

Bi-weekly Wetland and Stream Corridor Restoration Update

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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@tetrattech-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

Merrick Brook Bank Stabilization

Merrick Brook in the Talbot Wildlife Management Area in Scotland, Connecticut, can now better support the resident wildlife. The Connecticut Department of Environmental Protection (DEP) recently completed a restoration project that has helped restore wild brown and brook trout populations along with hatchery-raised adult brown, brook, and rainbow trout. Lower sections of the stream where it connects with the Shetucket River also support broodstock Atlantic salmon.

Over time the Merrick Brook area had suffered severe erosion, leading to the collapse of a 300-foot-long bank of the stream. As a result, 400 to 600 tons of fine sediment filled the stream channel and clogged the gravel streambed. This sedimentation ultimately reduced available habitat for fish, insects, and other aquatic wildlife. To resolve the problem the DEP established a study that focused on the restoration of the brook. Their objectives were to correct local erosion problems, decrease downstream sediment loading, and restore the stream bank and channel.

The DEP's Division of Fisheries and Inland Water Resources, along with two environmental and bioengineering groups, set out to restore the habitat. The project was completed in late fall 2000 with funding from DEP River Restoration Grant Funds (\$76,475), a Fish America Foundation/Wildlife Forever Grant (\$10,000), and Trout Unlimited-Thames Valley Chapter (\$7,000).

The project took almost 12 days to complete and included many innovative design features, including:

- **Boulders**—Placed along the streambeds, boulders provide bank protection. In the stream, boulders create scour holes and low-speed pocket water habitats for trout and other fish.
- **Root Wads**—Root wads help deflect flows away from the streambank, provide excellent overhead cover, and create slow moving water refuge areas for trout.
- **Footer Logs**—Whole, branch-free logs provide bank stability at the bottom of the streambank's slope.

- Boulder Vanes—Boulder vanes provide bank surface protection and deflect high-speed flows away from bank areas. They reduce stream depth at high-flow times and create slower moving pockets of water for fish in areas immediately downstream.
- Native Transplants—A combination of herbaceous and woody vegetation extracted from the project area was used to restore and stabilize the riparian zone.
- Vortex Rock Weirs—Weirs flows away from streambank areas and toward the centerline of the streamchannel, keeping more water in pools during low-flow times. The ends of the weirs provide excellent in-stream fish cover. Deep, fast-flowing water below the weirs also provides valuable adult trout habitat.
- Plant Carpets—Prevegetated fiber carpets 16 by 3 feet grew quickly and led to rapid steambank stability.

To view photos of many of these restoration techniques, visit the Merrick Creek Web page at <http://dep.state.ct.us/burnatr/fishing/stories/merrick.htm>.

Although the project has been completed, it still requires future work and assessment. The project team will gauge the stream to develop a stage-discharge relationship for the project area. They will periodically monitor the site to assess channel stability during and after high flow regimes. Finally, they will conduct biennial steam channel cross section and longitudinal profile surveys, as well as an annual fish population and in-stream habitat inventory.

DEP's Fisheries Division continues to monitor the Merrick Brook trout population and channel and bank stability. The preliminary results have shown that an excellent in-stream habitat now exists for juvenile and adult trout. In addition to the completion of the study objectives, a major source of downstream sediment loading has been eliminated. The changes have improved stream habitat for fish, insects, and the whole aquatic wildlife community. The area will continue to be monitored to confirm these results. For more information, contact Esther Bowring at 240-777-6530 or James Caldwell at 240-777-7700.

If you'd like your project to appear as our next featured article, e-mail a short description to 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, the 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 ¾ 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 1/3 mile of Los Osos Creek. Work on this creek consisted primarily of repairing damage to previous restoration work (completed in summer-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 Morro Estuary Greenbelt 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 and 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) to disseminate restoration information. [Updated April 2002.]

Project Name: Pelican Landing Coastal Wetland Restoration
Five-Star Grant: \$15,000
Grant to: City of Moss Point
Project Location: Moss Point, Mississippi
Grant Year: 2000

Original Project Description:

The City of Moss Point will work with the Crosby Arboretum, Moss Point High School, The Nature Conservancy, and others to restore a coastal wetland along the shoreline at Pelican Landing, a new conference facility that will serve as the focal point of an award-winning waterfront revitalization campaign. Students from Moss Point High School's Tiger Tales program, which provides educational and vocational training, will be involved in restoring native wetland plants to the site, which had previously been used as a dumping ground for junked cars and other debris. Interpretive signs will allow the area to be used as an outdoor classroom where local students and visitors can learn about the diversity and benefits of coastal Mississippi wetlands. The project is considered the first significant step in the City's efforts to enhance the local economy through the revitalization of its waterfront. Funding for this grant is being provided by the Gulf of Mexico Program, which is a partnership underwritten by EPA and the National Marine Fisheries Service Community-based Restoration Program.

Project Update:

The City of Moss Point has made substantial progress with its coastal wetland planting program. The city involved youth from Moss Point High School's Tiger Tales program and also recruited volunteers from Moss Point High School's Greenhouse club. The students planted spider lilies and river oats along the shoreline at Pelican Landing.

In late November 2000, the City of Moss Point grounds maintenance crew teamed up with Bob Brzuszek, a native plant expert from the Crosby Arboretum, Mississippi State University, to plant more native bushes and trees at the restoration site. This team experienced a pleasant surprise during the bidding process used to purchase plant material for the project. A lower-than-expected bid allowed the team to buy enough plants for planting in both fall 2001 and spring 2002. Final revegetation efforts are expected to be completed in late May 2002. [Updated April 2002.]

Project Title: Johnson School/Round Grove Park Wetlands Restoration Project
Five-Star Grant: \$10,000
Grant to: The Conservation Foundation
Location: Warrenville, Illinois
Grant Year: 1999

Original Project Description:

The Conservation Foundation will restore a degraded wetland at the Johnson School in Warrenville, Illinois, to create an outdoor wetland education laboratory. Students will help restore the wetland and continue to monitor their work through science classes. Project partners also include the City of Warrenville, DuPage County, state and federal agencies, the Johnson School Parent-Teacher Association, and the Summerlakes Homeowner Association.

Project Update:

The project was officially renamed the Ferry Creek Wetland Restoration Project. The Conservation Foundation, working with the Warrenville Park District, restored 7 acres of wetland that had previously been filled. The wetland is adjacent to Ferry Creek and Johnson Elementary School, which has been active in planting prairie plants in the upland around the restored wetland. The school is incorporating the site into the fourth and fifth grade science curriculum. Local Boy Scouts and the Kiwanis participated in brush removal, building nesting boxes, and building an overlook deck.

Additional funds have been acquired to complete a path around the wetland to facilitate educational and recreational activities.

Overall, the project was successful and will add a great amenity to the local community as well as benefit the ecosystem. Project partners included The Conservation Foundation, Warrenville Park District, City of Warrenville, Johnson School PTA, Warrenville Kiwanis, Illinois Department of Natural Resources, U.S. Environmental Protection Agency, and U.S. Fish and Wildlife Service. **[Updated May 2002.]**

Project Title: Seagrasses in Classes
Grant Year: 1999

Project Update:

Seagrasses in Classes was successful in having more than 800 students, 25 teachers, 10 Save The Bay volunteers, and 15 volunteer divers work to grow eelgrass in school greenhouses and then transplant 2,300 eelgrass seedlings and whole plants. The vegetation was planted at a barren site in Wickford Harbor, a small embayment of Narragansett Bay. The transplanted eelgrass was in peat pots, on coconut fiber mats, and attached to TERFS (Transplanting Eelgrass Remotely with Frame Systems) racks. Eelgrass is one of the most diverse and productive underwater habitats in the United States and Europe. It prevents shoreline erosion; filters pollution; cycles nutrients; and provides food, shelter, and nursery and breeding grounds to shellfish, lobsters, and young fish of Narragansett Bay.

As of July 19, 2000, based on a scuba survey, 1,262 plants were spread over the site. They ranged from 30 to 100 centimeters long, with few epiphytes or invasive algae, and they looked healthy. A qualitative

survey of the transplant bed in October 2000 revealed approximately 100 peat pot eelgrass plants, none on the coconut fiber, and a healthy 2-foot by 8-foot bed of TERFS plants.

As a model and a tool for community-based restoration, Seagrasses in Classes has been particularly effective in raising awareness and building stewardship for eelgrass restoration in Rhode Island communities. This awareness is critically important because environmental organizations are advocating for a statewide habitat restoration plan. Teachers and students that participated in this project gained an appreciation of the significance of eelgrass to the bay's health and learned they can effectively contribute to restoration of this important habitat.

Seagrasses in Classes has been incorporated into the curriculum of all participating schools. In the 1999-2000 school year, the "eelgrass sanctuary scoping activity" was introduced to several of the participating schools. In this activity, students help to determine where the next eelgrass beds should be established in the bay. All participating schools are now required to complete the scoping activity.

The public was also educated about the significance of eelgrass restoration through nearly 20 articles appearing in local and regional newspapers, articles posted on Web sites, and articles printed in the Save the Bay *BayBulletin* newsletter.

Future restoration efforts include altering the control of nitrate levels in the schools' tanks and monitoring the effects. Nitrate levels play a major part in the blade length of the eelgrass. The peat pot schools will continue raising seedlings in peat pots; the aquarium schools will raise seedlings in plastic pots containing low-nutrient sediment instead of coconut fiber mats. TERFS racks will continue to be used to lower seedlings into the transplant site. **[Updated March 2002.]**

Community-Based Restoration Partnerships

Volunteers Restore Wetland

A tidal marsh in Long Island Sound is once again flowing freely, thanks to the efforts of a local watershed group. Long Island Soundkeeper, with support from NYC Parks Department, re-excavated a tidal marsh in Pelham Bay Park in late April and early May 2002. Over three weekends a dedicated group of 80 volunteer high school students fought back the *Phragmites* (a plant harmful to these areas), clearing blocked water channels, and planted more than 300 *Spartina* seedlings (a plant beneficial to saltwater runoff areas). The volunteers also picked up more than two truckloads of trash from the area.

Boy Scout Troop 182 spent one Saturday removing bags of the dense *Phragmites* plants that had taken over the area. *Phragmites* can become so dense that it blocks water flow essential to the marsh. On two subsequent Saturdays, volunteers from eight local high schools removed trash and debris, and planted hundreds of seedlings. This cooperative effort will result in a cleaner, healthier area for the community to enjoy.

Salt marshes and tidal wetlands act as filters and remove harmful components from groundwater runoff that flows into Long Island Sound. They also act as fish nurseries: fish lay their eggs in the shallow water amid saltwater plants, such as *Spartina*. The shallows and the plants protect the baby fish until they reach a size at which they are more likely to survive in the open water. Small wetland areas can be a haven to millions, even billions, of these tiny fish. When the fish are mature enough, they move into the Sound, and eventually populate the deep ocean waters of the Atlantic and North Atlantic. For more information, see the Long Island Soundkeeper Web site at www.soundkeeper.org.

On Their Way to Saving the Bay

The California nonprofit group Save The Bay has made great progress in its efforts to restore wetlands along Tolay Creek, a San Pablo Bay tributary. Once a vast wetland ecosystem, the area surrounding Tolay Creek was diked and drained in the early 1900s to grow feed for cattle and horses. By 1974, when Tolay Creek was added to the San Pablo Bay National Wildlife Refuge, it had become a narrow wetland fragment squeezed between levees with limited downstream flows. In 1998 a unique partnership involving Save The Bay breached some of these levees, and an expanded creek now feeds a growing tidal marsh into San Pablo Bay (located within San Francisco Bay).

Bringing together local farmers and government agencies in a unique, collaborative partnership, Save The Bay is helping to transform the 435-acre site into a fully functional tidal salt marsh. The goal of the Tolay Creek restoration project is to restore the site's diked, historic wetlands to tidal salt marsh, providing critical habitat for threatened and endangered species. Save The Bay's Community-based Restoration Program, along with the U.S. Fish and Wildlife Service and Duck Unlimited, has been working with the help of schools, community volunteers, nonprofit organizations, and corporations to restore the creek to its original condition. Once a month, volunteers help plant native plants, remove nonnative weeds, monitor water quality, and clean the shoreline—ensuring that another generation of Bay citizens can enjoy the beauty of San Francisco Bay.

In the 18 months since the efforts began, monitoring at the site has shown many improvements, including increasing bird and harvest mouse populations, increasing numbers of young fish, return of native salt marsh plants, and sediment accretion in the wetlands. For more information see www.savesfbay.org/tolay.html.

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.

Achieving Restoration Results

A Dump Is Transformed into an Ecological Paradise

The City of Boulder is helping Sombrero Marsh, an ancient and much-abused natural wetland, to come back to life. Wetland ecologist Don D'Amico has been overseeing the marsh's transformation from a neglected garbage dump to a Mecca for native plants and animals. During the winter of 2001, earthmoving machinery hauled away 55,000 cubic yards of fill material that had been deposited in the eastern part of the marsh. "We found some interesting stuff," D'Amico laughs. "There was part of a 1969 Ford Fairlane, some broken desks, lots of bricks and concrete—you name it." Once the garbage was gone, graders gently sloped and contoured the site to D'Amico's exacting specifications. Since then revegetation has begun: the City of Boulder Open Space and Mountain Parks (OSMP) Division staff and volunteers have been planting thousands of native wetland and prairie plants.

At the same time, the Sombrero Marsh nature center is nearing completion. When Boulder Valley School District sold the marsh to OSMP in 2000, it retained a one acre site in the northeast corner of the property to build a 4,800 square foot environmental education facility. The center, the result of a partnership between the school district, Thorne Ecological Institute and OSMP, was finished in June 2001. It contains a small library, viewing and assembly areas and a laboratory for studying water and wetland soils. Thorne Ecological Institute has developed curricula in science and math with links to language arts to serve the district's first, fourth and seventh graders. Students will learn about the marsh outside as well as inside: a limited network of trails and boardwalks will allow classes to visit a wildlife viewing blind and the restored portion of the marsh. The western portion of the wetland will remain off limits to the public as a wildlife sanctuary.

D'Amico stresses that the restoration is a work in progress. "Vegetation won't cover the site in the first year, and we may have to aggressively control noxious weeds." Nevertheless, students will have an unparalleled opportunity to observe and participate in the gradual healing of one of Boulder's natural treasures. For more information, contact Don D'Amico at 720-564-2055 or see www.ci.boulder.co.us/openspace/preservation/sombrero.htm.

Swan Creek Restored for Salmon Habitat

The City of Tacoma developed a stream restoration project on 12 acres of property bordering Swan Creek near the City of Tacoma's corporate boundary and the Puyallup River. The project location is ideal because it provides opportunities for both habitat restoration and public outreach. The project establishes freshwater stream habitat, restores and enhances refuge habitat for juvenile salmonids, provides increased and enhanced habitat for wetland-dependent species, and eliminates fish passage impediments.

Activities associated with site habitat restoration include the excavation of approximately 2 acres of filled wetland property to create off-channel wetland and open water habitat for juvenile anadromous salmonids and other wildlife species; evaluation and implementation of habitat improvements, including possible channel relocation, in an area of the stream adjacent to the Burlington-Northern railroad tracks;

evaluation of existing fish passage and implementation of recommended passage improvements in the stream channel upstream of the railroad tracks; and the planting of native vegetation within and adjacent to newly created wetlands and on nearby hillslopes. For more information, see www.darcnw.noaa.gov/swan.htm.

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.

Funding for Restoration Projects

The Bullitt Foundation

The Bullitt Foundation is committed to the protection and restoration of the environment of the Pacific Northwest. The Foundation invites proposals from nonprofit organizations that serve Washington, Oregon, Idaho, British Columbia, western Montana (including the Rocky Mountain Range), and the rain forest region of southern Alaska. Most grant recipients are citizen groups located in the Northwest that are working to build and strengthen the environmental movement and to educate the broader public about the importance of protecting and restoring the environment. The foundation has designated projects that protect and restore rivers, wetlands, estuaries, and marine systems as an area of priority funding. Proposals are reviewed two times a year and must be received by May 1 and November 1. Grant amounts typically range between \$20,000 and \$70,000. For more information, visit www.bullitt.org.

National Fish and Wildlife Foundation Challenge Grants

The National Fish and Wildlife Foundation operates a conservation grants program that awards challenge grants, on a competitive basis, to eligible grant recipients, including federal, tribal, state, and local governments, educational institutions, and nonprofit conservation organizations. Challenge grants are awarded to projects that address priority actions promoting fish and wildlife conservation and the habitats on which they depend. Priority is given to organizations that work proactively to involve other conservation and community interests. Project proposals must be received by October 15 to be considered in this decision cycle. Grants typically range from \$10,000 to \$150,000, based on need, and require \$2 in matching funds to every \$1 of federal funds awarded. For more information, visit www.nfwf.org/programs/guidelines.htm.

Please send any news you have on funding mechanisms available to local community organizations to restorationupdate@tetrattech-ffx.com.

News and Announcements

Ducks Unlimited Launches Online Conservation Education Site

In June 2002 Ducks Unlimited (DU) announced that it had developed a new education section for its Web site at www.ducks.org. The online resource includes teaching materials for parents and educators, plus educational fun for kids to enjoy. “The Ducks Unlimited Web site has a wealth of information about wetlands, wildlife, and the importance of conservation.” says Don Young, executive vice president of Ducks Unlimited. “These are exciting subjects for school-age children, and at DU, we want future generations to learn to appreciate these and other natural resources, so they can carry on the conservation tradition.”

These new educational resources are available on DU’s national Web site at www.ducks.org. “We’ve divided the education section into two sites—one for kids, and one for educators,” says DU’s webmaster, Jason Thompson. “You can access both sites from DU’s home page.”

The Greenwing site is designed just for kids and features project ideas, fun facts, entertaining games, and a variety of other activities. “The idea is to make learning about wetlands, wildlife, and conservation an enjoyable experience,” explains Thompson.

The educators’ site is designed to supply teachers with an engaging curriculum about wetland habitat and wetland wildlife. The site offers five options for teachers: (1) Using *Puddler* (DU’s magazine for kids) in the classroom; (2) an alphabetical list of dozens of wetland/outdoor activities; (3) a complete classroom curriculum for elementary, middle, and high school students; (4) a teacher’s guide for grades 4 to 6; and (5) Fun Zone Activity Booklets. For more information, see www.ducks.org/news/greenwing_teachers_site.asp.

To post your restoration news and announcements, please send information to restorationupdate@tetrattech-ffx.com.

Upcoming Conferences and Events

New Listings

The Year of Clean Water

by America’s Clean Water Foundation

To celebrate the 30th anniversary of the Clean Water Act, America’s Clean Water Foundation is sponsoring the “Year of Clean Water Celebration.” The celebration will include several national events, including the World Watershed Summit to be held October 30 through November 1, 2002 in Washington DC, and National Monitoring Day, a day on which families, classrooms, civic organizations and service

clubs will sample basic water quality parameters using National Water Monitoring Day test kits. Participants in National Monitoring Day are encouraged to sample on October 18, 2002, but testing will be accepted from October 12 through October 27. Additional state and local events are scheduled throughout the country. For more information on national and local events, visit the Year of Clean Water's Web site at www.yearofcleanwater.org.

Design to Dirt: Practical Skills for Urban Restoration

by the Center for Urban Horticulture, University of Washington campus
Seattle, Washington

This six-workshop series, designed for urban restoration practitioners in the Puget Sound lowlands, runs from September through December 2002 in Seattle, Washington. Restoration practitioners working in the urban setting to restore forests, meadows, and wetland areas face special considerations. This series of six workshops is designed to provide new skills in restoration ecology from site analysis, through advanced implementation techniques, to maintenance planning. Those who will benefit from this training are nonprofit and agency employees, community leaders, contractors, and anyone currently leading restoration projects in the Puget Sound area. The workshop is designed for an audience with some knowledge of restoration, and participants will take from this training real skills to apply on the ground. The series will include:

- Site Analysis and Overview, Friday, September 6, 2002
- Invasive Plants, Thursday, September 12, 2002
- Site Preparation, Friday, October 11, 2002
- Plants and Planting, Friday, October 25, 2002
- Wildlife Habitat and Impacts, Friday, November 15, 2002
- Maintenance and Monitoring, Friday, December 6, 2002

For more information, visit http://216.119.67.178/Workshop_Home.htm or contact Melissa Keigley at mwk@u.washington.edu or 206-221-7619.

Previous Listings

9th Annual Virginia Watershed Management Conference

September 25–27, 2002

Roanoke, Virginia

This conference, for local governments, soil and water conservation districts, watershed organizations, interested citizens, and businesses, will provide the tools, technologies, and connections to address watershed issues. Some of the topics to be covered this year are natural stream restoration (demonstrated successes presented by national experts), land conservation (local and practical solutions), watershed planning (TMDLs, Chesapeake Bay Agreement), and land use planning (storm water management and other local applications). For more information, visit www.dcr.state.va.us/watershed.

Watershed Management Seminar

September 27–October 13, 2002

Stevens Point, Wisconsin

The University of Wisconsin–Stevens Point and USDA Forest Service International Programs will cosponsor an international course to address issues in watershed management. Senior-level professionals involved in watershed management, conservation, and restoration are encouraged to apply. The seminar will consist of a mixture of instruction and facilitated discussions on watershed management issues. Areas for training and discussion include management technologies, watershed planning, extension and outreach services, stakeholder participation, management partnerships, financial transfer mechanisms for environmental services, and environmental education. For more information, visit www.fs.fed.us/global/is/watershed/welcome.htm.

**Chesapeake Bay Watershed Restoration Conference:
Riparian and Wetland Stewardship**

September 24–26, 2002

Baltimore, Maryland

This conference will allow attendees to share critical information regarding watershed conditions, riparian and wetland restoration science, and the tools and techniques used for watershed restoration. Much of the information will apply to wetlands nationwide. Topics will focus broadly on assessment and characterization of watershed conditions; riparian and wetland restoration science; and approaches, tools, and techniques for protection and restoration. For more information, contact Hannah Kirchner at 812-723-0088, e-mail hannahk@kiva.net, or visit the Potomac Conservancy Web site at www.potomac.org. The conference is sponsored by the Potomac Watershed Partnership (Ducks Unlimited, USDA Forest Service, Maryland Department of Natural Resources, Virginia Department of Forestry), in conjunction with the Chesapeake Bay Foundation and Stroud Water Research Center.

**The Natural Areas Association 29th Annual Conference:
The Power of Nature and the Empowerment of Natural Areas**

October 2–5, 2002

Asheville, North Carolina

Through this conference, the Natural Areas Association hopes to challenge each participant with new information and ideas about the conservation and management of natural areas. Adaptive ecosystem management will receive special attention; other sessions are scheduled to address invasive species, hydrologic alteration, capacity building, developing a sense of place, and site conservation planning. For more information, visit <http://216.156.79.173/na/CallforPapers2002.pdf>.

To post information about upcoming conferences and events, please e-mail restorationupdate@tetrattech-ffx.com.

Restoration-Related Web Sites

www.cwp.org/restoration.htm

Center for Watershed Protection's Watershed Restoration Page. This Web site lists and briefly describes a series of ongoing and completed watershed restoration projects undertaken by the Center for Watershed Protection. *This site would be useful for those seeking examples of how stream restoration projects can be tied into overall watershed restoration efforts.*

www.wellsreserve.org

Wells National Estuarine Research Reserve. The Wells Reserve is a 1,600-acre research, education, and public recreation facility formed by a state-federal partnership within the National Estuarine Research Reserve System. The Reserve is the largest salt marsh-dominated research site on the Gulf of Maine. The Reserve defines questions, designs studies, develops technology, and produces results for application in coastal resource management. Its site offers information about the ecology of the area, ongoing research efforts, and public education resources. *This site provides valuable information about ongoing coastal wetland research in the Gulf of Maine.*

www.epa.state.oh.us/dsw/wqs/headwaters

Ohio Primary Headwater Habitat Streams. This site describes Ohio EPA's efforts to manage primary headwater streams, defined as streams with watersheds of less than 1 square mile. This site offers photos, ecological information, and a few publications for download, including *Clean Rivers Spring from Their Source: The Importance & Management of Headwater Streams* (August 2001) and a slide show exploring the significance of primary headwater streams. *This site would be useful for anyone interested in the habitat and management of primary headwater streams in the central United States.*

www.nps.gov/phso/rtcatoobox

Community Toolbox. The National Park Service Rivers, Trails and Conservation Assistance program staff has developed an online resource based on its experiences helping communities work together to improve their special places. This Toolbox for Public Participation describes effective ways to implement decision making, plan and carry out events and gatherings, and develop effective visual communications. *This site would be useful for someone seeking guidance on ways to better involve the public in restoration and other environmental projects.*

<http://monitoring2.er.usgs.gov/Frogwatch>

USGS Frogwatch USA. Frogwatch USA is an educational frog and toad monitoring program coordinated by the National Wildlife Federation and the US Geological Survey Patuxent Wildlife Research Center. Through Frogwatch USA volunteers collect information regarding frog and toad populations in neighborhoods across the nation. This information helps scientists identify the effects that habitat loss and water quality degradation have on wildlife populations. *This Web site provides information on amphibian monitoring programs, as will the Adopt-a-Pond program sponsored by Frog Web.*

www.parcplace.org

Partners in Amphibian and Reptile Conservation (PARC). PARC works to create public and private partnerships that will work together to conserve amphibians, reptiles, and their habitats. The page has links to educational materials and examples of student partnerships to preserve amphibians, reptiles, and their habitats. *This Web site has links to useful educational materials about the habitat value of wetlands and how to conserve them through community partnerships.*

www.malloryswamp.org/html/home.html

Mallory Swamp. This site describes the Mallory Swamp Restoration Project, a unique partnership between several private landowners and Florida's Legacy, a nonprofit organization, to restore Mallory Swamp (30,000 acres of forested wetland). The site offers detailed descriptions of the types of wetlands found at Mallory Swamp: cypress swamp, hydric hammock, wet pine flatwoods, and freshwater marshes. Users may view pictures of the types of flora found in each wetland and a virtual reality movie of each type of wetland. The site also describes the techniques used to restore the area and the opportunities for public education. *This site would be useful for someone looking for good examples of wetland education and outreach techniques.*

www.conservation.state.mo.us/landown/wetland

Missouri Department of Conservation Wetland Page. The state of Missouri offers several resources to help landowners manage their wetlands. The site describes the benefits of wetlands and includes a series of online resource documents, including *Missouri Wetlands and Their Management*, *Management of Wetlands for Shorebirds*, and *Wetland Management for Small Acreage*. *This site would be useful for someone looking for wetland information.*

www.massaudubon.org/Kids/Lively_Lessons/Saltmarsh/index.html

Saltmarsh Science Project from the Massachusetts Audubon Society. This Web site provides information on a joint project between students from schools on the North Shore of Massachusetts and the Massachusetts Audubon Society. Through the Saltmarsh Science Project, students collect and monitor information on *Phragmites* growth, water quality, tidal restrictions, and fish health and diversity. *This Web site provides background information on the invasive species *Phragmites australis* and outlines the benefits of a student monitoring program. It would be useful for anyone wishing to organize or participate in an invasive species monitoring program.*

www.prbo.org/calpif/htmldocs/rhvj

California Riparian Habitat Joint Venture (RHJV). The goal of the RHJV is to conserve, increase, and improve riparian habitat in order to protect and enhance California's native resident birds and neotropical migratory birds. RHJV is working toward achieving this goal by compiling information on riparian habitat throughout the state, developing guidelines for the protection of riparian habitat on public lands, restoring riparian habitats throughout the state, and educating residents about the importance of riparian habitat. *This site provides a good example of the specific steps an organization can take to protect riparian areas.*

Let us know about your restoration-related Web site. Please send relevant URLs to restorationupdate@tetrattech-ffx.com.

Information Resources

Watershed Fact Packs

by the Environmental Fund for Pennsylvania, the Pennsylvania Organization for Watersheds and Rivers, and Greenworks TV

Greenworks TV and its partners have created two watershed fact packs to assist groups that are trying to start a watershed association. *Forming A Watershed Association* provides information on filing for 501(c)(3) status, applying for funding, and engaging a board of directors. *Communicating Your Message* helps groups develop strategies to get their message out to the community as well as soliciting help from other volunteers and area businesses and organizations. Each fact pack has both a written and video component. To order a copy of either fact pack (video or CD-rom) and brochure, contact the Pennsylvania Organization for Watersheds and Rivers office at 717-234-7910.

Riparian Areas: Functions and Strategies for Management

by the National Research Council

The National Research Council (NRC) has just completed *Riparian Areas: Functions and Strategies for Management*. It has not yet published, but you can access it online for free at the NRC Web site, www.nap.edu/catalog/10327.html.

The book presents the ecological significance of riparian areas. Its four primary conclusions are as follows:

1. Restoration of riparian functions along America's waterbodies should be a national goal.
2. Protection should be the goal for riparian areas in best ecological condition, while restoration is needed for degraded riparian areas.
3. Patience and persistence are needed in riparian management.
4. Although many riparian areas can be restored and managed to provide many of their natural functions, they are not immune to the effects of poor management in adjacent uplands.

Building Better Rural Places: Federal Programs for Sustainable Agriculture, Forestry, Conservation, and Community Development (Jan 2001)

by Romana A. Vysatova and Laurie S.Z. Greenberg

This publication, available at www.attra.org/guide, was developed by the U.S. Department of Agriculture. It was written for anyone seeking help from federal programs to foster innovative enterprises in agriculture and forestry in the United States. Specifically, the guide addresses program resources in value-added and diversified agriculture and forestry, sustainable land management, and community development. Thus, it can help farmers, entrepreneurs, community developers, conservationists, and many other individuals, as well as private and public organizations, both for-profit and not-for-profit. The guide also aims to help USDA and other agency employees become aware of and

take better advantage of the federal programs and resources available to support agricultural and forestry innovations.

If you'd like to publicize the availability of relevant information resources, please send information to restorationupdate@tetrattech-ffx.com.