Monthly Wetland and Stream Corridor Restoration Update

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Welcome to the *Monthly Wetland and Stream Corridor Restoration Update.* This Web site

- Provides current information on wetland and stream 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 or program. Just send your write-up to EPA's contractor at restorationupdate@tetratech-ffx.com or mail it to Rebecca Schmidt, Monthly 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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Restoration-Related Web Sites (Page 10) - Use these links to check out other groups that are helping in the effort to restore wetlands and river corridors.

Information Resources (Page 11) - Books, journals, fact sheets, videos, and other information resources to aid you in your restoration project are provided here.

Feature Article

Riparian Project Benefits Community and Chesapeake
Original article written by David Yeats-Thomas for *Upstream*, Spring 2003.

The Jenner's Pond project shows how a collaboration of scientists, environmentalists, community residents, and volunteers can benefit both humans and nature. The Stroud Center, a nonprofit stream restoration research center in Pennsylvania, helped the research team apply recently conducted research to restore a pond and wetland complex located on 80 acres of environmentally sensitive land. The pond and wetland complex form part of the headwaters of Elk Creek. About 20 miles due south of Jenner's Pond, as the crow flies, Elk Creek spills into the ailing Chesapeake Bay.

On the team's first visit to the site, they discovered that invasive plants had taken over the creek and wetlands. As Stroud research has found, such plants impede the stream's ability to function as a natural clean-up system. For Jenner's Pond residents, the riparian area had the added detriment of being unattractive and inaccessible to those who like to walk and enjoy nature.

Bern Sweeny, Stroud Center director and restoration team leader, designed the restoration project, and the Chesapeake Bay Foundation and the Chester County Conservation District helped with the funding. Jenner's Pond residents, coordinated by Dorothy West, provided much of the volunteer work on the ground, with the assistance of Salamon Romero and Javier Tinoco of the Stroud Center's maintenance staff.

Volunteers cleared invasives such as multiflora rose and planted thousands of trees and shrubs native to the region. Although the work began only 3 years ago, Jenner's Pond residents are already reaping its benefits. They can now walk along the stream and enjoy the birds and other wildlife. And the trees are growing well despite an initial problem with deer, which was solved by using tubular shelters.

"We're very pleased with the results," said Mrs. West.

Added Sweeney, "It is a wonderful example of how good science can provide solutions to environmental challenges when organizations collaborate and local residents provide moral support and labor."

To view the article as reprinted in the June 6 issue of *Watershed Weekly*, visit www.pawatersheds.org/wweekly/issue.asp?ID=150.

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

Community-Based Restoration Partnerships

Collaboration for Restoration Funds New Ways to Work Together

Located in eastern Idaho and western Wyoming, the Henry's Fork watershed covers 1.7 million acres and includes part of Yellowstone National Park and the western slope of the Teton Mountains. Residents in the watershed were strongly divided over water rights, with hydropower and irrigation interests on one side and fisheries interests and recreation-based businesses on the other. To complicate matters, at least 25 federal, state, and local agencies have some type of management or regulatory jurisdiction over the land and water in the watershed. The lack of agency coordination slowed plans to restore the watershed while problems with soil erosion, water delivery, and water quality continued to decline.

Seeing that the current regulatory system was not working, citizens and agency personnel began working together to address factors contributing to watershed degradation. In 1994 the Idaho legislature chartered the Henry's Fork Watershed Council to review and critique proposed watershed projects, suggest implementation priorities, and identify funding sources. The Council was responsible for reporting its progress to the Idaho legislature and the public. The Council was composed of citizens, scientists, and agency representatives with interest in the watershed's health.

The Council became a forum for discussion where proposed projects could be looked at on a watershed level. Council members evaluated each project according to water supply, sustainability, social and cultural, and economic considerations before deciding whether to back the projects.

The Council's interjurisdictional approach has been a success. The historically poor relationships among the environmentalists, agricultural interests, and agencies were overcome by designing the Council as a forum for discussion rather than as a formal planning body. By providing an avenue for discussion and encouraging an open exchange of ideas, the Council has strengthened relationships between competing interests in the watershed. The new focus on collaboration has allowed the Council to take steps toward restoring the watershed that would not otherwise have been possible.

For more information on the Henry's Fork Watershed Council, visit www.snre.umich.edu/emi/cases/henrysfork/index.htm.

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@tetratech-ffx.com.

Achieving Restoration Results

White River Floodplain—Wetlands Restoration Project Makes Way for Wildlife

The White River Floodplain-Wetlands Restoration Project in Washington's eastern Cascade Mountains is removing culverts to make way for wildlife. The project involves removing portions of old roads and culverts to restore wetlands and river systems. For example, an oxbow was reconnected to the river by taking out failing culverts and using the road fill removed to return the floodplain to the natural grade. Excess fill material was hauled out of the project area and used to resurface open roads. Numerous wildlife and aquatic species now frequent the oxbow. Restoring oxbow connectivity also provides spawning and rearing habitat for endangered salmon. The project is also reducing erosion and imporving water quality by decommissioning spur roads that are in poor condition or located on unstable slopes.

The project will ultimately restore wetland and watershed functions in the White River area of the Wenatchee National Forest. In addition, second-growth conifer forest stands will be returned to late successional conditions through careful thinning. Eventually the partners hope to provide interpretation about fisheries, wildlife, wetlands, old-growth forests, and riparian habitats.

Fish and frogs are already benefitting from the reduced erosion, and biologists are hopeful that grey wolves and Canada lynx will make the new habitat area their home. Additional species expected to benefit from this project include chinook salmon, bull trout, steelhead, bald eagle, bear, moose, spotted owl, Cascade frog, beaver, and numerous plant species.

The diverse list of project partners who worked to make this project possible includes Washington Department of Fish and Wildlife, 3M Corporation, Salmon Recovery Funding Board, Northwest Fund for the Environment, National Fish and Wildlife Foundation, and Washington Department of Ecology. For more information on this project, contact Cindy Raekes, Fisheries Technician for the USDA Forest Service, Lake Wenatchee and Leavenworth Ranger Districts, at 509-763-3103 ext. 223 or craekes@fs.fed.us.

BMP Installation Successful in Reducing Sediment in Pine Creek

Fourteen years ago the Natural Resource Conservation Service (NRCS) began a Water Quality Study for the Menominee River Basin. This study identified the Pine Creek watershed, a 47,350-acre area in south-central Dickinson County, Michigan, as an area of interest. It had the following concerns: stream sedimentation from past resource development; streambank erosion from forestry, recreation, and agriculture; erosion from other aspects of forestry harvest; and mine tailings erosion and sedimentation.

In 1994 work began on the three-phase Pine Creek Watershed Project. During the first phase, the planning stage, the Pine Creek Watershed Management Plan was written. This plan identified the areas in the watershed that require remediation. The second phase served as a transitional stage when the implementation plan was written. The third phase, implementation, involves the physical work done within the watershed to correct the problems due to sedimentation and other pollutants. The project is in the second year of implementation.

To date, the project has installed a grade stabilization structure at the gravel pit field at Trepanier's Farm. This structure consists of a berm constructed along a runoff area. Water collects behind the berm, and sediment settles out before the water passes through a pipe to the creek. To further reduce the amount of sediment entering the creek, the project also replaced several failing culverts along access roads and installed off-stream livestock watering systems.

The Pine Creek Watershed Project is funded through a federal grant from EPA. The Michigan Department of Environmental Quality oversees the project, and the Dickinson Conservation District manages the project directly. For more information, visit www.dickinsoncd.org/pinecreek. The Web site contains before and after pictures of the improvement sites along the creek.

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@tetratech-ffx.com.

Funding for Restoration Projects

Learn and Serve America
The Learn and Serve America program, organized by the Corporation for National and Community Service, provides funds to create new service learning programs. Funds are available to community groups, elementary and high school students, and graduate students. The Corporation supports high-quality programs that meet community needs specifically in the areas of education, public safety, environment, homeland security, and other human needs. The Corporation also places high priority on funding projects that involve children. Schoolyard restoration projects or restoration projects benefitting communities by providing flood protection, recreational opportunities, or greenspace preservation could be funded by this program.

In FY 2003 the program awarded nearly $6.5 million to fund service learning programs in amounts of $150,000 to $350,000 per project. Projects funded under the Learn and Serve America Program require some matching funds, ranging from a 10 to 50 percent match depending on the nature of the project. For more information on the grant programs administered by the Corporation for National and Community Service, visit www.learnandserve.org/resources/index.html.

Land and Water Conservation Fund
Created by Congress in 1964, the Land and Water Conservation Fund provides money to federal, state, and local governments to purchase land, water, and wetlands for the benefit of all Americans. These acquisitions become part of the nation's national forests. Lands and waters purchased through the fund are used to provide recreational opportunities and clean water, preserve wildlife habitat, enhance scenic vistas, protect archaeological and historic sites, and maintain the pristine nature of wilderness areas. The fund provides up to $900 million a year for the purchase of land. Most of the funds come from fees paid by companies drilling offshore for oil and gas, the sale of surplus federal real estate, and taxes on motorboat fuel. This program could be used as a means of permanently protecting wetlands from development. For more information on the fund, visit www.fs.fed.us/land/staff/LWCF.

Brownfields Redevelopment Program
The Brownfields program encourages redevelopment of America's 450,000 abandoned and contaminated waste sites, many of which were formerly industrial areas. Redevelopment approaches have included the conversion of industrial sites to riverfront parks, wetland complexes, and nature preserves. Currently, more than 44 brownfields-to-"greenspace" projects (such as parks, trails, and nature preserves) are in various stages of completion. The Brownfields program provides funding incentives, feasibility tools, and individual grants of up to $1 million to help states, tribes, communities, and other organizations prevent, assess, safely clean up, and reuse Brownfields. For more information, go to www.epa.gov/brownfields.

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

News and Announcements

New Wetland Mapping Tool Will Aid in Road Planning
The North Carolina Department of Transportation (DOT) will soon have a new tool that could help its staff avoid wetlands when planning roads. The tool was developed through a partnership between the Division of Coastal Management and the state Center for Geographic Information and Analysis and is intended for use by DOT road planners. The $37,000 project was paid for by a federal grant from the North Carolina Division of Coastal Management.

The Division of Coastal Management previously had mapped the types and functional significance of wetlands in 37 counties in the inner and outer coastal plains of the state, and made that information available to DOT and local governments. However, "The data wasn't exactly user-friendly," said Kelly Williams, Coastal Management's wetlands specialist. Mapping the data required a several step process that included conducting queries and inputting numbers.

"With this tool, you hit the button and it's got it all there in an easily understood form," Williams remarked. "This makes our data more user-friendly." Using a Windows 2000 computer and geographic information software called ArcMap, DOT planners can call up a variety of wetlands information with a few mouse clicks. The screen shows planners a map of the county or region of interest on which they can overlay a proposed road and see how many acres of wetlands it would affect. The program also produces a table that breaks down the acreage by wetland type and significance rating, such as exceptional or high-quality. The tool will not replace on-site delineation of wetlands, but it could help DOT planners choose road routes without having to delineate every possible path. That could speed up road planning.

To view the entire press release, visit http://dcm2.enr.state.nc.us/CAMAgram/Winter03/tool.htm. For more information, contact Kelly Williams at 919-733-2293, ext. 254; e-mail: Kelly.Williams@ncmail.net.

Educating America about Louisiana's Wetlands

Louisiana has launched the largest public awareness initiative in the state's history. "America's Wetland: Campaign to Save Coastal Louisiana" seeks to help people across America understand that everyone benefits from Louisiana's wetlands.

The campaign's goal is to "educate the nation about the dramatic land loss occurring off Louisiana's coast" and increase the support for conservation efforts.

The campaign hopes to "rebrand" Louisiana's coast as "America's wetland."

"We didn't come up with this name lightly," says Sidney Coffee, director of Public Affairs for the Louisiana Governor's Office on Coastal Activities. With the help of a Washington, D.C., communications firm, the state conducted 7 months of research, which included interviews with people across the country. The name was the unanimous choice of those interviewed, "once they understood what was going on here and the benefits of the wetlands. They said it was clear this was not just a Louisiana problem, but a national problem."

The problem, Coffee says, is that Louisiana's coast, which contains 40 percent of the nation's wetlands, is disappearing into the Gulf of Mexico at a rate of 35 square miles a year, the equivalent of a football field every 20 minutes.

People in Iowa or other states should care about this fight, Coffee says, because "25 percent of the oil and gas consumed in the nation comes through these fragile wetlands by tanker, barge, or pipeline. More than 30 percent of the nation's fisheries comes from these wetlands. This is the wintering habitat for more than 5 million waterfowl and migratory birds." Her list goes on and on. "This area has direct implications on America's energy independence, economic security, and has ecological value for the world. That's kind of the story in a nutshell," she says.

Louisiana needs national support because the cost of restoring its wetlands will be mor than $14 billion, much more than the state can afford. Coffee notes, however, that the cost of inaction is estimated at more than $100 billion in infrastructure alone.

To get this message out, Louisiana kicked off its planned 3-year awareness campaign last August. The campaign includes national television spots, a Web site, collaborations with national media, workshops, the creation of a wetlands trail, and the establishment of a nonprofit foundation that can receive contributions for either public education or restoration efforts.

To accomplish the campaign's goals, the state has gathered a diverse coalition of corporations, environmental organizations, and others. National surveys will be periodically conducted to test the campaign's effectiveness.

The campaign, Coffee notes, has been long in the planning and has not been "an easy thing to do at all. But doing nothing would be harder."

To view the press release, visit www.csc.noaa.gov/magazine/2003/03/louisiana.html. For more information on "America's Wetland: Campaign to Save Coastal Louisiana," visit http://americaswetland.com, or contact Sidney Coffee at 225-342-4844; e-mail: sidneyc@dnr.state.la.us.

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Upcoming Conferences and Events

New Listings

Watershed Restoration

September 22–26, 2003
Wenatchee, Washington

The U.S. Forest Service is offering a workshop to help participants recognize optimal opportunities for restoration projects. The workshop seeks to

- explain preventative versus restorative approaches to projects/events (restoration, rehabilitation, recovery, enhancement, and creation)
- determine the goals of the restoration project
- determine the patterns and processes of vegetation change
- prioritize sites and potential for restoration—then prioritize restoration projects
- explain a systems approach to watershed restoration linking uplands and channels
- demonstrate low cost restorative techniques

Participants will have opportunities to take part in activity-based learning and field experiences that will help them gain an understanding of watershed linkages—particularly upstream-downstream and upslope-downslope relationships that are essential to the success and longevity of all restoration approaches. For more information, contact Jim Dobrowolski, Department of Natural Resource Sciences, Washington State University, Cooperative Extension, P.O. Box 646410, Pullman, WA 99164-6410. Phone: 509-335-7294; e-mail: dobrowol@wsu.edu.

Fourth Annual Pennsylvania Watershed Conference & Youth Summit: Watersheds Connecting Communities

October 3–4, 2003
Grantville, Pennsylvania

The purpose of this year's conference is to help strengthen local watershed organizations by providing information, resources, and networking opportunities. Among this year's new features is a youth summit for teens, ages 13–18.

Each year, more youth are becoming active members of many watershed organizations, and so it is important to design educational and hands-on sessions with them in mind. This Youth Summit will include a canoe and bike trip, keynote speakers, student presentations, break-out sessions, watershed discussions, social activities, and hands-on activities. Adult chaperones will be attending. For continuing details and agenda items, visit www.pawatersheds.org/pawc2003/youthsummit.pdf.

Third National Conference: Nonpoint Source Pollution Information and Education Programs

October 20–23, 2003
Chicago, Illinois

This conference, cosponsored by the Chicago Botanic Garden and U.S. Environmental Protection Agency, will focus on education campaigns designed to reduce nonpoint source pollution. As part of the education programs, groups are encouraged to include hands-on public outreach events, many of which include stream restoration components.

Other topics of interest to restoration groups include social capacity building programs, innovative special events and community activities, and effective demonstration projects. For more information, contact Bob Kirschner, Chicago Botanic Garden, 1000 Lake Cook Road, Glencoe, IL 60022; e-mail: bkirschn@chicagobotanic.org.

Wetlands 2003: Landscape Scale Wetland Assessment and Management

October 20–24, 2003
Nashua, New Hampshire

The overall goal of this national symposium is to build the capabilities of local governments, states, federal agencies, nonprofits, and others to assess and manage wetlands and related ecosystems on a landscape-level basis. Sessions will help attendees understand river stability and natural channel design concepts and how these concepts can be integrated into watershed protection and restoration projects, and provide tips on initiating, planning, funding, and implementing restoration projects. For more information, visit www.aswm.org, or contact the Association of State Wetland Managers, P.O. Box 269, Berne, NY 12023-9746; e-mail: aswm@aswm.org; phone: 518-872-1804.

The Practice of Restoring Native Ecosystems

October 21–23, 2003
Nebraska City, Nebraska

The practice of restoring native ecosystems is not only becoming more common, it is becoming a more crucial element in the effort to preserve the quality of our environment and our quality of life. In cooperation with *Land & Water Magazine*, the fourth national conference on the Practice of Restoring Native Ecosystems provides a forum for sharing information among the various professions involved in the emerging discipline of restoration ecology. Sessions will give practitioners access to the latest

information gathered by ecologists and other scientists studying restoration issues. Cost per person: $295. For more information, visit www.arborday.org/programs/conferencelist.html or contact National Arbor Day Conference Services at 402-474-5655; e-mail: conferences@arborday.org.

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

Restoration-Related Web Sites

www.biosys.orst.edu/restore/default.cfm

Oregon State University: Developing Methods and Tools for Watershed Restoration. This Web site is the central information source for an assessment and restoration project of the Willamette Basin in Oregon. The site provides information on restoration research and plans developed to aid with the Willamette Basin restoration. The site has several posters and guides providing information about restoration techniques, native plants, and sediment prevention methods. *This site would be useful for anyone looking for outreach materials to publicize and educate about restoration activities.*

www.ngdc.noaa.gov/seg/tools/gis/referen1.shtml

Short Course on Geographic Information Systems (GIS). GIS can be a valuable resource in gathering information about wetlands and watersheds and can be a starting point to determine areas of critical importance for restoration. The Web site provides links to several tutorials outlining the basics on GIS. *This Web site would be useful for anyone wishing to learn more about how to use GIS as a tool to enhance their restoration program.*

www.awra.org

American Water Resources Association. This professional association provides training opportunities including conferences and workshops on water resources. Workshop topics include riparian ecosystems and buffers and environmental assessment. The organization also publishes two bimonthly journals providing current research about a wide variety of water resource topics including stability of stream banks, water quality monitoring, and river management. *This Web site would be useful for anyone looking for a source of water resources-related research and modeling techniques.*

www.rmi.org/sitepages/pid277.php

Rocky Mountain Institute: Watersheds, Stormwater, and Stream Restoration. This research and education institution uses a watershed-based approach in their restoration research. The Web site contains information about the ability of urban runoff and erosion to degrade streams and provides methods to help protect and restore degraded streams. The Web site has a link to an on-line library of water-related publications. *This Web site would be useful to anyone looking for case studies or research reports on watershed restoration.*

www.wetland.org

Environmental Concern, Inc. This public nonprofit corporation is dedicated to promoting understanding and stewardship of wetlands through experiential learning, native species horticulture, and restoration and creation initiatives. Their newly redesigned Web site offers a wide variety of resources

and pictures on wetland construction activities, education programs, and ordering information for Environmental Concern publications. *This Web site would be useful for anyone looking for easy to read, practical advice on wetland planning and construction.*

www.envsc.org
The Environmental Support Center (ESC). ESC works to improve the environment in the United States by enhancing the health and well-being of grassroots organizations. Since 1990 ESC has helped more than 1,700 local, state, and regional organizations with their work on environmental issues. The Web site provides information on ESC's programs including the Training and Organizational Assistance Program, Leadership and Enhanced Assistance Program, Technology Resources Program, Workplace Solicitation Program, Environmental Loan Fund, and State Environmental Leadership Program. These programs are designed to help environmental groups become better managed, funded, and equipped. *This Web site would be useful for anyone working on increasing the capacity of their environmental restoration organization.*

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

Information Resources

Water, Grass, and Livestock: An Annotated Bibliography of Riparian Grazing Publications
By the Land Stewardship Project

This reference was designed for farmers concerned about the health of riparian areas on their land. It contains information on sedimentation, insects, forest buffers, and pasture systems, as well as a section on issues unique to the western United States. The reference addresses these issues not only in relation to stream banks but also to riparian-influenced landscapes and influential upland areas. Funding for this project was provided by a U.S. Department of Agriculture, Sustainable Agriculture Network grant to the Land Stewardship Project. The report can be downloaded from www.landstewardshipproject.org/pdf/graze_biblio.pdf.

Exotics To Go!
By the Great Lakes Sea Grant Network

This compact disk (CD) a collection of presentations and publications that provide tools to prevent the spread of aquatic nuisance species. It was produced especially for lake associations, natural resource agency staff, and extension educators who often need to give presentations about zebra mussels and other aquatic nuisance species. The information provided is designed to help presenters understand invasive species, educate others, and stop their spread.

The CD contains seven PowerPoint presentations—including scripts, images, and talking points—ready to be used "as is," or presentations can be customized to meet special needs. Twenty-two informational publications in PDF format, and lists of people to contact about aquatic nuisance species are also included. The exotic species featured are of national concern to inland water users, and some are specific to the Great Lakes area.

Funding for this project was provided by a grant from the U.S. National Oceanic and Atmospheric Administration to the National Sea Grant College Program through an appropriation by Congress based on the National Invasive Species Act of 1996.

CDs cost $2.50 and are available from www.seagrant.umn.edu. Click on "Publications," then go to the "Purchasable publications online order form." The CD is item X84 under the Exotics category.

The Dos and Don'ts of Wetland Construction
by Environmental Concern

This guide on wetland construction provides insight regarding site selection, plans and specifications, prebid and preconstruction meetings, contract bidding, constructing the wetland, postconstruction maintenance and success determination, and postconstruction monitoring.

The Dos and Don'ts examined in this publication point out correct and incorrect methods used in creating, enhancing, and constructing wetlands, with the overall objective of increasing the success rate of wetland construction projects. This guide is available from Environmental Concern for $34.95. For ordering information, visit www.wetland.org/ecpubs.htm.

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