay contracted Mark Stoltz from URI to assess the sediment dynamics relative to the salt marsh restoration efforts. Stoltz mapped the depth to stable substrate known as the bearing capacity inflection point to determine the loss of marsh substrate once tidal flow is fully restored. Based upon this analysis, Stoltz recommended modifying the tidal flow introduction to minimize the amount of slumping of the sediment. This report was shared with the project team and

permitting agencies and his recommendations were incorporated into the project design. In order to address Stoltz's concern about loss of marsh substrate, the northern structure has been designed with a water control structure to limit the initial tidal flow into the marsh. As the marsh revegetates, the water control structure can be modified to allow for greater tidal flow.

Ducks Unlimited completed the engineering and ESS prepared the permit application for the permitting agencies' review in December 2003. Based upon the permitting agencies' comments and additional comments from NOAA, NRCS and the Town of Barrington, DU has revised the plans. The revisions have been submitted to RI CRMC, RIDEM, and the ACOE for their final review. The permits to be received for this project include a CRMC Assent, an ACOE PGP Category 1 permit and a RIDEM Water Quality Certificate.

A letter confirming the involvement and commitment of the two landowners, the Town of Barrington and Irene and Bernard Wilson is included in the grant application.

### **Pre-restoration monitoring Results**

Save The Bay with consultation from the University of Rhode Island's Graduate School of Oceanography has developed a pre and post restoration monitoring plan for the restoration site. Save The Bay monitored soil salinity, groundwater elevation, vegetation, and bird usage of the marsh during the 2002 and 2003 growing season. Nekton monitoring was conducted in the summer of 2002. Pre-restoration monitoring data confirms that plant and animal communities are significantly impacted by tidal restrictions and road fill. Nekton use (fish and crustaceans) of the salt marsh are seriously suppressed by existing tidally restricted conditions. High water temperatures and reduction in the duration of tidal inundation of the marsh surface is currently limiting the use of this historic salt marsh by nekton species. Vegetation monitoring has shown that *Phragmites australis* is the dominant plant species and has replaced native salt marsh vegetation. Monitoring of avian use of the marsh and the open water is being conducted by volunteers from Barrington and East Providence (see monitoring plan).

**Restoration Benefit:** Restoring tidal flow to Walker Farm salt marsh will result in positive ecological changes to plant and animal communities. Based on similar restorations, it is anticipated that Walker Farm marsh restoration will result in decreased density, height, and vigor of *Phragmites australis*; allowing for the recolonization of characteristic high and low salt marsh plant assemblages. Restoration of the marsh community and reintroduction of tidal flow will result in increased utilization by salt marsh associated faunal assemblages (nekton, avian species, etc.).

The community will also benefit from the salt marsh restoration through the enhancement of the bird and fish habitat. The existing bird blind built by the community is surrounded by *Phragmites* preventing a view of the marsh and open water area. Increased use of the marsh by nekton will enhance visitation to the marsh by avian species, as well as increase local stocks of fish species which are food for recreationally and commercially important fish species. The site is publicly accessible from two access points, the Osamequin Farm nature trail (used by the community and school groups) and the boat ramp/composting facility. The Barrington Conservation Commission will be involved in the ongoing stewardship of the site after restoration implementation.

### **Restoration Design**

The restoration project includes modification of the three existing structures. The northern and southern structures will include water control structures to increase tidal flow. The structure under the access road will be increased in size to allow for more tidal flow into the marsh interior. The former farm roads will be removed from the marsh surface to improve tidal circulation within the salt marsh. The marsh spoils will be placed in the upland adjacent to the marsh and planted with a conservation mix.

The restoration will result in revegetation of the majority of the 8 acres of open water. Due to the subsidence that has occurred since the flag gate was installed, approximately 30 years ago, the majority of the northern marsh area will be low marsh vegetation. Restoration of tidal hydrology will also result in the replacement of the monotypic stands of *Phragmites australis* with native marsh vegetation.

A water control structure management plan will be developed during the first year of the project based on monitoring trials during spring low and high tides. The water control structures will be maintained by the Town of Barrington in consultation with NOAA, NRCS, DU and Save the Bay.

**Project Name: Kickemuit Reservoir Fish Ladder**

**Project Location:** Kickemuit Reservoir (Warren Reservoir), Child Street  
Warren, Rhode Island

**Project Budget: \$294,500.00**

**Amount received from Trust Fund: \$40,187**

**Restoration Project Manager:** Joseph Bachand, USDA NRCS, 60 Quaker Lane, Suite 46,  
Warwick, Rhode Island 02886

**Responsible Organization:** Bristol County Water Authority, 49 Bradford Street, Bristol,  
Rhode Island 02809-0569

**Other Contributing Organizations:**

- RI DEM NPS PROGRAM \$89,000.00  
(Eng/Permitting/Construction Oversight)
- USDA-NRCS (Financial and Technical Assistance) \$100,000.00
- Renew the Resources for the Bay \$10,000.00
- Power Generation and Electric \$35,000.00
- NOAA (Technical Assistance/Funding) Needed Balance
- RIDEM Coastal Fisheries (Management/Stocking/Monitoring)
- Town of Warren (Administrative Assistance)
- Kickemuit Watershed Council (Public Outreach/Advocacy)
- Save the Bay (Technical Support)
- USFWS (Technical Support)
- ESS Consultants/Corporate Wetland Restoration Program

**Project Narrative**

The Bristol County Water Authority (BCWA) in partnership with the Town of Warren, working with an array of project partners, including the Rhode Island Department of Environmental Management (RIDEM), the Natural Resources Conservation Service (NRCS), and the National Oceanic and Atmospheric Administration's (NOAA) Restoration Center, is seeking to restore river herring populations to the Kickemuit River. The river once supported an important anadromous fishery, including alewife (*Alosa pseudoharengus*) and blueback herring (*A. aestivalis*). These river herring spend most of their lives in the ocean and return to freshwater habitat to spawn. In Southern New England, adult river herring typically migrate in early April through June. Juvenile herring often remain in their natal habitat through the summer, migrating downriver to the ocean from July through November.



**The Dam at the Kickemuit Reservoir. The fish ladder will be installed on the left side of the dam as seen in the photograph**

The Kickemuit (Warren) Reservoir Dam, located at the head of tide, currently prevents the passage of migrating river herring and other fish species. The proposed project includes the installation of a Denil fish ladder and plunge pool to allow both upstream fish access to the reservoir during the spring adult migration, as well as out-migration by adults and juveniles in the summer and early fall. This fish ladder will allow river herring access to 26+ acres of spawning and nursery habitat in the Kickemuit Reservoir and is an excellent opportunity to restore a historic river herring run to Narragansett Bay.

### **Site Location and Description**

The Kickemuit River drains a 5-square mile watershed in Southeastern Massachusetts and Rhode Island, discharging into Mount Hope Bay. Three water supply dams impound the river along its length, creating the 26+ acre Kickemuit Reservoir and the 84-acre Swansea (Warren) Reservoir in Swansea, Massachusetts. Currently, fish passage is obstructed at all three dams.

The Kickemuit Reservoir Dam is the lowest dam in the watershed, located immediately north of Route 103 in Warren at the head of tide. This 4-foot high, earthen and rubble faced dam was built in the late 1800's and is owned and operated by the BCWA. The BCWA manages water withdrawals from the reservoir to supply local drinking water. Water flows from the reservoir over a concrete spillway with sheet metal weir before continuing through a box culvert under Route 103. Immediately downstream of the dam, the Kickemuit River is tidal and has been designated a Type 2 waterbody by the CRMC. The reservoir is surrounded primarily by cropland and other open spaces, with small patches of moderate to high-density residential development to the north and south. A water treatment facility, operated by the BCWA, is located on property immediately to the west of the dam. The Waterview Condominium Association owns the property immediately to the east of the dam. The proposed fish ladder will be located on the west side of the dam, on a BCWA access easement, abutting the Association's property.

### **Project Description and Need**

Historically, the Kickemuit River supported an important anadromous fishery, including alewife and blueback herring. Installation of the Kickemuit Reservoir Dam during the late 1800's effectively prevented passage of herring and other fish species to upstream waters. At one time, local fisherman used dipnets to transfer alewife from one side of the dam to the other. However, these efforts failed to sustain the alewife population, and the once significant numbers ultimately

disappeared from the river. The installation of a fish ladder at the Kickemuit Reservoir Dam is expected to restore an anadromous fish run on the river by allowing adult alewife access to 26+ acres of ideal spawning and nursery habitat within the Kickemuit Reservoir. It is possible that a herring run containing tens of thousands of fish annually may eventually be present in the river.

The proposed project calls for the installation of a Denil fish ladder on the western side of the concrete spillway and abutment, approximately 10-feet from the edge of the channel and within the embankment of the earthen dike. The fish ladder will be 35-feet long, with an additional 6-foot long entranceway and plunge pool below the dam in tidal waters. The fish ladder is designed to be operational from mid to high tide under most flow conditions. Three removable baffles will be used to control the water flow within the fishway. An operations plan will be developed and managed by RIDEM, using water level readings to determine when the baffles should be inserted and removed. During high water levels within the head pond, all of the baffles will be installed to minimize water flowing through the fishway and still maximize upstream migration by fish. As water levels drop, the baffles will be removed to ensure the fishway remains operational.

Upon completion of the fishway, the RIDEM Division of Fish and Wildlife will conduct four years of jump-start stocking, long-term maintenance of the fish ladder and monitoring of the fish run.

### **Planning, Design and Engineering**

A significant amount of planning has been completed by the project partners. NRCS has completed initial topographic surveys, US Fish and Wildlife Service has completed conceptual designs for the fish ladder, and NOAA has compiled most of the environmental information needed for obtaining the permits. It has been determined that the project will require a Coastal Resources Management Council Assent, a RIDEM Water Quality Certificate, and approval through the Rhode Island Programmatic General Permit process. There is some possibility that RIDEM Dam Safety will need to issue approval for the project.

Once a significant portion of the initial work was completed the partners decided to hire a private engineering firm to complete a structural stability analysis of the dam, the structural design for the fish ladder, project permitting, and construction oversight. Bristol County Water Authority issued a "Request for Proposals" for the project. The best qualified firm will be selected by January 1, 2005 and have 120 days to complete the project not including construction.

**Project Name: Town Pond (Boyd's Marsh) Salt Marsh Restoration Project**

**Project Location:** Portsmouth, Rhode Island

**Project Budget:** \$3,486,000

**Amount received from Trust Fund: \$80,088**

Federal share (WRDA 75%): \$2,614,500

Non-federal cash match required: \$688,500

- RIDEM: \$535,412
- Aquidneck Island Land Trust: \$50,000
- Ducks Unlimited: \$10,000
- Corporate Wetlands Restoration Partnership: \$13,000
- Non-federal in-kind credits: \$183,000

**Restoration Project Manager:** James D. McGinn, RIDEM, Division of Planning and Development, 235 Promenade St., Providence, RI 02908, 222-2776 x4313, [jmcginn@dem.state.ri.us](mailto:jmcginn@dem.state.ri.us)

**Responsible Organizations:** The project area is owned by the State of Rhode Island and managed by RIDEM

**Other Contributing Organizations:** RIDEM, Army Corps of Engineers, Narragansett Bay Estuary Program, Aquidneck Island Land Trust, Town of Portsmouth, Ducks Unlimited, R.I. Corporate Wetlands Partnership; Save The Bay, R.I. Coastal Resources Management Council

**Project Narrative:** Until 1950, Town Pond was a tidal salt pond and salt marsh system of about 40 acres. In the early 1950's, the U.S. Army Corps of Engineers (Corps) filled the wetland system while dredging the Mount Hope Bay shipping channel. Under Section 1135 of the Water Resources Development Act of 1986 the Corps, RIDEM, and project partners propose to remove approximately 100,000 cubic yards of existing dredge material, restoring tidal exchange and transforming a degraded brackish-water system back to high-value salt pond and salt marsh habitat. The project will also protect nearby freshwater resources, alleviate coastal erosion in the area of Bay Shore Road, and improve public access to the shoreline.

**Project name: Mapping Submerged Aquatic Vegetation In Narragansett Bay**

**Project location:** Narragansett Bay

**Project budget:** The proposed project would be supported by \$57,603 of in-kind funds, resulting in a total project cost of \$107,603. The Natural Resource Conservation Service (NRCS) Wildlife Initiative Program (WHIP) will match \$5,000 in federal funds toward the ground truthing effort to be conducted by Save The Bay. The NOAA Fisheries' Community-Based Restoration Program Partnership with Restore America's Estuaries will match an additional \$5,000 to complete funding for the field work. Ground truthing will involve the use of a large volunteer base including interns and volunteers divers, totaling \$29,375 in match funds. The Narragansett Bay Estuary Program will contribute match funds through salary and fringe costs at \$13,850 and overhead costs at \$4,378. See the attached budget for further details.

**Amount Received From Trust Fund: \$50,000**

**Project Manager:** Sue Tuxbury  
Save The Bay  
434 Smith Street  
Providence, RI 02908  
(401) 272-3540 (ext. 117)

**Project Summary:** Conduct the initial tasks to update the 1996 inventory of eelgrass beds in Narragansett Bay, Rhode Island. In Phase I of the mapping project, Save The Bay will work collaboratively with the Narragansett Bay Estuary Program (NBEP) to acquire and process new aerial imagery of Narragansett Bay, and conduct field work to validate information interpreted on the imagery.

The NBEP and its partners conducted a baseline inventory of eelgrass beds in Narragansett Bay using 1996 aerial photographs. This was an important first step in monitoring this critical marine resource. However, it is also important for Rhode Island to investigate any changes that may be occurring in these resources. This requires the updating of the 1996 maps with new data.

In this proposal we are requesting funds to repeat the eelgrass mapping that occurred in 1996. This will give coastal resource managers a current set of maps delineating eelgrass boundaries on which to base critical management decisions. It will also act as a report card yielding vital information on the overall health of Narragansett Bay.

The staff of the NBEP and Save The Bay will contract the services of an aerial survey company to collect new digital georectified aerial photography of the study area in May/June 2005. Save The Bay will also contract a coastal remote sensing consultant with expertise in eelgrass restoration to conduct a preliminary assessment of the imagery and direct the field data collection teams. Save The Bay staff and volunteers will collect field verification data. No permits are required for this project. Phase II of this project, which is outside the scope of work, will include the photointerpretation of the imagery, classification of eelgrass cover, development of

new geographic information system coverages, and the preparation of a final report outlining changes in distribution and abundance of eelgrass extent.

**Project Objectives:**

- Obtain a new set of true color aerial imagery of Narragansett Bay according to NOAA C-CAP protocol
- Analyze imagery for anomalies and develop a ground truthing strategies
- Collect reference points that can be used for image interpretation and classification.

**Project Benefits:**

- Provide valuable information to protect and restore threatened eelgrass habitat
- Monitor changes in coverage of a state and federal priority habitat
- Community outreach and education through volunteer participation
- Public outreach and stewardship through Save The Bay newsletter and web page, NBEP web page, and press releases
- Data will be made available to Rhode Island municipalities, federal and state environmental agencies, environmental organizations, and the public through RIGIS

**Project name: Factory Brook Fishway**

**Project location:** South Kingstown

**Property Ownership:** The property is privately owned by William and Jo-Ann Lallier

**Amount Received From Trust Fund: \$35,000**

**Project Manager:** John O'Brien  
Department of Environmental Management  
Division of Fish and Wildlife  
4808 Tower Hill Road  
Wakefield, RI 02879  
(401) 789-4757

**Project Budget:** \$120,500 total project costs

<b>Contributor</b>	<b>Cash</b>	<b>In-kind Services</b>
CRMC State Funds (requested)	\$35,000	
RIDEM Fish and Wildlife		\$10,000
U.S. Fish and Wildlife Service	\$10,000	\$2,500
Property Owner (pending)	\$10,000	
NOAA-FAF Community-based Restoration Program (proposed)	\$45,000	
NOAA Restoration Center		\$8,000
<b>Total</b>	<b>\$100,000</b>	<b>\$20,500</b>

**Project Narrative**

RIDEM, with project partners NOAA and USFWS, is seeking CRMC funds to construct a fish ladder at a small, privately-owned dam in South Kingstown for purposes of restoring a river herring (alewife, blueback herring) run to Factory Brook. The 5-foot high stone dam, accessible from Matunuck Schoolhouse Road, prevents herring passage to spawning and nursery habitat in 30-acre Factory Pond and one mile of stream habitat in Factory Brook. The dam is located approximately 0.20 miles from Factory Brook's outlet at the northern end of Green Hill Pond. Fish passage at Factory Brook has the potential to result in thousands to tens of thousands of returning river herring annually. In addition to river herring, the project may also benefit sea-run brook trout.

Alewife and blueback herring, collectively known as river herring, are an essential part of Rhode Island's coastal ecosystems. These anadromous fish provide a forage base for a variety of fish and wildlife both in the ocean, where they spend most of their lives, and in the rivers and streams they ascend each spring to spawn. River herring runs were once plentiful in Narragansett Bay and throughout Rhode Island's coastal waters. Unfortunately, dams and other obstructions on the State's many rivers and streams now prevent fish from reaching essential upstream spawning

and nursery habitat. These migration blockages have not only impacted herring stocks and their fisheries, but also the fish and wildlife that readily prey upon them, including many commercial and recreational fish such as striped bass and bluefish.

State and federal agencies have long recognized the ecosystem benefits associated with restoring anadromous fish passage to high-quality Factory Brook, and have prioritized the project site since the mid 1990's. In 2000, Factory Brook fish passage was identified in Rhode Island's Coastal Habitat Restoration Plan and preliminary design plans were completed by the Army Corps of Engineers (ACOE) and the USFWS as part of the RI Coastal Pond Restoration Study. The project was also considered by the *North Cape* Trustees as compensation for marine resources injured during the 1996 *North Cape* spill. Restoring a herring run at Factory Brook is recommended by RIDEM in its Strategic Plan for the Restoration of Anadromous Fishes to Rhode Island Coastal Streams (2002).

### **Proposed Project Description**

The fishway involves the installation of two 10-foot long, 22-inch wide and 27-inch high, prefabricated sheet-aluminum ladder sections. The ladder sections, as proposed, will tie into a concrete box entranceway at the downstream end, potentially cast in place and linked to the existing concrete bridge and dam structural supports. Overall, the structure would be approximately 30 feet long and a maximum of 5 feet wide.

The facility will allow migrating herring to enter the entranceway, swim up the ladder, and pass freely over the 5-foot high dam into the pond. This project will require removal of the existing defunct wooden fishway and may require the relocation of a short section of a stone retaining wall along the south side of the stream. The fishway would be installed using a backhoe and dump truck, and would be completed within a one to two-week period.

A preliminary design has been completed by USFWS (existing plans can be provided upon request). Some re-design is necessary at the request of the property owner. Final design may include a concrete box culvert or trough structure through the access road with grating to allow sustained vehicle access and a concrete entranceway below the base of the dam.

The boulders associated with the collapsed stone wall can be easily removed through minor construction work. By relocating several large boulders, river herring will then be able to pass upstream to Factory Pond. The work would be limited to removing these boulders from the channel and placing them nearby. This work would be completed within one day, and would be done concurrently with the fishway installation.

State and federal funds will cover all costs associated with the final design, construction and maintenance of the fishway and boulder removal. Staff from RIDEM will be responsible for overall project management, and will be responsible for maintaining and operating the fishway once construction is complete. A RIDEM engineer will lead selection of consultant and contractor, and provide construction oversight. NOAA and USFWS staff will assist RIDEM as necessary, including project coordination, permitting, bidding documents, and project oversight. Project partners will coordinate with RIDEM Dam Safety Division and the Town of South Kingstown as part of the project.

The partners have presented the project to the Salt Ponds Coalition and received verbal support for the project. The Salt Ponds Coalition has suggested the inclusion of an article about the fishway in its quarterly newsletter. Additional outreach will be limited at the request of the property owner.

Anticipated permits (fishway and boulder relocation) include a CRMC Assent (Freshwater Wetlands in the Vicinity of the Coast) and an ACOE 404 Programmatic General Permit. In addition, NOAA will consult with the State Historic Preservation Officer (SHPO) to ensure compliance with Section 106 of the National Historic Preservation Act.

**Project title: Rhode Island Coastal Wetlands Inventory**

**Project location:** 50 coastal wetland sites located along the coast from Rhode Island's western border to Narragansett Bay

**Project budget:** \$130,000

\$65,000: federal sponsor

\$65,000: nonfederal sponsor (\$32,500: in-kind services; \$32,500 cash)

**Amount Received From Trust Fund: \$14,725**

**Project Manager:** Saji Varghese  
Study Manager, Engineering and Planning  
US Army Corps of Engineers  
696 Virginia Rd.  
Concord, MA 01742  
(978) 318-8028  
[Saji.Varghese@nae02.usace.army.mil](mailto:Saji.Varghese@nae02.usace.army.mil)

**Project Narrative**

The State of Rhode Island has requested that the Army Corps of Engineers conduct an inventory of degraded or filled coastal wetlands to identify the opportunities for future wetlands restoration projects. Congress has provided funding for the Corps to undertake this task under the Planning Assistance to States (PAS) program. The Corps has preliminarily identified approximately 50 coastal wetland sites, which will be further evaluated for restoration areas along the coast from Rhode Island's western boarder to Narragansett Bay (herein referred to as Western Rhode Island Area). In addition, there are approximately 75 sites (299 acres) that are dominated by Phragmites which were identified by the Narragansett Bay Estuary Program in a report published in 2001 (herein referred to as Narragansett Bay Area).

In the Western Rhode Island Area, wetland restoration sites will be delineated based on identifying observable, characteristic photographic signatures evidenced by color (gray-scale), texture, landscape position, vegetation and relative depth of field. The boundaries of the wetlands will be delineated in a GIS file format. A database will then be developed for the wetlands characteristics based on initial photographic interpretation and later through field evaluation. The parameters of the database are listed in the "Required Output" section. In the Narragansett Bay area, wetland characteristics will be developed for those Phragmites dominated areas already identified by the Narragansett Bay Estuary Program. A comparison of historical and most recent aerial photos will also be undertaken using GIS to identify wetland alterations to identify other potential restoration sites.