

# **Bi-weekly Wetland and Stream Corridor Restoration Update**

## **Issue 38**

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Welcome to the Bi-weekly Wetland and Stream Corridor Restoration Update. This Web site

Provides current information on wetland and river corridor restoration projects  
Recognizes outstanding restoration projects  
Offers a forum for information sharing

We welcome the submission of articles and announcements related to your restoration project. Just send your write-up to EPA's contractor at [restorationupdate@tetratech-ffx.com](mailto:restorationupdate@tetratech-ffx.com) or mail it to Rebecca Schmidt, Bi-weekly Restoration Update Coordinator, Tetra Tech, Inc., 10306 Eaton Place, Suite 340, Fairfax, VA 22030. We will carefully consider your submission for inclusion in a future update. If your submission is selected, please note that it might be edited for length or style before being posted. Because this Web site is meant to be a public forum on restoration information, we cannot post any information that is copyrighted or information that advocates or lobbies for any political, business, or commercial purposes or has the appearance of doing so.

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## **Feature Article**

### **Model Marsh is Making a Comeback**

The Model Marsh is a 20-acre saltmarsh restoration project at Tijuana Estuary in southern San Diego County, CA. It is the second project of the Tijuana Estuary Tidal Restoration Program (TETRP), a multiphased, 500-acre wetland restoration program which, when completed, will be among the largest projects of its kind in the nation. The Model Marsh site and much of the TETRP area is former saltmarsh that was filled and diked in the early part of the 20th century to allow agricultural and military uses. Located just north of the US/Mexico border at the southwestern corner of the United States, the TETRP is a major emphasis for the Tijuana River National Estuarine Research Reserve.

The objective of the TETRP is to increase tidal prism (exchange of water in a tidal cycle) to provide for enhanced flushing, improved water quality, and control of sedimentation. Project partners plan to accomplish this by excavating fill material and accumulated sediment while implementing projects to prevent erosion and transport of sediment from watershed sources to the estuary.

### Restoring Model Marsh

The Model Marsh phase of the TETRP project is being constructed by the nonprofit Southwest Wetlands Interpretive Association under contract with the California Coastal Conservancy. Project funding partners include the Coastal Conservancy, the U.S. Fish and Wildlife Service, and the Southern California Wetlands Recovery Project, a group of 16 state and federal resource agencies organized to promote wetlands restoration in the region.

The Model Marsh project seeks to create an intertidal marsh plain, with both mudflat and vegetated areas, through a program involving excavation, revegetation, and natural species colonization. Construction has involved the excavation of approximately 100,000 cubic yards of soil from the saltmarsh area (filled in the mid-20th century), reconstruction of a tidal marsh plain, and the creation of a network of tidal channels. The site was graded approximately 4.5 feet below the surrounding area to create an intertidal marsh plain. A principal channel connects the site to the existing South Slough channel. The marsh surface was graded relatively flat (slope < 1%) at an elevation ranging from approximately 1.8 feet above Mean Sea Level (MSL) to 2.8 feet above MSL over a distance of 500 feet. Tidal channel bottoms were graded to approximately MSL.

The partners used a combination of active and passive habitat development approaches. For research purposes they created two topographic treatments: a smooth marsh plain, and areas dissected with a network of tidal creeks. The partners developed six plots measuring approximately 3.3 acres each, within

three of the plots they created identical tidal creek networks measuring approximately two meters wide. They planted some areas with Pacific cordgrass (*Spartina foliosa*), and other areas with varying plant assemblages to assess species interactions and colonization rates.

Almost ten acres of the site, including tidal channel edges, were not actively planted but have been left to natural colonization. These areas will function initially as tidal mudflat, now a declining habitat type at Tijuana Estuary. The project is expected to produce expanded habitat for wetland plants and birds, including the endangered light-footed clapper rail, benthic invertebrates, fishes, algae, and plankton.

The project was successfully implemented during the exceptionally dry fall and winter of 1999-2000. Monitoring conducted for the first year after completion of the project indicated an initial mortality of cordgrass of 25 percent, but no further mortality over the course of the year. Monitoring indicated an increase in both fish and invertebrate densities, as well as an increase in bird use and diversity in the Model Marsh area. Monitoring will continue over time and will focus on fish, invertebrates, sedimentation rates, soil parameters, channel morphology, *Spartina* development, and the success of marsh plain plant species. To view pictures of the site, and for more information, see Jim King's California Coastal Conservancy article at [www.coastalconservancy.ca.gov/scwrp/Projects/01\\_Model\\_Marsh/01\\_ModelMarsh.htm](http://www.coastalconservancy.ca.gov/scwrp/Projects/01_Model_Marsh/01_ModelMarsh.htm). For more monitoring information see [www.coastalconservancy.ca.gov/scwrp/Projects/01\\_Model\\_Marsh/TJ-mon-sum-2000.htm](http://www.coastalconservancy.ca.gov/scwrp/Projects/01_Model_Marsh/TJ-mon-sum-2000.htm).

*If you'd like your project to appear as our next Featured Article, e-mail a short description to [restorationupdate@tetrattech-ffx.com](mailto:restorationupdate@tetrattech-ffx.com).*

## **Five-Star Restoration Projects Update**

The goal of EPA's Five-Star Restoration Program is to bring together citizen groups, corporations, youth conservation corps, students, landowners, and government agencies to undertake projects that restore streambanks and wetlands. The program provides challenge grants, technical support, and peer information exchange to enable community-based restoration projects. A few five-star restoration projects are being revisited to see if the modest amount of funding (between \$5,000 and \$20,000) has helped the local restoration partners achieve their goals.

**Project Title:** Morro Bay National Estuary Riparian Restoration  
**Five Star Grant:** \$14,958  
**Grant to:** Morro Estuary Greenbelt Alliance  
**Project Location:** Morro Bay and Los Osos, California  
**Grant Year:** 2000

### **Original Project Description:**

In Morro Bay and Los Osos, the Morro Estuary Greenbelt Alliance will restore habitat for threatened southern steelhead in the tributary streams of the Morro Bay National Estuary by stabilizing eroding streambanks along the Los Osos and Chorro Creeks. The project, which also involves the California Conservation Corps, the San Luis Obispo Resource Conservation District, and others, will serve as a

demonstration project to promote further habitat enhancement at other priority sites throughout the watershed. Project partners will identify and contact local riparian landowners to arrange visits to the demonstration sites and offer them technical expertise to improve stewardship of their lands. The National Marine Fisheries Service Community-based Restoration Program is providing part of the funding for this grant.

**Project Update:**

The Morro Estuary Greenbelt Alliance Project, completed as part of a larger California Department of Fish and Game project, focused primarily on restoration work in Chorro Creek and Los Osos Creek. The project also included a community outreach effort focusing on educating property owners about the benefits and opportunities associated with restoration work.

The restoration portion of the project was completed with the help of volunteers from Americorps and the California Conservation Corps. Volunteers restored approximately  $\frac{3}{4}$  mile of Chorro Creek. Restoration work included replanting willows along a newly restored floodplain, installing 25 in-stream steelhead habitat structures consisting of large boulders and logs, and revegetating riparian areas with willows, sycamores, cottonwood, coffeeberry, and other understory plants. Volunteers also restored about  $\frac{1}{3}$  mile of Los Osos Creek. Work on this creek consisted primarily of repairing damage to previous restoration work (completed in summer and fall 2000 under a separate project), replanting native species, installing willow mattresses, and creating in-stream steelhead habitat structures by anchoring large logs to the streambed.

The streambank restoration completed through this project is expected to reduce sedimentation in the Morro Bay National Estuary. Unusually rapid and excessive sedimentation has been cited as the most serious threat to the estuary. The restoration work completed for Chorro and Los Osos Creeks is expected to reduce sedimentation by stabilizing highly erodible streambanks and recreating a more natural floodplain. In addition, the restored areas will provide new habitat for a variety of wildlife.

The Morro Estuary Greenbelt Alliance has also worked to educate local residents about the opportunities and advantages of stream restoration. As part of the project, Americorps worked with 120 fifth-grade students from local schools to remove exotic plants at the project sites, and the California Conservation Corps coordinated six on-site restoration workdays in which approximately 60 school-age children participated. The Alliance worked with public agencies and nonprofit organizations at the Steelhead 2001 Forum held on October 2, 2001. Participants discussed ways to reduce the complexity of permitting necessary for restoration work, identified possible restoration projects, and developed a map and directory of projects and possible project managers. The forum was followed up by a public workshop attended by more than 20 landowners in steelhead watersheds. Representatives from permitting and funding agencies talked with landowners about topics like permitting requirements, funding, and technical assistance and invited landowners to tour successful restoration sites. The Alliance continues to work with agency representatives, nonprofit groups, and landowners through the Central Coast Steelhead Coalition and has created a Web site ([www.thebayfoundation.org/steelhead](http://www.thebayfoundation.org/steelhead)) to disseminate restoration information. [Updated April 2002.]

**Project Title:** North Fork Palouse River Riparian Restoration Project  
**Five-Star Grant:** \$10,000  
**Grant to:** Palouse Clearwater Environmental Institute  
**Location:** Potlatch, Idaho

**Original Project Description:**

This project involves a cooperative effort among private landowners, Boy Scouts, community volunteers, a logging company, the Idaho Transportation Department, and the Palouse Clearwater Environmental Institute (PCEI) to restore riparian habitat along the North Fork of the Palouse River. The partnership will stabilize and revegetate 1,000 linear feet of stream and establish a 100-foot buffer that will also be planted with native plants. By involving the community in riparian restoration, this project will provide hands-on education and will build awareness of the importance of riparian habitat and the imperative for restoration.

**Project Update:**

The project partners – private landowners, Boy Scouts, community volunteers, a logging company, the Idaho Transportation Department, and PCEI – worked together to restore riverside habitat along a section of the North Fork of the Palouse River near Potlatch, Idaho. The partnership stabilized and revegetated 1,000 linear feet of stream and established a 100-foot buffer that they planted with native plants.

PCEI planted more than 700 trees, created a trail, installed two interpretive signs off the highway, and mounted bird boxes on the floodplain where State Highway 95 crosses the Palouse River, 3 miles south of Potlatch. Project participants will see the trees grow over the years as they drive by on Highway 95 and will gain a better understanding of the ecology of the Palouse River watershed.

By involving the community in riparian restoration, the project met its goal to provide hands-on education and build awareness of the importance of riparian habitat and the need for restoring it.

**[Updated May 2002.]**

*For more information on EPA's Five-Star grant program, visit [www.epa.gov/owow/wetlands/restore/5star](http://www.epa.gov/owow/wetlands/restore/5star).*

## **Community-Based Restoration Partnerships**

### **Greening Minnesota's River Valleys**

Minnesota's Great River Greening organization is restoring riparian and other areas throughout the Minneapolis/Saint Paul area. Great River Greening is a nonprofit, community-based organization that restores and maintains urban natural resources throughout the Minneapolis/Saint Paul river valleys in partnership with public and private landowners and citizen volunteers. Since the group formed in 1995 (formally incorporated in 1999), it has engaged more than 10,700 volunteers in projects on public and private property along the Mississippi, Minnesota, and St. Croix rivers to enhance the ecological quality of these spaces. Thanks to the efforts of these volunteers, Great River Greening has planted more than 35,000 trees and shrubs and 16,500 prairie grasses and wildflowers.

Great River Greening's projects typically fall into four categories: (1) Native planting designs for developed and natural areas; (2) Ecological inventories and restoration management plans for natural areas; (3) Plantings of native trees, shrubs, wildflowers and grasses; and (4) Restoration and management activities including exotic species removal, prescribed burns, and prairie seed collection and sowing.

The group's activities during this past year are indicative of their hard work and dedication to their restoration effort. On May 4, 2002, more than 30 volunteers helped plant native trees, shrubs, prairie grasses and wildflowers along degraded areas of the river bluffs in the Desnoyer Park neighborhood in Saint Paul. Project partners included the Saint Paul Division of Parks and Recreation, Mississippi National River and Recreation Area-National Park Service, and the U.S. Department of Agriculture. This project was followed up a week later by an oak savannah restoration. More than 140 volunteers helped to removed trash and exotic/invasive species from the site and then planted native oak savannah vegetation. Partners included the Saint Paul Division of Parks and Recreation, West Side Bluff Task Force, Mississippi National River and Recreation Area-National Park Service, and the U.S. Department of Agriculture. These projects were funded by the Minnesota Environment and Natural Resources Trust Fund, as recommended by the Legislative Commission on Minnesota Resources.

In early June 2002, more than 30 volunteers helped Great River Greening plant river birch, gro-lo sumac, and little bluestem at the industrial Barge Terminal 1 on the east side of Saint Paul. The project received a Five-Star Restoration Partnership grant funded by the EPA and administered through the Wildlife Habitat Council.

On September 21, 2002, volunteers helped remove nonnative buckthorn and tartarian honeysuckle and helped haul the brush to a site where it was chipped then hauled away and burned. Lunch, entertainment and a prize drawing concluded this event along the Mississippi's only true gorge. Partners included Great River Greening, the Longfellow Community Council, the Minneapolis Park and Recreation Board, and Friends of the Mississippi River. Many more events are planned for the future. For a map of project sites with links to project descriptions, see [www.greatrivergreening.org/project\\_list.asp](http://www.greatrivergreening.org/project_list.asp). For information on upcoming restoration events sponsored by Great River Greening, see [www.greatrivergreening.org/events\\_calendar.asp](http://www.greatrivergreening.org/events_calendar.asp).

### **Fixing Washington's Fishtrap Creek**

This past spring, diverse partners joined forces to improve the riparian area along Washington's Fishtrap Creek, one of four important Whatcom County salmon streams. During February, March, and April, the Nooksack Salmon Enhancement Association (NSEA), a Washington Conservation Corps crew, students from Lynden Schools, and community volunteers replanted a stretch of the creek located north of the town of Lynden. In an effort to improve Fishtrap Creek water quality and fish habitat, the team planted 2,270 native plants within a 25-foot riparian buffer along both sides of the creek. Plants included Douglas fir, black hawthorn, sitka alder, three species of willow tree, black twinberry, serviceberry, and snowberry.

This site had been planted previously, but most of that vegetation was lost to vole and beaver predation. This time the partners took extra steps to protect the plants by placing a blue vole protector on every plant and erected an experimental fence around most of the planting site to keep beavers out of the buffer area.

This summary was excerpted from The NSEA's newsletter, *Fishtales* (Spring 2002). The original article is available at [www.n-sea.org/fishtale/current/fishtrapcreek.shtml](http://www.n-sea.org/fishtale/current/fishtrapcreek.shtml).

*If you are part of an innovative community-based partnership that is working to restore river corridors or wetlands, we'd like to hear from you. Please send a short description of your partnership to [restorationupdate@tetrattech-ffx.com](mailto:restorationupdate@tetrattech-ffx.com).*

## **Achieving Restoration Results**

### **Alaska Watersheds Restoration Recognized**

Three Alaska conservation organizations recently received the U.S. Fish and Wildlife Service's (USFWS) 2002 National Wetlands Conservation Awards for their outstanding efforts to restore, protect and enhance Alaska's wetlands. This award program, established in 1990, is the USFWS's primary means of recognizing the wetlands conservation achievements of its nongovernmental partners. Awards are presented both at a national level and within each of the USFWS's seven regions.

The 2002 Alaska Regional Wetlands Conservation Award was presented to the Yukon River Drainage Fisheries Association for its pivotal role in the removal of the defunct Davidson Ditch Diversion Dam on the Chatanika River. The Association took the lead in coordinating state and federal participation in, and arranging private contracting for, this complex project, which had been a goal of Alaska fisheries managers for decades. The dam removal, completed in subzero temperatures in January 2002, opened more than 65 stream miles of spawning and rearing habitat in a 90,000-acre watershed to chinook and chum salmon, arctic grayling, and northern pike.

The 2002 Regional Runner-up Award went to the Great Land Trust in recognition of that organization's leadership in numerous wetland conservation projects in the Anchorage Bowl and Matanuska-Susitna Valley. The Trust has built a comprehensive database of wetland and other wildlife habitat resources in greater Anchorage, educated hundreds of private landowners about voluntary land conservation mechanisms such as conservation easements, led successful efforts to preserve Furrow Creek wetlands, as well as a number of other Anchorage sites, and is currently spearheading efforts to protect the Fish Creek Estuary. While doing so, the Trust has built wide community support for conservation of wildlife habitat, open space, and parklands.

The USFWS also recognized The Conservation Fund for its landscape wetlands conservation efforts in Southwest Alaska National Wildlife Refuges, spearheaded by Eagle River resident Brad Meiklejohn. This project has protected thousands of acres of wetlands and associated streams and uplands important to migratory birds, salmon, caribou, and marine mammals.

“The variety apparent in the Alaskan projects recognized this year—from stream restoration to urban habitat protection to the protection of broad wetlands ecosystems—demonstrates the wealth of expertise and commitment that nongovernmental organizations bring to wetlands conservation in our state,” said Dave Allen, the USFWS's Alaska Regional Director. “The success of the Service's efforts to conserve Alaska's wildlife resources increasingly depends on the partnerships that we build with such

organizations.” For more information, see <http://news.fws.gov/newsreleases/r7/87CA925F-EB5E-43DE-86CF9DC9D35E0F95.html>.

### **Restoring Blackwater’s Marshland**

A team of scientists is just completing a pilot project to restore marshland in the Chesapeake Bay’s Blackwater National Wildlife Refuge. After studying the marsh area for two years, staff from the Refuge, the Army Corps of Engineers, the U.S. Fish and Wildlife Service, and Maryland’s Department of Natural Resources devised a plan to stop the erosion of marshland areas. For the past two months, the team has been lightly dredging sediment from channels and ponds in the Refuge and placing it along the outer edge of the marshlands.

The project team hopes the \$1 million pilot project will successfully restore 8,000 acres of marshland grasses that will support not only resident wildlife, including the endangered Delmarva fox squirrel and 250 species of birds, but also tens of thousands of migratory waterfowl. For more information on the project, see the article “Reclaiming the Marshland,” by Chris Guy, printed in the Baltimore Sun’s *SunSpot News* on September 24, 2002 (available online at [www.sunspot.net/news/local/bal-md.blackwater24sep24.story](http://www.sunspot.net/news/local/bal-md.blackwater24sep24.story)). For more information on the Blackwater National Wildlife Refuge, see [www.friendsofblackwater.org](http://www.friendsofblackwater.org).

*If you are part of an innovative restoration project that has had positive results, we’d like to hear from you. Please send a short description of your project to [restorationupdate@tetrattech-ffx.com](mailto:restorationupdate@tetrattech-ffx.com).*

## **Funding for Restoration Projects**

### **River Restoration Grants by American Rivers and NOAA**

American Rivers is seeking proposals for community-based river restoration grants as part of its partnership with the National Oceanic and Atmospheric Administration’s (NOAA) Community-Based Restoration Program. These grants are designed to provide support for local communities that are using dam removal or fish passage to restore and protect their rivers and improve freshwater habitats important to migratory (anadromous) fish.

Eligible projects will successfully restore anadromous fish habitat, minimize identifiable short- or long-term negative impacts to the river system as a result of the project, involve the community in project decision making and project implementation, and provide potential public outreach and education opportunities.

To be considered for the first grant cycle of the fiscal year, applications must be postmarked by November 1, 2002. The deadline for the second grant cycle is April 1, 2003. Project applicants should contact American Rivers to discuss potential projects prior to submitting an application. For more information, visit the American Rivers Web site at [www.amrivers.org/feature/restorationgrants.htm](http://www.amrivers.org/feature/restorationgrants.htm) or contact Peter Raabe at American Rivers, 1025 Vermont Avenue, NW, Suite 720, Washington, DC 20005 or e-mail: [rivergrants@amrivers.org](mailto:rivergrants@amrivers.org). More information on the NOAA Community-Based Restoration Program and its partners can be found by visiting [www.nmfs.noaa.gov/habitat/restoration/community/index.html](http://www.nmfs.noaa.gov/habitat/restoration/community/index.html).

### **2003 Small Grants Available from Riverways**

The Riverways Programs, Massachusetts Department of Fisheries, Wildlife and Environmental Law Enforcement is now soliciting project proposals for its Riverways Small Grants program. Riverways will award as much as \$50,000 in Small Grants during this fiscal year with individual grant amounts ranging from \$500 to \$5,000. To be eligible for the program, projects must be scheduled for completion by June 30, 2003 and should substantively advance some aspect of river, stream, or adjacent land protection or restoration. Nonprofit organizations as well as cities and towns are welcome to apply. Proposals must be received by noon on October 31, 2002. The request for proposal and complete application package can be downloaded at [www.state.ma.us/dfwele/River/rivSmallgrnts.htm](http://www.state.ma.us/dfwele/River/rivSmallgrnts.htm). Contact Eileen Goldberg, Grants Administrator, at 617-626-1546 or [eileen.goldberg@state.ma.us](mailto:eileen.goldberg@state.ma.us), for more information.

Examples of project ideas that would be eligible for a Riverways Small Grant include:

- Organizing Stream Teams as local stewards
- Collecting and mapping land use and landowner information
- Contacting and working with riverfront landowners
- Implementing greenway plans, open space plans, or Stream Team Action Plans
- Developing local bylaws or regulations for river corridor protection
- Providing public information and education about the importance of rivers
- Organizing citizen involvement in river protection
- Identifying and mapping natural communities and critical habitats for protection
- Funding of riparian land purchases or easement protection

### **U.S. Fish and Wildlife Service Coastal Grants Available**

The U.S. Fish and Wildlife Service (USFWS) is offering grants to support local cooperative conservation projects in coastal areas including the Great Lakes. Approximately \$230,000 will be available this fall in the Great Lakes region, and the USFWS is urging interested groups to apply for funding. Deadline for application is October 31, 2002.

This is the third year the USFWS has offered grants for conservation projects aimed at restoring and conserving Great Lakes coastal areas and habitats. In the past two years, funding through the USFWS's coastal program has benefitted coastal ecosystems along the Great Lakes by conserving fish, wildlife, plants, and their habitats in coastal lands and waters; restoring or protecting more than 900 acres of coastal habitat; protecting and restoring more than 11 miles of streamside habitat; and removing 3 fish passage barriers in Great Lakes tributaries, which reopened 8 miles of stream to migrating fish. Requests for coastal conservation grants are capped at \$20,000.

To receive information and an application for USFWS coastal conservation funds, contact Mark Dryer, Service Coastal Program Manager, at 715-682-6185. Completed applications must be received by September 30, 2002. Grant money is available for a wide variety of practices, including education and planning, that result in restoration, conservation, or management of Great Lakes coastline habitats for fish and wildlife. Emphasis will be placed on projects that produce "on-the-ground" results for coastal ecosystem habitats, are "off-the-shelf" projects that require minimal start-up time, and are leveraged with other funds. For more information about programs and activities of the USFWS in the Great Lakes/Big Rivers Region, visit <http://midwest.fws.gov>.

*Please send any news you have on funding mechanisms available to local community organizations to [restorationupdate@tetrattech-ffx.com](mailto:restorationupdate@tetrattech-ffx.com).*

## **News and Announcements**

### **Emergency Watershed Protection Program Funding Will Help States Hit by Natural Disasters**

On September 16, 2002, Agriculture Secretary Ann M. Veneman announced that \$94 million will be released for the Emergency Watershed Protection Program (EWP) in 36 states: Alabama, Alaska, Arizona, Arkansas, California, Colorado, Florida, Georgia, Hawaii, Indiana, Illinois, Iowa, Kentucky, Louisiana, Maryland, Massachusetts, Michigan, Minnesota, Missouri, Mississippi, Nebraska, Nevada, New Mexico, North Dakota, Ohio, Oklahoma, Oregon, Puerto Rico, Tennessee, Texas, Utah, Vermont, Virginia, West Virginia, Wisconsin, and Wyoming.

“This program will provide assistance to help restore natural resources from the devastating effects of wildfires and other natural disasters,” Veneman said. “The Bush administration remains committed to providing the tools and resources for environmental stewardship to ensure that the land remains both healthy and productive.”

The Natural Resources Conservation Service (NRCS) provides technical and financial assistance through EWP where a potential threat to life or property exists as a result of natural disasters including floods, hurricanes, tornadoes and wildfires. EWP provides funding to local project sponsors for work that includes clearing debris from clogged waterways, restoring vegetation, and stabilizing streambanks.

For more information, contact your local NRCS office or USDA Service Center, listed in the telephone book under U.S. Department of Agriculture, or on the web at <http://offices.usda.gov>. You may visit the NRCS web site at [www.nrcs.usda.gov/programs/ewp/ewp.html](http://www.nrcs.usda.gov/programs/ewp/ewp.html). To view the original press release go to [www.usda.gov/news/releases/2002/09/0383.htm](http://www.usda.gov/news/releases/2002/09/0383.htm).

### **Riverfront Development Corporation Announces Start of Marsh Restoration Project**

The Riverfront Development Corporation (RDC) of Delaware has selected Milone & MacBroom, an engineering, landscape architecture, and environmental science firm, for a two-year marsh restoration project at the Russell W. Peterson Urban Wildlife Refuge. The overall objective of the project is to analyze and develop a conceptual design of marsh restoration improvements for various areas within the Old Wilmington Marsh.

Restoration goals include:

- Restoring limited tidal flow and re-establishing hydrologic conditions for desired habitat.
- Creating a new tier of channels to restore the wetland functions and water quality.
- Restoring the filtering capacity of the marsh.
- Restoring tidal exchange to restore habitat diversity, eliminate unnatural flooding conditions, alleviate scouring along the channel side slopes, and reintroduce healthy, stable vegetation cover.
- Stabilizing the riparian shoreline and restoring dike breaches.

- Incorporating habitat and site enhancement opportunities throughout the marsh to enhance habitat diversity and control nuisance and exotic plant species.

Milone & MacBroom will begin work on the \$185,000 contract in June. In the first phase of the project, the firm will evaluate restoration of tidal hydrology, inspect dikes and evaluate the need for dike stabilization and repairs, and investigate additional habitat and site enhancement opportunities. After review and approval of schematic and conceptual design plans, the firm will develop construction documents by August 2003. Following a competitive bidding process, a contractor will be selected to begin construction in October 2003. The anticipated completion date is March 2004.

To view the press release, visit the Delaware Department of Natural Resources and Environmental Control Web site at [www.dnrec.state.de.us/DNREC2000/Admin/Press/Story1.asp?offset=100&PRID=512](http://www.dnrec.state.de.us/DNREC2000/Admin/Press/Story1.asp?offset=100&PRID=512).

### **Ducks Unlimited and U.S. Army Corps of Engineers Announce Agreement**

On July 24, 2002, Ducks Unlimited (DU) and the U.S. Army Corps of Engineers announced that they will work together to protect, restore, and manage wildlife habitat in the United States. D.A. Young, Executive Vice President of DU, and Dominic Izzo, Principal Deputy Assistant Secretary of the Army (Civil Works), cosigned a Memorandum of Understanding that provides a foundation for collaboration between the two organizations in a signing ceremony at DU's headquarters in Memphis, Tennessee.

“The memorandum represents a shared commitment to our nation's wetlands,” said Young, noting that the United States has lost more than fifty percent of its original wetlands. “We are pleased to have the Corps as a partner and we look forward to our working relationship. With our shared strength, we have a tremendous opportunity to conserve and restore landscapes inhabited by waterfowl and hundreds of other wildlife species,” added Mr. Young.

“Ducks Unlimited is a leader in wetlands and wildlife conservation,” Mr. Izzo said. “This partnership combines our expertise toward the worthy goal of conserving wetlands and associated habitat for migratory waterfowl which in turn provides a healthy, diverse and sustainable environment for wildlife and people.”

Collaboration between DU and the Corps of Engineers is expected to have an impact on diverse landscapes in the United States. The two organizations have begun designing a demonstration project in the Upper Susquehanna River Basin in New York. Future plans include the restoration of meanders in the channelized portion of Arkansas' Cache River and work in other areas of mutual interest, including the Louisiana Coast; the Chesapeake Bay; San Francisco Bay; the Pacific Northwest; and river systems such as the Mississippi, Missouri, and Illinois. For more information, see the complete press release at [www.ducks.org/news/du\\_corpeng\\_agreement.asp](http://www.ducks.org/news/du_corpeng_agreement.asp).

## Upcoming Conferences and Events

### New Listings

#### Rhode Island Conservation Leadership Workshops

The Rhode Island Rivers Council recently announced an upcoming series of Institute for Conservation Leadership ([www.icl.org](http://www.icl.org)) Workshops for Watershed Organizations. Funding from the Narragansett Bay Estuary Program will allow watershed organizations in Rhode Island, Massachusetts and Connecticut to attend the workshops at no cost. The workshops are designed as a series, building information from one session to the next. Participating organizations are asked to make a commitment to have a representative attend all four workshops.

Although still in the design phase, the workshops are expected to include effective leadership strategies such as identifying the mission and action plan for an organization, fundraising and budget shortfalls, writing proposals, leveraging resources, prioritizing financial needs, strengthening your leadership team, and tips for avoiding burnout. For more information, contact Meg Kerr at [mkerr@gso.uri.edu](mailto:mkerr@gso.uri.edu) or 401-874-6522.

#### Southern California Wetlands Recovery Project – Symposium 2002

**October 16–18, 2002**

**Ventura, California**

The Third Annual Wetlands Recovery Project (WRP) Symposium will focus on providing information and technical tools to facilitate wetlands recovery in southern California. The WRP Symposium provides a forum for government agencies, nonprofit organizations, and individuals working on wetlands and watershed projects in southern California to share their successes and challenges, get information from experts on critical issues, and learn how the WRP can provide project assistance. It is also an opportunity to learn how local restoration projects, watershed planning groups, and the County Task Forces fit into the larger regional context of WRP. This year, Symposium sessions include Implementing Community Restoration Projects, Wetland and Watershed Education, and Local Funding Innovations. For more information, see [www.coastalconservancy.ca.gov/scwrp/index.html](http://www.coastalconservancy.ca.gov/scwrp/index.html).

#### The Process of Restoration

**January 25, 2003**

**Saint Paul, Minnesota**

This workshop, hosted by Great River Greening, will answer the following questions about restoration: How do we begin?, What do we do?, Why do we do it?, Restore to what?, and Is there only one right way to restore the land? A restoration expert will help answer these and many more questions about the history and current thinking regarding the overall process of restoration. The workshop will be hosted by Great River Greening, a nonprofit, community-based organization that restores and maintains urban

natural resources throughout the Minneapolis/Saint Paul, Minnesota river valleys. For more information, see [www.greatrivergreening.org/events\\_calendar.asp](http://www.greatrivergreening.org/events_calendar.asp).

## Previous Listings

### 2002 American Water Resources Association's Annual Conference

November 3–7, 2002

#### Philadelphia, Pennsylvania

The American Water Resources Association's 2002 Annual Water Resources Conference is a forum for all participants of the water resources community, and will provide discussion of the science, technology, and policy dimensions of water. The conference will offer 75 sessions of technical presentations that include four "forums" highlighting emerging developments in key issues. These sessions will address topics including integrated watershed management, community-based watershed stewardship, management of riparian buffers, design and evaluation of stream restoration, and wetland restoration. Several field trips will also be offered including a trip exploring the preservation and restoration of an urban watershed. For more information about the conference, visit [www.awra.org](http://www.awra.org) and click on the "Annual Conference Preliminary Program" link.

*To post your restoration news and announcements, please send information to [restorationupdate@tetrattech-ffx.com](mailto:restorationupdate@tetrattech-ffx.com).*

## Restoration-Related Web Sites

<http://eureka.regis.berkeley.edu/wrpinfo>

**Southern California Wetlands Recovery Project Information Station.** This site offers profiles of the wetlands and watersheds in coastal southern California. Each profile includes information on land use, hydrology, water quality, soils, habitat, animal use, and existing protection or restoration plans. Ongoing and completed projects for each area are also featured. The site also contains an interactive mapping tool, where users may display information on the region's wetlands and watersheds, zoom in and out, pan, perform queries, and print maps. *This site would be useful for anyone interested in wetland and watershed protection efforts in southern California.*

[www.greatrivergreening.org/restoration\\_methods.asp](http://www.greatrivergreening.org/restoration_methods.asp)

**Restoration Methods.** Great River Greening is a nonprofit, community-based organization that restores and maintains urban natural resources throughout the Minneapolis/Saint Paul, Minnesota river valleys. Their restoration methods Web site contains lists of native plant species that generally occur together in different types of ecosystems (e.g., mesic oak forests, wet prairies). The site also includes information on invasive species and prairie restoration. *This site would be useful for anyone involved in restoration work in the northern United States.*

[www.upperredlakeassn.com/bigbog/natural\\_features.htm](http://www.upperredlakeassn.com/bigbog/natural_features.htm)

**Big Bog State Park Peatlands.** Located in Big Bog State Park, Minnesota's Red Lake peatland is the largest continuous peatland complex in the northern contiguous United States. This Web site offers detailed information on the peatland including how and why it formed, the wetland species it supports, and how it is being incorporated into public recreational use development. Links are provided for readers to access aerial photos of the park area, educational resources information, and more details on the recent history of the peatlands site. *This site would be useful for anyone interested in learning about and/or visiting northern peatlands.*

[www.greatlakesdirectory.org](http://www.greatlakesdirectory.org)

**Great Lakes Environmental Directory.** This online directory serves as an extensive resource for environmental information related to the Great Lakes Basin. The site offers a library containing more than 1,000 Great Lakes articles, an organizational directory featuring information on more than 1,000 Great Lakes organizations, a Great Lakes event calendar, Great Lakes-related news, information on funding opportunities, and educational resources available for download. *This site would be useful for anyone interested in wetland, riparian, or general water quality issues in the Great Lakes watershed.*

[www.invasivespecies.gov/toolkit/main.shtml](http://www.invasivespecies.gov/toolkit/main.shtml)

**Manager's Tool Kit.** This site, developed and managed by the National Agricultural Library for the National Invasive Species Council, offers links to information on invasive species. The site provides diverse information on invasive species including how to prevent their spread, how to monitor their presence and spread, how to control them, and how to restore areas impacted by them. The site also provides contact information for invasive species experts, describes current research projects underway, and lists sources of funding. *This site would be useful for anyone concerned about invasive species.*

[www.makeadifferenceday.com](http://www.makeadifferenceday.com)

**Make a Difference Day.** USA Weekend magazine and The Points of Light Foundation encourage the public to join or develop a service project for the 2002 Make a Difference Day, scheduled for October 26. Projects range from feeding the hungry to restoring riparian areas. This site offers links to help users find a preregistered project, register a new project, download planning guides and media tools, and more. *This site provides useful information for anyone interested in performing service projects in their community.*

<http://plant-materials.nrcs.usda.gov>

**Plant Materials Program.** The USDA Natural Resources Conservation Service's Plant Materials Program develops plants and technology that help solve environmental and conservation problems. Their Web site offers several tools to help readers effectively use plants in their landscape and in restoration projects including publications and fact sheets about seeding, planting, bioengineering, riparian restoration, and types of conservation plants. The site also provides links to USDA's PLANTS Database, a single source of standardized information about vascular plants, mosses, liverworts, hornworts, and lichens of the United States and its territories. *This site provides useful plant-related information for anyone involved in riparian or wetland restoration projects.*

[www.stream.fs.fed.us/index.html](http://www.stream.fs.fed.us/index.html)

**Stream Systems Technology Center.** This national technical center, operated by the USDA Forest Service's Rocky Mountain Research Station, seeks to improve knowledge of stream systems and processes, develop resource tools, provide training and technical support to National Forests, and identify stream-related research needs and priorities. Their Web site offers a quarterly newsletter focusing on technical river issues and provides software and publications (on topics ranging from sediment load and classification to water quality) for download. *This site provides useful information on technical river issues, such as streambed structure and bedload, that may be important in some riparian restoration projects.*

*Let us know about your restoration-related Web site. Please send relevant URLs to [restorationupdate@tetrattech-ffx.com](mailto:restorationupdate@tetrattech-ffx.com).*

## **Information Resources**

### **American Birding Association 2003 Project Directory**

The American Birding Association publishes an annual directory of birding-related volunteer opportunities. Opportunities across the United States are listed on their "Opportunities for Birders" web site. The 2003 projects listed in the directory include wildlife surveys, habitat restoration, and outreach and education. Projects require skill levels ranging from very basic to very skilled, and physical requirements and working conditions ranging from helping with office tasks to hiking into remote areas with heavy equipment. Projects can be listed in the directory by contacting the American Birding Association before October 25, 2002. For more information about the directory, or to view volunteer opportunities, visit <http://americanbirding.org/opps/voldiindex.htm>.

### **"Methods for Evaluating Wetland Condition" Modules Available**

EPA Wetlands Division and the Health and Ecological Criteria Division just released a set of 12 modules entitled "Methods for Evaluating Wetland Condition." These peer-reviewed modules provide "state-of-the-science" information that can help you monitor and assess the biological and nutrient conditions of wetlands in order to evaluate wetland health. A fact sheet provides detailed background material on the modules. Eight additional modules are planned for future publication. The modules are available on the Web at [www.epa.gov/waterscience/criteria/wetlands](http://www.epa.gov/waterscience/criteria/wetlands). You may also order the entire set, or specific copies of the "Methods for Evaluating Wetland Condition" modules, from the EPA National Service Center for Environmental Publications (NSCEP) by phone at 513-489-8190 or toll-free 800-490-9198, or by e-mail to: [ncepiwo@one.net](mailto:ncepiwo@one.net).

### ***A Field Guide to the Reptiles and Amphibians of Coastal Southern California* by Robert N. Fisher and Ted J. Case (USGS)**

This illustrated guide (available online at [www.werc.usgs.gov/fieldguide](http://www.werc.usgs.gov/fieldguide)) features information about the reptile and amphibian species found in coastal sage scrub, grassland, chaparral, oak woodland, riparian and washes, and conifer woodland habitats in coastal southern California.

**Mats, Concrete, Blocks, and Rocks: The Lowdown on Rip Rap.** This article, published in the July/August 2002 issue of *Erosion Control* magazine, explores the options for preventing erosion in channels and streambanks. In particular, the article discusses the use of gabion baskets, rip rap/rock armor, ArmorFlex articulating concrete block mats, A-Jacks armor units, and "soft" techniques (rootwads, trees, sod mats). This article is available for viewing online at [www.forester.net/ecm\\_0207\\_mats.html](http://www.forester.net/ecm_0207_mats.html).

***A Guide to Ohio Streams***

**by the Ohio Chapter of the American Fisheries Society**

This guide was developed by the Ohio Chapter of the American Fisheries Society with assistance from the Ohio Department of Natural Resources (ODNR), Ohio Environmental Education Fund, and Ohio Environmental Protection Agency (Ohio EPA). The guide discusses the geology and geography of Ohio's streams, threats to habitat, water quality and pollution control, ecology, wildlife diversity, recreation, stream laws, protection and restoration, and major Ohio watersheds. For more information on content, contact Randy Sanders, ODNR Division of Wildlife, at 614-265-6344. A limited number of copies are available from the Ohio EPA Office of Environmental Education, P.O. Box 1049, Columbus, OH 43216-1049; Phone: 614-644-2873; e-mail: [oeef@epa.state.oh.us](mailto:oeef@epa.state.oh.us).

**Spatial Wetland Assessment for Management and Planning  
by National Oceanic and Atmospheric Administration (NOAA)**

The NOAA Coastal Services Center has developed a conceptual Geographic Information System (GIS) model to evaluate the relative significance of tidal and riverine wetlands within their watersheds. Called Spatial Wetland Assessment for Management and Planning (SWAMP), the model evaluates a wetland's contribution to water quality, hydrology, and habitat. These functions of tidal and riverine wetlands are based on landscape features and site characteristics. For more information, see [www.csc.noaa.gov/lcr/swamp/text/p661.htm](http://www.csc.noaa.gov/lcr/swamp/text/p661.htm).

***Directory of Wetland Plant Vendors in the United States***

**by the Jamie L. Whitten Plant Materials Center in Coffeeville, Mississippi**

This directory, available for download at [http://plant-materials.nrcs.usda.gov/plant\\_sources.html](http://plant-materials.nrcs.usda.gov/plant_sources.html), provides the most up-to-date and comprehensive information on nurseries and vendors of wetland plants in the United States. The Directory is an update of the U.S. Army Engineers, Waterways Experiment Station, 1992 version of the Directory of Wetland Plant Vendors. The directory provides the following information:

- A listing of wetland plant vendors and their contact information.
- A listing of obligate and facultative wetland plant species (as determined by the U.S. Fish and Wildlife Service) for which vendor sources were found.
- Vendors that supply each species.
- A listing of the available propagule types (seed or vegetative propagule).
- A listing of alternate names (synonyms) for applicable species.

*If you'd like to publicize the availability of relevant information resources, please send information to [restorationupdate@tetrattech-ffx.com](mailto:restorationupdate@tetrattech-ffx.com).*