Massachusetts Wetlands Restoration News

The Newsletter of the Partnership to Restore Massachusetts Wetlands

Spring 2001

Tracking Wetlands Restoration Progress

Environmental Affairs Secretary Bob Durand has adopted a goal of restoring 3,000 acres of wetlands in Massachusetts by 2010 and has charged the Massachusetts Wetlands Restoration Program (MWRP) with playing the lead role in its implementation.

Over the past year, MWRP has developed a database of wetlands restoration projects to help track our progress. So far, the database contains only information about projects that MWRP has assisted since its inception in 1994 through the GROWetlands Initiative, and therefore it does not tell us precisely how we are doing relative to the goal. In order to more thoroughly evaluate the Commonwealth's progress towards the 3,000-acre goal, in the future MWRP hopes to add information about wetlands restoration projects implemented by other groups. Based on the information that is currently available, the following are some interesting statistics gleaned from the database:

- Since 1994, MWRP has assisted over 100 potential wetlands restoration projects.
- Since 1994, fourteen projects have been completed representing 212 acres of restored wetlands. Of these, only two were non-tidal (freshwater) projects.
- MWRP currently is supporting forty active and potential restoration projects totaling 952 acres. Of these, five projects are non-tidal.
- Twelve of the currently active projects are likely to be completed during 2001, representing 149 acres of restored wetlands. Of these, two are non-tidal projects.

These statistics indicate some interesting trends. In general, the rate of restoration project initiation and completion is increasing. Since the program has been in operation for only seven years, this makes sense. The first two years were devoted to program development tasks such as developing methods for identifying and prioritizing sites and building partnerships with funding agencies and other cooperators. Project implementation did not start in earnest until 1996. It can take two or more years to evaluate, fund, permit, and construct a restoration project. Therefore, the first projects under this program have been completed only in the last two to three years. *continued on page 3*

GROWetlands Project Updates

The Massachusetts Wetlands Restoration Program (MWRP), in conjunction with its local, state, federal, non-profit, and corporate partners, is actively planning and implementing many wetland restoration projects. The projects described below are examples of the wetland restoration projects we expect to be completed within the next year.

Boat Meadow Creek, Eastham/Orleans. Users of the Cape Cod Rail Trail will appreciate this project! At the Rail Trail crossing of Boat Meadow Creek on the Eastham/Orleans town line, the trail's paved surface is being undermined and poses a safety hazard. The side slope embankments are being eroded, and the culvert itself is too small to convey full tidal flushing to the six-acre upgradient salt marsh. As part of the overall upgrade of the Rail Trail by the Department of Environmental Management (DEM), replacement of the existing culvert with a larger culvert sized to restore full tidal flushing to the Boat Meadow Creek salt marsh is being planned. This project is located in the Inner Cape Cod Bay Area of Critical Environmental Concern. MWRP, through its Corporate Wetland Restoration Partnership, is providing partial funding for this project. Corporate donors to this project include Capaccio Engineering, Polaroid Corporation, and Massachusetts Electric Company. Other technical and financial support has been provided by Massachusetts Coastal Zone Management, DEM, and the National Marine Fisheries Service and US Fish & Wildlife Service through the National Fish and Wildlife Foundation. *continued on page 2*

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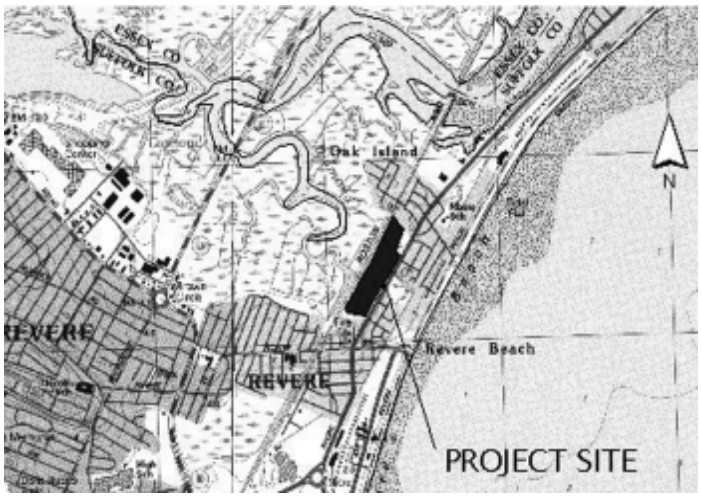
Other Wetland Restoration Projects

MWRP is involved with many other wetland restoration projects, some of which may be completed this year. Unfortunately, we do not have the space in this newsletter to describe every project. However, a partial list includes:

- Hammets Cove, Marion
- Worlds End, Hingham
- Mary Chase Marsh, Eastham
- Neponset Marsh, Boston
- Quivett Creek, Dennis
- Namskaket Marsh, Brewster/Orleans
- Eastern Point, Gloucester
- Cowyards, Dartmouth.

Descriptions of these and other wetland restoration projects may be found on our web site (coming soon!) and in future editions of this newsletter.

GROWetlands Projects, *continued from page 1*



Oak Island, Revere, MA, USGS location map.

Oak Island, Revere. The City of Revere and MWRP are working to restore approximately thirty acres of salt marsh adjacent to the Eastern County Ditch between North Shore Road and the MBTA railroad embankment. This marsh is located in the Rumney Marsh Area of Critical Environmental Concern.
Tidal flushing has been greatly reduced, restricting the ability of the marsh to provide fish and wildlife habitat, and the marsh is now vegetated with a near monoculture of common reed. This restoration project will restore tidal flows by removing a flapper valve on an existing culvert, installing a self-regulating tide gate, installing additional culverts in the MBTA railroad embankment, removing fill from the marsh, and excavating and cleaning existing ditches within the marsh. Work will also include an Open Marsh Water Management program to be performed by Northeast Massachusetts Mosquito Control and Wetlands Management District. The Massachusetts Wetlands Restoration Program raised $150,000 for this project from the US Fish & Wildlife Service. Other technical and financial support has been provided by the MEMA Hazard Mitigation Program, the US Environmental Protection Agency, and the City of Revere.

Fisherman's Bend, Winthrop. Kicked-off with a ground-breaking ceremony and a marsh cleanup in November, 2000, this 7.75-acre salt marsh restoration project is scheduled for completion this spring. Two earthen berms restricted full tidal flows from entering the marsh and prevented fresh water runoff and precipitation from leaving the marsh. As a result, common reed (*Phragmites australis*) colonized a significant portion of the marsh, and the marsh has become a haven for mosquito breeding. Supported by a GROWetlands Grant from the Massachusetts Wetlands Restoration Program and a grant from the US Fish & Wildlife Service Partners for Wildlife Program, the Town of Winthrop has contracted the Northeast Massachusetts Mosquito Control and Wetlands Management District (NEMMCWMD) to restore tidal flows and to perform Open Marsh Water Management on portions of this marsh. During the kick-off, neighbors to the marsh and staff from MWRP, National Marine Fisheries Service, NEMMCWMD, and the Town of Winthrop, removed 120 cubic yards of rubbish and debris and seventy tires.

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Fisherman's Bend salt marsh, Winthrop, MA, pre-construction. *Photo by Steve Block.*

Wings Neck, Bourne. An undersized culvert beneath Wings Neck Road in Bourne prevents full tidal flows from reaching the approximately twelve-acre upgradient salt marsh. As a result of this tidal restriction, upland vegetation is beginning to colonize the upgradient fringes of the marsh, and the ability of the marsh to support fish and wildlife habitat is impaired. MWRP has been working with the Town of Bourne and the Natural Resources Conservation Service (NRCS) to restore full tidal flushing. The NRCS is providing a culvert design sized to restore the upgradient salt marsh and is also providing partial project funding. MWRP, through its Corporate Wetlands Restoration Partnership, is providing technical services. Corporate donors to this project include William M. Warwick & Associates, Inc., and Doyle Engineering. Additional funding support for this project will be provided by the Town of Bourne and the Wings Neck Neighborhood Association. The Town of Bourne is currently seeking funds to construct the project.

Meadowbrook Park, Arlington, Massachusetts, construction.
Photo by Delia Kaye.

Meadowbrook Park, Arlington. The Meadowbrook Park wetland restoration is one of the few freshwater wetland restoration projects currently being advanced by MWRP. Located near the Mount Pleasant Cemetery in Arlington, this freshwater emergent wetland borders Mill Brook, a stream that supports an alewife run. The majority of this approximately two-acre wetland is vegetated with a near monoculture of common reed. The Town of Arlington hopes to improve the ability of the wetland to provide fish and wildlife habitat, to provide passive recreational opportunities, and to provide a setting for an outdoor classroom. Supported by MWRP through a GROWetlands Grant and by the US Fish & Wildlife Service under a Partners for Wildlife grant, Arlington contracted the design and construction of this wetland restoration. The restoration design includes herbiciding the existing common reed stand, excavating portions of the marsh to create areas of deep marsh, placing the excavated material on sections of the remaining portions of the marsh to create areas that will support shrub swamp, and planting appropriate vegetation in the deep marsh, shallow marsh, and shrub swamp zones. The herbicide has been applied and excavation occurred in February. The planting was performed by volunteers during the first weekend in June.

Steve Block, MWRP Wetlands Scientist

Tracking Wetlands Restoration Progress, *continued from page 1.*

There is a substantial increase in the number of projects expected to reach the construction stage in 2001 over 2000, and we expect this trend to continue to the extent that available resources can support this growth.

The proportion of non-tidal to tidal projects has been quite low but will likely increase in the future. While much of the coast has been inventoried for tidal restoration projects, we are only just beginning to complete watershed wetlands restoration plans for inland watersheds. Coastal projects, in general, are easier to find and easier to fix than inland sites. Tidal restrictions resulting from undersized culverts and flapper gates are fairly obvious problems. While the solutions aren't exactly simple, they are fairly straightforward and often can result in restoration of tens of acres of marsh. By contrast, many inland sites are smaller, have more complicated hydrologic conditions, and flooding of adjacent properties is more often a concern. Many non-tidal sites have invasive species problems, usually Common Reed (*Phragmites australis*) or purple loosestrife (*Lythrum salicaria*), for which there are no simple treatments. As we complete watershed wetlands restoration plans in an increasing number of watersheds, we will have a better idea of the best opportunities for non-tidal wetlands restoration in terms of practicability, size, and cost. We expect to gradually increase the proportion of inland projects in association with the roll out of these plans.

The average size of projects is increasing. As MWRP and its partners complete coastal atlases and WWRPs, we are able to do a better job of prioritizing restoration sites. As a result, we can be more selective about the sites we choose to support. Although many smaller sites may be ecologically important and worthy of public support, generally speaking, larger restoration sites are more environmentally beneficial.

Over the coming year, in addition to adding projects outside our program, MWRP plans to expand its database to include information about costs and sources of funding for completed projects. This information should be helpful in further evaluating the effectiveness of our restoration efforts.

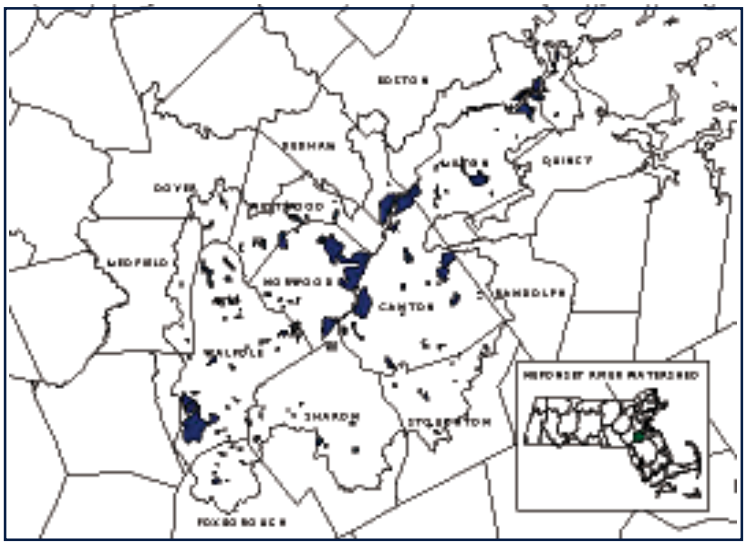
Christy Foote-Smith, MWRP Director

Spike Grass (*Distichlis spicata*)

Neponset River WWRP Progress Report

The purpose of watershed wetlands restoration planning is to provide both a plan and the impetus for implementing a significant number of wetlands restoration projects. Since the Neponset River Watershed Wetlands Restoration Plan (WWRP) was the first completed in the state, we hope to learn a lot about the plan's effectiveness by tracking the progress of restoration project implementation.

The Neponset WWRP identified 171 potential wetland restoration sites. Of these, sixty-five were considered priority sites that could help further the restoration goals adopted for the watershed by stakeholders through the planning process. Before the Final WWRP for the Neponset River watershed was published in January 2000, wetlands restoration work had begun on key projects identified in the plan. To date, eight projects have been initiated and one project has been completed.



Neponset River Watershed, potential restoration sites.

*Pope John Paul II Park: T*his project involved restoration of two acres of salt marsh in conjunction with the capping of the Hallett Street Landfill in Boston. The landfill and adjacent former drive-in theater were converted to a large public park by the Metropolitan District Commission (MDC). Restoration work was completed about a year ago.

Gulliver's Creek: About 250 acres of salt marsh owned by the MDC border this tidal creek in Milton that is tributary to the Neponset River. Much of the marsh has been taken over by *Phragmites australis*. Clean Harbors is helping the Massachusetts Wetlands Restoration Program (MWRP) evaluate the cause of degradation and develop a restoration plan for the area.

Billings Creek: This sixty-two acre salt marsh in Quincy has been impacted by a former naval air base and by other development in the area. With the assistance of MWRP, the City of Quincy has received a fifty percent grant from the Army Corps of Engineers to evaluate restoration options for this coastal marsh.

Neponset Marshes 1 and 2: The Neponset Marshes, now within the MDC Neponset Reservation, were once the site of disposal of dredge spoil from the Neponset River. A two-phase project is proposed to restore up to thirty-five acres of marsh by removing fill and restoring tidal flow. Work on Phase I will begin during 2001. The project is being funded through a combination of federal, state, and corporate grants and donations.

Turner's Pond: In June 2000, MWRP, in cooperation with the Walpole Conservation Commission, released *Galerucella spp* beetles in a small area of this marsh to initiate a program of biological control of purple loosestrife. The site is being monitored to determine the effectiveness of this approach

Neponset Dams: The Massachusetts Division of Fisheries and Wildlife, along with a number of other stakeholders, is working with the Army Corps of Engineers to evaluate options for fish passage at the Baker Dam and the Tileston & Hollingsworth Dam, the first two dams on the river. If dam removal or draw down are proposed, MWRP will participate in the evaluation of restoration opportunities that might then become available.

Walpole/Sharon White Cedar Swamps: Each of these white cedar complexes comprises many hundreds of acres of wooded swamp and each has been subjected to multiple impacts from human activities. The Massachusetts Watershed Initiative is funding a study of the Walpole White Cedar Swamp to evaluate its condition. The Sharon Conservation Commission nominated the Sharon White Cedar Swamp to the GROWetlands Initiative. Both sites will require detailed evaluations and multiple restoration strategies. This work will be ongoing for some years to come.

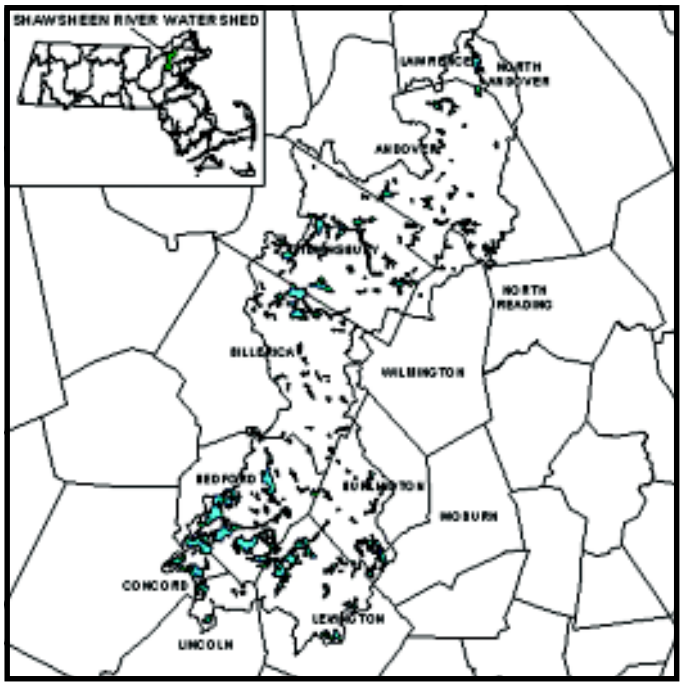
Fowl Meadow: In public meetings on the Draft WWRP, Neponset watershed stakeholders were very vocal in their concerns about the hundreds of acres of fresh marsh that have been invaded and degraded by purple loosestrife in the Fowl Meadow Area of Critical Environmental Concern (ACEC). In addition to the trial beetle release at Turner's Pond described above, MWRP, with a combination of Corporate Wetlands Restoration Partnership and Massachusetts Watershed Initiative funding, is conducting an aerial survey of the extent of purpose loosestrife invasion in the Fowl Meadow this coming summer. This study will form the basis for a more extended loosestrife control strategy within the ACEC.

MWRP will continue to further these and other priority projects in the Neponset River watershed and will provide periodic progress reports.

Christy Foote-Smith, MWRP Director

Northern Spring Peeper (*Hyla c. crucifer*)

Report Completed for Shawsheen River Watershed



In February, the Massachusetts Wetlands Restoration Program (MWRP) completed and published the *Shawsheen River Watershed Wetlands Restoration Plan* (WWRP): *Preliminary Report* (the Report). The Report introduced the Shawsheen watershed community to the wetlands restoration initiative and requested public input on identified wetland and watershed problems and proposed restoration goals. It was mailed to key watershed stakeholders as well as to each conservation commission and libraires in the watershed. Additionally, a summary newsletter was mailed to over 850 people who likely have an interest in restoring the Shawsheen's degraded wetlands. find

Conclusions drawn from MWRP's technical wetlands analysis are highlighted in the Report. MWRP has determined that the watershed has lost more than twenty-five percent of its wetlands since colonial times and fifty-eight percent of its remaining wetlands are degraded by various impacts. The Report identifies 794 wetlands with various impacts (e.g., filled, drained, and impounded), and groups them into 263 potential wetland restoration complexes. The wetlands information and proposed restoration goals were reviewed by the watershed community during a six week public comment period that included two public meetings in late March.

The Report is the first of three documents that will comprise the WWRP. It sets the stage for the following two documents by identifying impacted wetlands, summarizing major water-related problems, and proposing wetlands restoration goals. Following public review and input, MWRP will prepare a Draft WWRP this spring that evaluates and prioritizes potential wetland restoration sites, based on their capacity to address the restoration goals adopted by the watershed community. The Draft WWRP will also propose specific actions designed to get restoration projects under way. After a second round of public input, MWRP will revise the Draft WWRP into a Final WWRP that should be completed this summer.

Hunt Durey,
MWRP Watershed Wetlands Planner

North Shore Initiative Update

With funding provided through the North Coastal and Ipswich/Parker River watershed teams, the Massachusetts Wetlands Restoration Program (MWRP) established the North Shore Salt Marsh Restoration Initiative in April 2000. The primary goal of the program is to provide enhanced project support and salt marsh restoration planning for the coastal area from Revere to Salisbury.

Restoration Planning:

Rumney Marsh: A major focus during the first year has been the completion of the Rumney Marsh Salt Marsh Restoration Plan, in coordination with the Massachusetts Area of Critical Environmental Concern (ACEC) Program. This document is the outcome of a multi-agency planning process, begun in 1998. It provides municipal planners, advocacy groups, concerned citizens, and others interested in Rumney Marsh and Belle Isle Marsh with a comprehensive framework for addressing issues such as flooding, poor water quality, and loss of fish and wildlife habitat. Specific salt marsh restoration projects are identified and their potential for addressing these problems is assessed. A draft version of the plan will be available in June and several public review meetings will be held in the Rumney Marsh region this summer. The final draft of the plan is expected to available in the Fall.

The Great Marsh: In addition to the Rumney Marsh Plan, a salt marsh restoration plan is also being developed for the Great Marsh. Located in the coastal zone from Gloucester to Newburyport, the Great Marsh is the largest contiguous salt marsh north of New York and one of the most prized habitat complexes in Massachusetts. The Great Marsh plan will follow a format similar to the Rumney Marsh Plan and will also be guided by a multi-agency work group representing Eight Towns and a Bay, Massachusetts Audubon Society, Ducks Unlimited, the Trustees of Reservations, MWRP, other Executive Office of Environmental Affairs programs, and federal agencies. A preliminary report on the Great Marsh will be available in the fall.

Project Updates:

Little Neck Road: The North Shore Salt Marsh Restoration Initiative is also intended to offer focused project support throughout the region. Working closely with the Town of Ipswich and other project partners on permitting, funding, project design, and monitoring, MWRP is facilitating the restoration of six acres of salt marsh along Little Neck Road. Nearing completion this summer, the project involves the replacement of an undersized, collapsed culvert with double arched culverts. The new culverts will permit greater tidal flow into the marsh and will allow freshwater to drain out. Stands of the invasive plant common reed *(Phragmites australis)* which have encroached on the marsh will die back and native salt marsh vegetation will be revitalized as normal tidal process are restored. *continued on page 9*

Epsilon Completes Maynard-Assabet Wetlands Restoration Inventory

In the spring of 2000, Epsilon Associates joined the Massachusetts Corporate Wetlands Restoration Partnership (CWRP) as a Charter Member. As its contribution to the program, Epsilon proposed the Maynard-Assabet Wetlands Restoration Inventory Project, a cooperative effort between Epsilon and the Massachusetts Wetlands Restoration Program (MWRP) to prioritize future wetlands restoration projects in three subwatersheds of the Assabet River near Maynard.

The Maynard-Assabet Wetland Restoration Inventory identified wetland restoration opportunities over a 20 square mile study area in three subwatersheds of the Assabet River: Taylor Brook, lower Elizabeth Brook, and Fort Pond Brook. The study area includes portions of four towns (Acton, Maynard, Stow, and Sudbury), and most of the newly designated Assabet River National Wildlife Refuge. The purpose of the inventory is to identify potential restoration opportunities, prioritize the list of restoration sites based on project criteria, and develop conceptual restoration plans for the top five sites to be used for future project implementation.

Epsilon identified wetland restoration sites using orthophotos, Massachusetts Wetlands Conservancy maps, soil surveys, and historic USGS maps. Field investigations were conducted to evaluate restoration sites and associated wildlife habitats. Epsilon contacted Conservation Commissions in the Towns of Acton, Stow, Maynard and Sudbury, non-profit organizations such as the Sudbury Valley Trustees and the Organization for the Assabet River, and local experts, to identify additional wetland sites of regional importance. Based on field investigations, Epsilon identified forty sites with potential wetland restoration opportunities. Eleven sites are located in Maynard, five in Sudbury, fifteen in Acton, and eight in Stow. Four of these sites are located in the new Assabet River National Wildlife Refuge.

MWRP and Epsilon jointly developed criteria to prioritize confirmed wetland restoration opportunities. Examples of criteria used to prioritize restoration sites included size of impact, presence of rare species habitat, 100-year floodplain,potential to improve habitat interconnections, as well as public education and recreation opportunities. MWRP and Epsilon visited the top sites. Epsilon then presented the prioritized restoration sites to Conservation Commissions to assess local interest in various restoration sites.

"MWRP and Epsilon jointly developed criteria to prioritize confirmed wetland restoration opportunities. Examples of criteria used to prioritize restoration sites included size of impact, presence of rare species habitat, 100--year floodplain, potential to improve habitat interconnections, as well as public education and recreation opportunities."

Epsilon revisited the top sites and collected more detailed information to develop a restoration action plan and conceptual design for each site. One site is located in each town within the study area and two sites are also located within the new ARNWR. The final sites are: Puffer Pond in Maynard, the Patrol Road in Sudbury, South Acton Road in Stow, the Acton Arboretum in Acton, and Great Hill Reserve in Acton. The Puffer Pond and the Patrol Road sites are also located within ARNWR.

Epsilon has greatly enjoyed its collaboration with MWRP on the Maynard-Assabet Wetland Restoration Inventory Project. We hope that the towns, state and federal government, and local interest groups can use the plan as a tool to further wetland restoration efforts in the region.

Steven Barrett and Lara DuMond, Epsilon Associates

Cat-tail (*Typha latifolia*)

How Restoration Projects Get Funded

Two of the most frequently asked questions about the Massachusetts Wetlands Restoration Program (MWRP) are "how much does it cost to restore wetlands?" and, referring to the state's restoration goal, "how will we finance 3,000 acres of wetlands restoration?"

Individual project costs can vary widely from several hundred dollars to several million. We are frequently asked the cost per acre of restoration. Project costs are driven more by the type of restoration activity than by the size of the area to be restored so that per acre cost, even averaged over a large number of projects, has little meaning. Replacing a collapsed culvert may cost less than $10,000 but may result in 50 or more acres of restored coastal marsh. In a highly urbanized environment, the restoration of a half-acre site contaminated by hazardous waste may cost over $1 million. Given the difference in their landscape settings, there is no way to compare the value of these two hypothetical projects. While larger wetlands in less densely developed areas may provide more habitat benefits when restored, urban wetlands are highly prized by a large number of people close by because of their scarcity.

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Massachusetts Executive Office of Environmental Affairs

Corporate Wetlands Restoration News

The Newsletter of the Massachusetts Corporate Wetlands Restoration Partnership

Spring 2001

"Welcome Aboard" to New Corporate Partners...

Four more firms have joined the Massachusetts Corporate Wetlands Restoration Partnership by pledging donations of in-kind services:

- Battelle Ocean Sciences
- BSC Group
- Cyn Environmental Services
- Normandeau Associates

The strong technical capabilities of these firms will be applied at a variety of GROWetlands project sites.

Massachusetts Partnership Completes First Projects

Corporate partners have contributed funds and in-kind services valued at $728,000 to date. Fourteen projects have been approved by EOEA Secretary Bob Durand for funding. Two projects supported by the Corporate Wetlands Restoration Partnership (CWRP) have been implemented: the *Coastal Marsh Research Symposium* supported by Batelle, ERM – New England, ERM Group Foundation, Duke Energy, and ECAP; and the *Maynard-Assabet Wetlands Restoration Inventory* contributed by Epsilon Associates (see "Epsilon Completes Maynard-Assabet Wetlands Restoration Inventory", *Massachusetts Wetlands Restoration News*, Spring 2001, page 6). For a recap of the Symposium, please refer to " MWRP Initiates Coastal Marsh Research Effort", *Massachusetts Wetlands Restoration News*, Spring 2001, page 8. We wish to thank our Corporate Partners for making these important projects possible.

MWRP Wetland Monitoring and Research Receives Corporate Partnership Support

The Sagamore Salt Marsh Restoration project recently constructed by the US Army Corps of Engineers is the first Coastal America project with CWRP participation. A donation from The Gillette Company will support efforts to monitor the relationship between *Phragmites australis* growth and soil chemistry in the area of marsh soon to be opened to tidal flow. When the sluice gates open, researchers from the University of Massachusetts Dartmouth School of Marine Science and Technology (SMAST), Dr. Brian Howes and Dale D. Goehringer, will be ready to sample the pore water for soil sulfides to compare to pre-construction samples taken earlier. Monitoring will continue over the next year. A more detailed description of this project was published in the *Massachusetts Wetlands Restoration News*, Fall 2000.

Corporate Contributions Produce Results!

When corporste partners contribute to restoration work, their donations get added mileage from leveraged state and federal assistance. Approximately $312,000 worth of CWRP support was supplemented by nearly $800,000 in federal and state grants for restoration planning and project design since the first CWRP donation in July, 1999.

National CWRP Program

Corporations can participate in the Partnership at multiple levels— state, regional, and national. National corporate partners assist recruitment nationally and involve company facilities around the country. Both the Massachusetts and National CWRP work with the Coastal America team—12 federal agency partners that assist in the funding and execution of restoration projects. The CWRP National Advisory Council (NAC) is composed of The Gillette Company as the Chair and Duke Energy as the Vice Chair. Other members include Battelle, ENSR, Foxboro, Ducks Unlimited and Restore America's Estuaries. The NAC had their second meeting in March 2001, in Washington DC. They agreed on a marketing strategy and will begin focusing on the development of outreach materials for recruitment. They also conducted a series of congressional briefings on Capitol Hill. Their next meeting is scheduled for May 9, in New Orleans, LA, in conjunction with the Coastal America annual retreat.

EOEA Approves Eight More Projects

Several new projects have received the Secretary's go-ahead for support from corporate wetland restoration partners. To date, further projects have received approval.

***Gulliver's Creek Study, Neponset River Watershed*:** To determine if certain highway bridges act to restrict tidal flow to 75 acres of upstream marsh. (Clean Harbors)
***Ballard St. at Rumney Marsh, Saugus, North Coastal Watershed*:** To develop detailed information about existing site conditions to support design work and data for permitting. (ENSR and Normandeau Associates)
***Maynard-Assabet Wetlands Restoration Inventory, SuAsCo Watershed*:** To prepare a plan that will identify, characterize, and prioritize wetland restoration sites to improve watershed functions. (Epsilon Associates)
***Fowl Meadow Loosestrife Survey and Mapping, Neponset River Watershed*:** To photograph, interpret, and map purple loosestrife cover classes for future control efforts. (The Foxboro Company)
***Shawsheen Feasibility Studies, Shawsheen Watershed*:** To determine whether sites identified in the Watershed Wetlands Restoration Plan can be practically restored. (Raytheon)
***Boat Meadow Creek Restoration, Cape Cod*:** To replace a culvert that will allow full tidal flow to an upgradient marsh and allow for re-colonization of native salt marsh vegetation. (Polaroid, Capaccio Engineering, and Massachusetts Electric)
***Parker River Refuge Technical Analysis, Parker River Watershed*:** To determine if restoration of tidal flow to convert freshwater pools is feasible. (Normandeau Associates)
***Coastal Marsh Research Symposium*:** To develop an ongoing program of academic research associated with Massachusetts salt marsh restoration projects. (Duke Energy, Battelle, and ERM - New England, ECAP, and ERM Group Foundation)

All project proposals for CWRP support are evaluated and submitted by MWRP, reviewed and recommended by the CWRP Advisory Board, and approved by Secretary of Environmental Affairs Bob Durand. For more information on many of the above projects, please refer to our latest newsletter: *Massachusetts Wetlands Restoration News,* Spring 2001.

Coastal America Recognizes MWRP, & CWRP Partners

Photo: Assistant Secretary of the Army Dr. Joseph Westphal (5th from left) & EPA Region I Administrator Mindy Lubber congratulate Secretary of Environmental Affairs Bob Durand & other award recipients.

On November 29, 2000, at the Massachusetts Wetlands Restoration Program's (MWRP*) Coastal Marsh Research Symposium*, Dr. Joseph Westphal, Assistant Secretary of the Army for Civil Works, presented the Coastal America 2000 Partnership Award to MWRP and the Massachusetts Corporate Wetlands Restoration Partnership. He noted that efforts in Massachusetts are serving as the model for a national partnership. The award letter states that "…the innovative public-private partnership also reinforces the message that saving wetlands makes good business sense. By bringing together these partners to address natural resource and infrastructure issues, you are synergistically solving problems that would not be possible for any one entity alone." At the ceremony, MWRP, Secretary of Environmental Affairs, Bob Durand, all 21 corporate partners, 26 non-profit partners, and members of the Advisory Board received recognition awards.

CWRP Corporate Partners:

Battelle
NStar
BSC Group
Capaccio Engineering
Clean Harbors
Cyn Environmental
Duke Energy
Earth Tech
ECAP
ENSR
Epsilon Associates
ERM Group Foundation
ERM-New England
Genzyme
Massachusetts Electric
Normandeau Associates
Polaroid Corporation
PG&E National Energy Group
Raytheon Company
The Foxboro Company
The Gillette Company

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Eastern Painted Turtle (*Chrysemys p. picta*)

NOAA Community Based Restoration Program Grows in 2001

The National Marine Fisheries Service (NMFS) is proud to announce a significant increase in available funding for habitat restoration projects through the National Oceans and Atmospheric Administration (NOAA) Restoration Center's Community Based Restoration Program (CRP). Based on the national success of this program, Congress increased the funding level from $2 million last year to $8 million in fiscal year 2001. Several rounds of funding opportunities are expected during the coming year. Grants will be awarded directly by NOAA's Restoration Center and through our growing number of partnerships including the 5-Star Restoration Challenge Program, the Fish America Foundation (FAF), National Fish and Wildlife Foundation and others.

The CRP began in 1996 to inspire local efforts to conduct meaningful, on-the-ground restoration of marine, estuarine and riparian habitat. The program is a systematic effort to catalyze partnerships at the national and local level. CRP contributes funds, technical assistance, land, volunteer support or other in-kind services to help citizens carry out sound restoration projects that promote stewardship and a conservation ethic for living marine resources. The program has worked closely and supported the Massachusetts Wetlands Restoration Program on a number of initiatives and specific projects.

The CRP links seed money and technical expertise to citizen-driven restoration projects and emphasizes collaborative strategies built around improving NOAA trust resources and the quality of the communities they sustain. Human activities and development have caused unprecedented destruction of coastal and wetland habitat. In a world of reliance on natural resources for a sound economy, and stress over natural resource management decisions, stakeholders are coming together to assess and evaluate natural resource priorities, promote awareness and education, develop common goals and facilitate local habitat enhancement projects.

Community-based habitat restoration helps repair habitats required by marine and anadromous fish, endangered species and marine mammals.

The request for proposals from NOAA's Restoration Center, for grant requests up $150,000, was announced in mid-March, and FAF announced their request in early March for proposals up to $30,000. Additional funding rounds for other CRP partners, including the National Fish and Wildlife Foundation and Restore America's Estuaries, are anticipated for later this year.

You can visit the NOAA Restoration web site at www.nmfs.noaa.gov/habitat/restoration for more information about when and how to apply for grants, type of projects funded, and general information about the CRP program. Feel free to contact John Catena (978-281-9313) or Eric Hutchins (978-281-9313) to discuss project ideas.

Eric Hutchins, NMFS

Sea Lavender (*Limonium nashii*)

MWRP Inititates Coastal Marsh Research Effort

On November 29-30, 2000, MWRP sponsored a Coastal Marsh Research Symposium at the Sheraton Inn Plymouth. The purpose of the conference was to initiate a dialogue among academic researchers, wetland restoration professionals, and research funders and to begin building a research program utilizing coastal marsh restoration sites. Research information generated by researchers would help improve restoration tools and techniques over time.

During the two-day conference, researchers presented recent studies, the capabilities of their institutions, and suggestions for research topics at coastal marsh sites. Institutions that participated included Brown University, Center for Coastal Studies, Manomet Center for Conservation Services, Marine Biological Laboratory, Massachusetts Institute of Technology, National Park Service, New England Aquarium, Salem State College, University of Massachusetts Amherst, University of Massachusetts Boston, University of Massachusetts Dartmouth, and Woods Hole Oceanographic Institution. Representatives of the National Science Foundation, Environmental Protection Agency, National Oceans and Atmospheric Administration, and the Corporate Wetlands Restoration Partnership discussed funding possibilities for research projects.

A Wetlands Science Panel commented on each presentation and, at the end of the conference, led a discussion to plan for an ongoing research program. Panel members included: Dr. John Teal, Chair, Emeritus, Woods Hole Oceanographic; Dr. David Burdick, University of New Hampshire; Dr. Robert Buchsbaum, Massachusetts Audubon Society; Dr. Michele Dionne, Welles (Maine) National Estuarine Research Reserve; Dr. Brian Howes, University of Massachusetts Dartmouth; Mr. Charles Katuska, PWS, (formerly) MWRP; and Dr. John Portnoy, Cape Cod National Seashore. The Panel will advise MWRP on the preparation of Symposium Proceedings. Urban Harbors Institute is working under contract to MWRP to produce the Proceedings, which will summarize the meeting and map out a recommended ongoing research program.

Attended by over 125 people, the Coastal Marsh Research Symposium was made possible by the generous contributions of Battelle, Duke Energy, ERM - New England, ECAP, and ERM Group Foundation through the Massachusetts Corporate Wetlands Restoration Partnership (CWRP). The Coastal America Partnership, a collaborative program of federal agencies working together to restore coastal resources, presented an award to the Massachusetts CWRP at a dinner ceremony during the Symposium. All 21 corporate donors 24 non-profit partners, the nine-member CWRP Advisory Board, Secretary of Environmental Affairs Bob Durand, and MWRP received individual awards for their contributions to the program.

Christy Foote-Smith, MWRP Director

Three Regional Coastal Tidal Restriction Atlases In Process

South Shore

In December 2000, the Massachusetts Metropolitan Area Planning Council (MAPC), under contract to MWRP, published the Draft *Atlas of Tidal Restrictions on the South Shore of Massachusetts*. The Draft Atlas identifies 117 tidal restrictions within the study area and highlights twenty-eight high priority potential restoration sites. MAPC staff presented the information to each conservation commission within the study area and held additional meetings for the public and other interested organizations. MAPC and MWRP are currently revising the Draft Atlas based on input received during the public comment period. The Final Atlas should be completed this spring.

Buzzards Bay

The Buzzards Bay Project (BBP) published the Draft Final *Atlas of Tidally Restricted Salt Marshes in the Buzzards Bay Watershed Massachusetts,* in January 2001. Prepared under contract to MWRP, the Atlas inventories 167 tidal restrictions, thirty-nine of which are designated as high priority potential restoration sites. BBP staff have met with numerous groups, including conservation commissions and environmental organizations, to obtain input on the information contained in the Atlas. The Final Atlas is scheduled to be completed and published soon. For more information, visit the BBP web site at <www.buzzardsbay.org>. When completed, the Final Atlas will be available for download from BBP's website.

Cape Cod

With funding provided by MWRP, the Cape Cod Commission (CCC) is well on its way to producing an atlas of tidal restrictions on Cape Cod. CCC staff are currently working in the field, talking with local experts, and analyzing maps and aerial photographs to inventory tidal restrictions in the study area. A Draft Atlas should be completed and distributed for public input this fall. The Final Atlas is scheduled for completion this next winter.

Hunt Durey, MWRP Watershed Wetlands Planner

Help Save Trees!

If you do not want to continue to receive this newsletter, please leave a message on our info line: (617) 626-1177, or e-mail: wetlands.restoration@state.ma.us

Thank you!

How Restoration ...

Continued from page 6.

Although ecological restoration, and wetlands restoration in particular, was not a major government program activity until very recently, today there are a number of funding programs at the state and national levels with considerable resources to support restoration project identification, development, and implementation. These programs fall into several broad categories: federal/regional agency, state agency, private foundation, and corporate. Contributions to projects by municipalities, non-profit organizations, and private citizens are also important sources of support. Donations of goods (e.g., pipes, organic soils, plant materials) and services (e.g., surveying, engineering, hydrological analysis), as well as cash, can be significant contributions to a project.

Under the state's GROWetlands (Groups Restoring Our Wetlands) Initiative, MWRP relies on a variety of "project sponsors" to take the lead on restoration projects. Project sponsors include any group or individual willing to take responsibility for seeing the project through to completion including: federal, state, or local government agencies; non-profit organizations such as land trusts; and private landowners such as businesses or even homeowners. Generally, restoration project sponsors are unable to carry out a project without some level of financial or technical assistance. Most projects are supported by more than one contributor. MWRP specializes in developing assistance "packages" for wetland restoration projects.

Federal Programs: U.S. Fish & Wildlife Service, U.S. Army Corps of Engineers, National Marine Fisheries Service/National Oceans and Atmospheric Administration (NMFS/NOAA), Environmental Protection Agency, and Natural Resources Conservation Service (formerly Soil Conservation Service) all have one or more programs that provide funding or other assistance specifically for wetlands restoration projects. In recent years, federal funding program budgets have expanded and new programs have been established. Of particular note are the new programs of NMFS. Please refer to the article on page eight for details. The Federal Emergency Management Agency, Housing and Urban Development, and Federal Highway Administration also administer programs with funding that may be directed to these projects. These agencies are all cooperators in the Coastal America Partnership, a federal collaborative effort to restore coastal resources.

Massachusetts enjoys a unique relationship with these federal programs. In 1994, the Executive Office of Environmental Affairs entered into a cooperative agreement with the Coastal America Partnership. This agreement, called the Resolution to Restore Massachusetts Wetlands, forms the basis for an ongoing state/federal partnership for wetlands restoration. Projects accepted by MWRP under the GROWetlands Initiative are also considered Coastal America projects. As such, they receive priority consideration for federal funding programs. Since its inception, MWRP projects have received approximately $4 million in federal support for $1.5 million in state dollars spent on the program. *continued on page 9*

Regional programs such as the Gulf of Maine Council, the National Estuarine Programs (Buzzards Bay and Massachusetts/Cape Cod Bay in Massachusetts), and the Conte Refuge have grant programs that can be a source of funding for restoration projects and related activities.

State Programs: MWRP, Coastal Zone Management, and the Department of Environmental Protection manage programs that can provide funding for wetlands restoration. These programs can be used to meet match requirements for federal funding programs. MWRP programs include the GROWetlands Grant Program and the Corporate Wetlands Restoration Partnership. Established in 1991, the GROWetlands Grant Program provides $100,000 annually to fund the development and implementation of municipally-sponsored wetland restoration projects. The most recent grant proposal request closed on March 16, 2001. For information on this program contact Steve Block at (617) 292-5743.

The Corporate Wetlands Restoration Program (CWRP) was established in 1999 to provide a vehicle for receiving and distributing corporate donations of cash and technical services to GROWetlands restoration projects. To date the program has committed over $700,000 in support for the program. Technical services donations by Massachusetts environmental consulting companies through CWRP have been a particularly important source of support for project development over the last year. In order to apply for construction funding through other grant programs, it is necessary to have conducted site evaluations to determine the appropriate restoration actions and to develop at least conceptual project plans and estimated budgets. CWRP partners are conducting such *pro bono* studies at a number of potential restoration sites. (See CWRP section of this newsletter for more information.)

In addition, MWRP deploys its own technical staff and environmental consulting contractors to perform site evaluations and project design work for selected restoration projects.

Other state funding programs include DEP's Nonpoint Source Pollution Grant Program (319) and CZM's Coastal Pollution Remediation Program (CRP). The Massachusetts Environmental Trust, a quasi-government philanthropic organization managed through EOEA, also can provide funding for restoration-related projects.

Private Programs: There are a number of private foundations that fund various types of restoration projects as well. Some have a specific geographic focus or focus on particular activities. Since they are variable, a thorough project-specific search in a foundation directory is advised.

Other Contributors: Municipalities, non-profit organizations, and even private citizens and neighborhood associations may be significant contributors of cash or in-kind services. Local companies may wish to support a neighborhood project by donating equipment, labor, or materials. Local volunteers can perform site-clean ups prior to restoration construction work, perform some simple monitoring tasks, and do plantings. Volunteer time can often be given a monetary value and counted towards a grant match requirement.

The funding picture for wetland restoration projects appears quite positive for the foreseeable future. To date, MWRP has had a great deal of success facilitating funding and technical assistance support for restoration projects. MWRP will continue to work with GROWetlands project sponsors to assemble funding and assistance packages appropriate to individual restoration projects.

Note: An up-to-date list of funding programs can be obtained by calling the MWRP Info Line at (617) 626-1177 or e-mailing MWRP at wetland.restoration@state.ma.us.

Christy Foote-Smith, MWRP Director

North Shore Initiative

Continued from page 5.

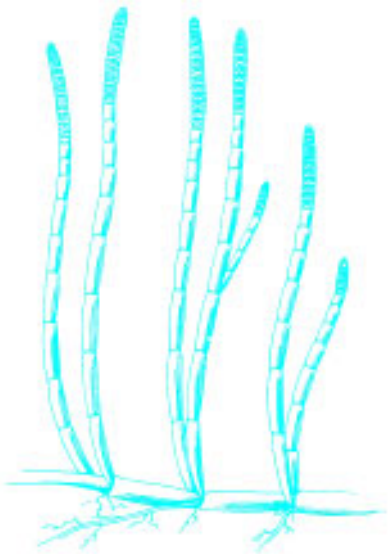
North Pool: Other projects are currently in planning stages. Among them is the potential restoration of a 100 acre brackish impoundment at the Parker River National Wildlife Refuge in the towns of Rowley and Newbury. The impoundment, known as the North Pool, was constructed on salt marsh by the US Fish and Wildlife Service (USFWS) in the 1950s as a waterfowl habitat area. Since then, the pool has become dominated by *Phragmites* and purple loosestrife, and has required large expenditures of labor and resources to maintain. Refuge managers, looking to improve the habitat value of the pool, have decided to explore the feasibility of returning the impoundment to its original condition as a salt marsh and contacted MWRP for assistance.

Through the Corporate Wetlands Restoration Partnership (CWRP), MWRP has reached an agreement with Normandeau Associates of Concord, New Hampshire, an ecological consulting firm, to begin the preliminary studies required to assess the feasibility and efficacy of restoring the North Pool to salt marsh. Over the next year or so, Normandeau will be working with MWRP, USFWS, CWRP partners, and other agencies, to study the site and develop a restoration plan. The restoration of the North Pool would be one of the largest salt marsh restoration projects undertaken in Massachusetts.

Eastern Point Wildlife Sanctuary: The North Shore Initiative is working with Massachusetts Audubon Society to restore a salt marsh at the Society's Eastern Point Wildlife Sanctuary in Gloucester. Project planning and site monitoring is underway with funding from National Marine Fisheries Service through the Fish America Foundation.

For more information on the North Shore Initiative, please contact: Tim Smith, at (617) 292-5808 or tim.smith@state.ma.us.

Tim Smith,
MWRP North Shore Coordinator



Perennial Glasswort (*Salicornia virginica*)

Massachusetts Wetlands Restoration News is a publication of the Massachusetts Wetlands Restoration Program on behalf of The Partnership To Restore Massachusetts Wetlands.

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Bob Durand, Secretary
Sharon McGregor, Assistant Secretary

Wetlands Restoration Program
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Editor/Designer: Julie A. Keane

Drawings by Abigail Rorer

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JOIN THE MOVEMENT - BE A RESTORATION PARTNER

The Coordinating Committee of the Partnership To Restore Massachusetts Wetlands invites everyone with an interest in wetlands restoration to join the Partnership which is now over 200 strong.

PARTNERSHIP FORM

Name_____Title_____Affiliation_____

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I/we support the "Resolution to Restore Massachusetts Wetlands". Please include my (check one): __agency __organization __self as a Partner in the Partnership to Restore Massachusetts Wetlands and put me on the mailing list to receive **Massachusetts Wetlands Restoration News**. I understand that this does not involve any commitment to a specific action or financial contribution.
I/we will make implementation of the Partnership's Action Plan a priority and will do everything within my/our power to restore Massachusetts wetlands.

___Please send a copy of the Partnership's **Action Plan**.

Please return this form to:
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