

Welcome to the Biweekly Restoration Information Update Page. This web site

- Provides current information on wetland and river corridor restoration projects
- Recognizes outstanding restoration projects
- Provides 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 Kathryn Phillips, Biweekly 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 serves or has the appearance to serve as advocating or lobbying for any political, business, or commercial purposes.

Contents

- [Feature Article](#) - Our feature article recognizes outstanding restoration projects or programs.
- [Five-Star Restoration Projects Update](#) - Five-star restoration projects will be revisited periodically to see if the modest amount of funding, between \$5,000 and \$20,000, has helped the local restoration partners achieve their goal.
- [Community-Based Restoration Partnerships](#) - This section highlights innovative community-based partnerships working to restore wetlands and river corridors.
- [Funding for Restoration Projects](#) - Here you'll find information pertaining to grants and other funding sources available to local watershed groups and other grassroots community organizations to implement restoration projects.
- [News and Announcements](#) - This section includes up-to-date information on regulatory issues affecting restoration, conference and workshop announcements, and other newsworthy tidbits.
- [Restoration-Related Web Sites](#) - Check out other groups on the Web that are helping in the effort to restore wetlands and river corridors.
- [Information Resources](#) - Books, journals, fact sheets, videos, and other information resources to aid you in your restoration project are provided here.
- [Ask a Restoration Question](#) - Post your restoration related question. Answers will be provided by the EPA and Bi-Weekly readers.

Feature Article

Natural Flow Restored to the Soque River

The Soque River Restoration Project focused on restoring natural meanders, floodplains, riffles, pools, and point bars to reduce erosion in the Soque River, Georgia. This river suffered the same fate as many streams flowing through agricultural land—it was straightened through dredging and channelization, and cattle and poor plowing methods reduced the natural vegetation growing on its banks. As the river tried to restore the natural meanders once present in its path, it began to erode the streambanks. Justin Savage, who owned the land at the restoration site, grew tired of watching the river wash away between 60 and 100 tons of soil a year. The increased sediment load was also filling pools needed for fish habitat and killing the aquatic insects that fish feed on. In 1997 Savage contacted the regional Natural Resources Conservation Service for help. Savage agreed to take part in a stream restoration project sponsored by the Upper Chattahoochee Riverkeeper and the U.S. EPA. This ambitious project worked to restore not only streambank

vegetation but also the natural meanders and floodplain of a 1,500-foot-long 25-foot-wide stretch of the river.

The restoration team studied the fluvial geomorphology, stream conditions (including width-to-depth ratio), floodplain width, and stream slope of Dukes Creek, a healthy stream not far from the restoration site. After gathering data, the patterns of streamflow were applied to the restoration site. Meanders were reintroduced into the river's path to slow the velocity of the water, and boulders, rocks, and tree stumps were placed along the banks to further reduce the energy of the flowing water.

Construction of the new channel for the river was finished in early 1999, but the restoration work was not yet complete. The restoration team and community volunteers planted native vegetation such as sycamores, persimmon, Carolina silver bell, and sourwood to further stabilize the streambanks. Savage also installed fencing to keep cattle away from the river. Volunteers will continue to monitor the riparian vegetation until a healthy forested area is established along the entire restoration site.

The project has cost about \$80,000 to date, most of which was provided by EPA funds. The results so far have been positive. Shortly after the construction portion of the restoration was completed, trout began to inhabit the reconstructed pools. As vegetation continues to grow, additional fish species are expected to inhabit the river. The restoration project has benefitted Atlanta residents as well by reducing the cost to purify drinking water taken downstream from the restoration site.

In addition to the channel reconstruction data gathered from Dukes Creek, lessons learned throughout this project, including the best types of native vegetation to plant to ensure plant survival and effective methods of reducing stream velocity, will benefit future restoration projects and help to reduce the cost of channel restoration. In addition, the site is used to educate area residents about stream protection. Visitors to the site learn that stream stewardship can be compatible with economically viable farm production. For more information, visit www.epa.gov/region4/water/wetlands/projects/soqueepa.html and www.epa.gov/region4/water/wetlands/projects/soque.html.

If you'd like your project to appear as our next Featured Article, e-mail a short description to restorationupdate@tetrattech-ffx.com.

[Top](#)

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 Name: Koch Wetland Restoration

Five Star Grant: \$10,000 (FY 2000)

Grant to: Koch Petroleum Group, L.P.

Project Location: Corpus Christi, Texas

Original Project Description:

In Corpus Christi, Koch Petroleum Group (KPG), L.P., will work with the Koch Wildlife Council, Robstown High School, and others to restore 112 acres of wetlands near the Corpus Christi Refinery. Specific restoration activities will benefit several species of waterfowl, wading birds, and shorebirds, including whistling ducks, snowy plovers, and osprey. Additionally, visitors to the site will enter at a Wildlife Learning Center and will be able to visit the wetlands and other habitat via improved trails, footbridges, and observation platforms. Identification signs will educate visitors about the vegetation. Employees from KPG will participate in the restoration.

Project Update:

The objectives of the restoration project were to restore the hydrologic regime of the wetlands, install nesting structures for some of the waterfowl, improve access to the property, and improve

educational capabilities. Following is a summary of the major accomplishments of the Koch Wetland Restoration project.

For the wetland restoration component, the team focused on restoring the hydraulic connection that existed between East Wetland (which collects rainfall runoff) and Cattail Pond (which suffered from a prolonged drought and the associated decline of vegetation and habitat). The team dug a shallow trench between the two ponds to simulate the natural connection that had previously existed. The trench acts as an overflow mechanism to divert some of the collected runoff from the larger pond system to Cattail Pond. Wildlife and wetland monitoring conducted by the Koch Wildlife Council and the Robstown Adopt-A-Wetland Team confirmed that more than 50 species of birds and waterfowl are using the pond and adjacent areas and that the vegetation is flourishing.

Koch has provided area partners with guided field trips to the wetlands to learn and teach wetland ecology. Access and educational use of the property were limited to approximately 30 acres of the 120-acre property. A project team consisting of the Koch Wildlife Council, the community Advisory Council, and others evaluated the property to discuss access alternatives and other amenities needed to improve the educational potential of the site. The project team identified a 4-acre mesquite grove suitable for use as an entry point to the wetlands. Several access improvements were made, including a hiking trail (lined with logs and covered with mulch) that ends at the Cattail Pond, a parking lot, a footbridge constructed over the effluent ditch using recycled scaffolding materials, and trail information signs.

In the initial habitat assessment of the Koch wetland property, the partnership determined that natural nesting structures were not available or were inadequate for some of the resident birds. In response, the partnership constructed three nest boxes for whistling ducks and installed them in the wetlands. They also constructed and installed an osprey platform on the property.

In addition to the enhancements completed as part of the restoration project, Koch has permanently protected the 120-acre habitat by placing it under a conservation easement with the Coastal Bend Land Trust and naming the site the "Koch Wildlife Learning Preserve."

Many of the tasks associated with the project are ongoing because the wildlife area will continue to be enhanced and developed.

Project Name: Dow Wetlands Vegetation Project

Five Star Grant: \$10,000 (FY 1998)

Grant to: Dow Chemical Pittsburgh, East Bay Conservation Corps

Project Location: Pittsburgh, California

Original Project Description:

Corps members from the East Bay Conservation Corps (EBCC) got their chance to enhance part of a 300-acre wetland preserve owned by the Dow Chemical Company. The preserve is a Certified Wildlife Habitat through the Wildlife Habitat Council, an organization that works to increase the amount of quality wildlife habitat on corporate, private, and public lands. The area, located along the San Joaquin River east of the San Francisco Bay, contains tideland marsh and upland grass areas rich in wildlife and natural vegetation.

The Dow Wetlands Environmental Team worked alongside the young Corps members to create a riparian habitat around a beaver pond located on the property. In preparation for the student planting activity, trenches were dug to accommodate the PVC piping that delivers recycled water from a local sanitation district to the native shrubbery planted by the work crews. Shrubs include the California black walnut, Fremont cottonwood, willow coyote brush, California rose, and California native blackberry and blue elderberry. The youth planted the shrubs, constructed cages to protect the tender plants from beaver and other wildlife, and also cleared the area around a viewing platform at the far east end of the preserve. The Corps members enjoyed the activities, despite rainy days and chilly weather.

The EBCC's facility is located outside Oakland. The vast majority of the population served by the Corps live below the standard poverty level. The EBCC's mission is to build the skills and self-esteem of young people and give them a sense of community. They do this responsibly through a combination of academic and life skills education, community service work projects, service learning, volunteering, mentoring, and job skills training.

Project Update:

The project has been a complete success and has proven sustainable for the future. Since the

initial planting of native shrubbery around the beaver pond, eight different school groups have followed up with additional restoration efforts. These efforts included creating protective "cages" for the plantings, checking irrigation tap systems to individual plants, replacing dead plants, and performing many months of weeding and mulching around plantings to increase survival. The project has become part of the "service" component of service learning in three educational programs—Summer of Service, Youth Development Services, and the year-round Learner-Centered School. Plantings have now outgrown their cages and are thriving with care from youth groups and Dow's wetlands team. Partners included the Dow wetlands team, Delta Diablo Sanitation District, USS Posco steel mill, and Circuit Riders (wetland specialists). For more information on EPA's Five-Star grant program, visit <http://www.epa.gov/owow/wetlands/restore/5star/>.

[Top](#)

Community-Based Restoration Partnerships

Challenges Faced While Restoring a Watershed in an Upscale Community

Watershed restoration in affluent areas surrounding the San Francisco Bay requires innovative ideas and creative thinking. Traditional stream restoration can be difficult in these upscale areas because most of the land is privately owned and very expensive. Outright purchase of the land for habitat protection and watershed restoration is usually cost-prohibitive. The Sonoma Ecology Center was created to work toward a condition of sustainable ecological health in the Sonoma Valley. Instead of focusing on land purchase, they have achieved change through community-supported research, education, restoration, and preservation. The Ecology Center has been actively involved in projects like the following:

- Sponsoring community-supported work days to stabilize streambanks, clean garbage from creeks, replant native vegetation, and remove invasive species.
- Providing technical assistance for residents, including riparian and vineyard landowners interested in improving their land use practices.
- Mapping and eradicating the invasive species *Arundo donax* at several locations throughout the watershed with the help of volunteer labor.
- Offering educational programs to change day-to-day practices of all watershed residents. The education program includes a quarterly newsletter, a twice-monthly natural history column, regular feature articles in the local newspaper, presentations to homeowner groups, and storm drain stenciling. Well-educated citizens are more likely to support watershed-protecting legislation and take part in habitat protection projects on their own land.

To learn more about projects sponsored by the Sonoma Ecology Center, visit www.vom.com/sec/.

Restoration and Ranching Work Together in Montana

The Milk River Basin Project seeks to maintain traditional economic uses of the land in north-central Montana while expanding and protecting wildlife habitat. For many years, the land has been used for cattle ranching, a land use compatible with habitat protection. By allowing the area's grasslands and wetlands to remain largely undisturbed, ranching has made it possible to preserve large blocks of unfragmented waterfowl habitat. Recently, Montana landowners have begun turning from ranching to small grain farming. The conversion from ranching to farming has severe ecological consequences: it fragments grassland habitat and makes it easier for predators to find nesting waterfowl, while agricultural runoff degrades the wetlands that waterfowl depend on for survival.

Ducks Unlimited, Inc.; Montana Fish, Wildlife, and Parks; Zortman Mining, Inc.; Pheasants Forever, Inc.; U.S. Fish and Wildlife Service; U.S. Bureau of Land Management; and U.S. Bureau of Reclamation have formed a partnership to protect the Milk River Basin. Working together with private landowners, project partners have focused on achieving three goals: (1) protecting key

wetland/grassland complexes, (2) restoring and establishing wetlands, and (3) restoring grasslands. So far, the project has protected 1,270 acres of natural wetlands and 1,668 acres of grasslands and has restored or created 2,905 additional acres of wetlands. For more information, contact Rick Northrup at Montana Fish, Wildlife and Parks, P.O. Box 1122, Malta, Montana 59538. Phone: 406-654-1341. E-mail: north@ttc-cmc.net.

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.

[Top](#)

Achieving Restoration Results

Army Corps of Engineers Restores the Guttenberg Waterfowl Ponds

The Army Corps of Engineers manages several locks and dams along the Mississippi River. Below dock 10 near Guttenberg, Iowa, is a group of ponds that had been abandoned since 1971 and had the potential to produce food for migratory waterfowl. In 1989 the Corps began construction of ditches and water control structures to allow the U.S. Fish and Wildlife Service the opportunity to regulate water levels in the ponds. The Corps completed the project in 1997. The FWS' water management activities since then have led to an increase in vegetation coverage and plant species diversity. The ponds now provide habitat for wading birds, rails, snipe, and passerines, as well as greater fish management opportunities..

Harrier Meadow Transformed From Construction Disposal Site to Wetland

With the help of the New Jersey Meadowlands Commission, Harrier Meadow has been transformed from a disposal site to a functioning tidal wetland. In the 1960s unused rock from the construction of U.S. Route 28 was deposited in Harrier Meadow. In 1996 the New Jersey Meadowlands Commission acquired the land for \$550,000. Upon acquisition, some portions of the meadow supported native saltmarsh vegetation while other areas consisted of dense growths of invasive species including common reed (*Phragmites australis*) and purple loosestrife (*Lythrum salicaria*). The Meadowlands Commission had three goals for the meadow: (1) to control the growth of invasive species, (2) to reestablish tidal flow to impacted areas, and (3) to create open-water areas with plantings of native vegetation along the margins of openings.

Creation of channels, impoundments, low marsh habitat, and upland habitat islands was completed in September 1998. After the completion of the construction phase of the project, the area was stabilized with temporary vegetation. Additional vegetation plantings continued until the summer of 2000. Altogether, 77.5 acres of marsh were reconstructed and planted with native vegetation. Since that time monitoring activities have been established to assess the function of the newly enhanced marsh. For more information, visit www.hmdc.state.nj.us/eip/wl-harrier.html. *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.*

[Top](#)

Funding for Restoration Projects

New Listings:

Development of Watershed Classification Systems for Diagnosis of Biological Impairment in Watersheds and Their Receiving Water Bodies

The U.S. EPA's Office of Research and Development is soliciting grant proposals for the development of regionalized watershed classification schemes that can be used within the context of a national framework to determine ecosystem vulnerability and watershed restoration opportunities. Regionalized classification schemes should be based on a strong conceptual understanding of watershed processes; they also should demonstrate quantitative linkages among watershed attributes, loadings, and ecological responses. Program grants range from \$150,000 to \$300,000 per year for up to 3 years. Applications must be received by January 30, 2002. For more information, visit <http://es.epa.gov/ncer/rfa/02newwatclass.html> [link no longer available, October 2003].

Brainerd Foundation Funds for Endangered Ecosystems

The Brainerd Foundation's Endangered Ecosystems program seeks to fund stewardship

practices that protect endangered Northwest ecosystems. These ecosystems are directly threatened by logging, mining, grazing, and other forms of development. Program grants require a preliminary letter of inquiry describing the project. Projects that may be funded are then invited to submit a full proposal. For more information visit the web site <http://www.Brainerd.org/> or call or write for application materials.

The Brainerd Foundation, 1601 Second Ave., Suite 610, Seattle, WA 98101-1541. Phone: 206-448-0676. E-mail: info@brainerd.org.

Bullitt Foundation Grants for Rivers, Wetlands, Estuaries, and Marine Ecosystems

The Bullitt Foundation provides grants to numerous nonprofit organizations working to preserve the environment in Oregon, Washington, Alaska, Idaho, and Montana. One of the priority areas funded by the foundation is the protection of rivers, wetlands, estuaries, and marine ecosystems. Grants range from \$5,000 to more than \$100,000 and can be extended for multiple years. **The deadline for applications is December 1, 2001.** For more information visit www.bullitt.org, or write Emory Bundy, Program Director, the Bullitt Foundation, 1212 Minor Avenue, Seattle, WA 98101-2825. Phone: 206-343-0807. E-mail: info@Bullitt.org.

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

[Top](#)

News and Announcements

Agreement Seeks to Speed Wetland Restoration in Wisconsin More wetlands should be restored more quickly in Wisconsin under an agreement signed September 11 by state and federal agencies. The agreement is intended to streamline the permit process involving federal wetland restoration projects, eliminate duplication between state and federal agencies, and save taxpayers money.

The agreement, among the state's Department of Natural Resources, the U.S. Fish and Wildlife Service, and the U.S. Department of Agriculture's Natural Resources Conservation Service, is particularly expected to help reduce a backlog of projects in Wisconsin under the Wetland Reserve Program.

Crackdown on Clean Water Act Violators Under Way

EPA and the Montana Department of Environmental Quality (MDEQ) issued a compliance order to developers and landowners of a large, exclusive residential development in Big Sky, Montana. Developers must immediately stop releasing sediment into tributaries of the Gallatin River and stop filling nearby wetlands. Repeated inspections by EPA, the U.S. Army Corps of Engineers, and MDEQ revealed several Clean Water Act violations. The violations are related to the construction of a golf course, ski runs, and roads at a privately owned, exclusive residential development. EPA and MDEQ will seek civil penalties in a separate action. Developers must implement erosion control measures; delineate the wetlands; perform corrective measures on the ski hill, roads, and golf course; and submit a long-term site restoration and monitoring plan. For the complete EPA Region 8 press release, visit

[http://yosemite.epa.gov/r8/r8media.nsf/\(BreakingNews\)/5849292AE4FA622F87256AC50061C4EF](http://yosemite.epa.gov/r8/r8media.nsf/(BreakingNews)/5849292AE4FA622F87256AC50061C4EF).

Vernal Habitat Identification Protocol Now Available from New Jersey Department of Environmental Protection

The New Jersey Department of Environmental Protection's protocol for identifying vernal habitats is now available. Vernal habitat is a natural depression that is covered by water for a variable amount of time during winter and spring and generally dry during summer and fall. The Department also provides mapping to assist in the location of already-identified vernal habitats. The mapping is approximate and will be updated and refined on an ongoing basis as more vernal habitats are certified. The Department will use the information gathered to check for vernal habitats on sites for which freshwater wetland permit applications are submitted. For additional information, visit www.state.nj.us/dep/landuse/announce/announce.html.

[Top](#)

Upcoming Conferences and Events:

NEW LISTINGS:

63rd Midwest Fish & Wildlife Conference: Transitions in the Conservation Landscape

December 9-12, 2001

Des Moines, Iowa.

This conference will focus on changes in habitat, especially fragmentation and biodiversity; how natural resource agencies have responded to the change; and how to protect the resources for the future. Several general sessions scheduled throughout the conference will address wetland related-concerns. For registration forms and more complete information, visit the conference web site at www.state.ia.us/midwest2001/. [Link no longer available, October 2003]

AWRA Spring Specialty Conference: Coastal Water Resources

May 13-15, 2002

New Orleans, Louisiana

The American Water Resources Association (AWRA) is sponsoring a conference directed toward coastal and water resources engineers, scientists, and managers who address a wide range of interdisciplinary concerns about coastal, estuarine, and inland systems. For more information, visit www.awra.org/meetings/Louisiana2002/ [Link no longer available, October 2003].

Third National Water Monitoring Conference: Building a Framework for the Future

May 20-23, 2002

Madison, Wisconsin

The National Water Quality Monitoring Council is sponsoring this conference, designed to foster interaction, information sharing, and innovation among colleagues involved in all aspects of water monitoring, including a focus on biological monitoring and wetland concerns. For more information, visit <http://www.nwqmc.org/>.

PREVIOUS LISTINGS

Wetlands Regulatory Workshop

October 30-November 2, 2001

Atlantic City, New Jersey

U.S. Environmental Protection Agency Region 3 is sponsoring the Fourth Annual Wetlands Regulatory Workshop. This workshop will investigate contemporary wetland regulatory issues and will work to increase dialogue and foster partnerships among federal, state, and local regulatory agencies, nongovernmental organizations, and the regulated community. The workshop will address TMDLs and wetland protection, isolated waters, new nationwide permits, development of state wetland programs, delineation and identification tools, and regional general permits. Representatives from federal, state, and local governments; academia; nongovernmental organizations; and the private sector are encouraged to attend. For more information, visit <http://www.sws.org/training/listings2001/May21-01F10D28B5.html>.

Stream & Floodplain Management in Urbanizing Watersheds

October 29-30, 2001

Tampa, Florida

The Association of State Floodplain Managers is hosting a workshop for local government, state, and federal agency staff, nonprofit organizations, academics, consultants, landowners, and others who work with streams in urbanizing watersheds. The first day of the workshop will provide background on stream management and restoration efforts undertaken to date throughout Florida and the nation. The day will begin with an overview of restoration engineering, fluvial geomorphology, and soil bioengineering design methods and introduce restoration processes and methods pertinent to urbanizing watersheds. The second day will discuss the concepts and methods for designing stream restoration projects, review recent cases in innovative stream management and restoration project design, and tour local stream sites. For more information, visit <http://www.floods.org/> or contact the Association of State Floodplain Managers, 2809 Fish Hatchery Rd., Madison, WI 53713, 608-274-0123.

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

[Top](#)

Restoration-Related Web Sites

<http://h2o.enr.state.nc.us/wrp/>

North Carolina Wetlands Restoration Program. The North Carolina Wetlands Restoration Program (NCWRP) is an innovative, nonregulatory program established by the North Carolina General Assembly in 1996 to restore wetlands, streams, and streamside (riparian) areas throughout the state. This site provides information about North Carolina's Watershed Planning, projects taking place within the state, legal regulations that address wetlands, and options for grant funding. This site would be useful for anyone looking for information on North Carolina's wetland restoration plans, or for anyone interested in undertaking a restoration project in North Carolina.

<http://www.naco.org/>

National Association of Counties. NACo has been working for close to 70 years to help local governments express their concerns to the federal government in Washington, DC. NACO has an environmental program that provides counties with resources to complete wetland restoration projects. This wet site is useful for anyone looking for technical assistance, funding, or information about wetland restoration.