

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

## **Issue 45**

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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](mailto: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**

### **Town Brook Dam Removal: A Dam Outlives its Useful Life**

Thanks to Massachusetts' River Restore Program, an important coastal creek segment in Massachusetts once again runs free. Formed by the state in May 1999, River Restore is designed to help reconnect natural and cultural river communities by selective removal of dams and other obstructions. A Dam Decommissioning Task Force, made up of state and federal regulatory and management agency staff, works to identify dams that should be removed. In 2002 River Restore partners worked with the Town of Plymouth to initiate removal of a failing earthen dam along Town Brook—the first coastal dam removal in Massachusetts.

On September 18, 2002, federal, state, nonprofit, and private sector partners joined the Town of Plymouth on the banks of Town Brook to celebrate the dam's removal. Following a gathering at the historic Jenney Grist Mill Park, participants walked upstream along the "Pilgrim Trail" to watch members of the U.S. Army Reserves begin removing the dam. One week later, the Army Reserve's 368th Engineer Combat Battalion (Heavy) completed excavation and broke through the dam's stone headwall. Town Brook began to flow once again in a channel that its waters had not touched in 200 years. Observers at the scene took heart as an American eel wriggled its way upstream through the initial breach.

#### History

Dams have been a feature of the landscape of Town Brook since 1632. Time caught up with this dam (and its fishway), deteriorating its condition and compromising its function. Three years ago Massachusetts Coastal Zone Management staff helped the Town of Plymouth seek monies from the National Oceanic and Atmospheric Administration (NOAA Fisheries) for fishway repair. The deteriorated condition of the dam prompted River Restore representatives from NOAA Fisheries to suggest dam removal and stream restoration. The restoration plan involved restoring the natural bed of the creek, which had been forgotten over time.

#### Restoring Fish Habitat

Project partners have brought the creek back to life by placing stones along the freshly uncovered stream bottom of Town Brook to re-create natural riffles and pools. This restoration marks a new chapter in the life of Town Brook, its alewives, and the Plymouth community. Completion of this project improves upstream passage for alewives to several hundred acres of spawning grounds in Billington Sea. One month after the dam removal, Eric Hutchins of NOAA Fisheries observed juvenile herring moving downstream through what now is the longest reach of riffle along Town Brook.

### It Takes a Village to Restore a River

One of the key lessons learned from the Town Brook restoration project is that it takes more than just the dedicated efforts of a core team to move a project forward. Without the financial resources, technical assistance, and other support provided by federal and state organizations, nonprofit organizations, the Town of Plymouth, and private sector participants, the project would not have been possible.

This restoration project is a good example of why River Restore is a successful program. Instead of presuming that all existing dams should be repaired, River Restore Program members recognized that this dam had outlived its life span and purpose and sought to safely remove it. There are approximately 3,000 dams in Massachusetts—one dam for every 4 miles of river. River Restore and its team of experts have visited more than 50 dams in watersheds across the state to make sure that the only dams removed are those that, to quote American Rivers, “don’t make sense.” For more information, visit [www.state.ma.us/dfwele/river/rivRestore.htm](http://www.state.ma.us/dfwele/river/rivRestore.htm).

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

## Five-Star Restoration Projects Update

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

**Project Name: Chipola River Restoration Project**  
**Grant to: Jackson Academy of Applied Technology**  
**Project Location: Marianna, Florida**

### **Project Update:**

Through partnerships developed with local, state, and federal environmental communities, the Jackson Academy of Applied Technology in Marianna, Florida, has been able not only to succeed but also to exceed project expectations.

This project had three main elements:

1. Gaining access to Preservation 2000 property to help conserve up to 1,000 acres of wetland and riparian habitat in Jackson County. The primary project, the Chipola River Restoration Project, provides for planting native trees on up to 20 acres of property known as Bale’s Farm, located along

the Chipola River on Caverns Road north of Marianna. Nature and walking trails also will be part of the restoration plan on the 1,000 acres.

2. Establishing a nursery to provide an ongoing source of indigenous flora, particularly native bottomland hardwood trees. A nursery of almost 2,000 trees has already been established and is being maintained. Plans include doubling its size this fall. Plans also include selecting and growing indigenous trees from local seeds obtained on-site along the Chipola River.
3. Increasing awareness of local conservation issues among Jackson County students. More than 500 students from four schools have already completed environmental training presented by Jackson Academy students. Press coverage on an Arbor Day tree giveaway (of more than 50,000 trees) included three TV stations with a reported audience of 120,000 viewers, four radio stations, and front-page coverage in the local newspaper.

A Web site (<http://es2002.freeservers.com/>) is being developed to provide the public with information on the progress of the restoration efforts at the site. The Academy will use a summer program for kids to finish the Web site. The kids will also plant additional trees, study endangered species, build and mount bat and duck houses, and survey a turtle nesting ground that a project partner has agreed to supply with sand.

Jackson Academy is the first high school in Florida to be named a DEP/EPA water testing data center and a member of EPA's STORET data collection site program.

The Academy continues to apply for and win grants that enable it to continue and expand the project started with support received under the Five-Star Grant Program. **[Updated July 2002.]**

**Project Title: Seagrasses in Classes**  
**Grant To: Save the Bay Foundation**  
**Location: Narragansett Bay, Rhode Island**

**Project Update:**

Seagrasses in Classes successfully involved more than 800 students, 25 teachers, 10 Save The Bay volunteers, and 15 volunteer divers in efforts to grow and transplant eelgrass. The partners grew the eelgrass in school greenhouses and then transplanted 2,300 eelgrass seedlings and whole plants to a barren site in Wickford Harbor, a small embayment of Narragansett Bay. Eelgrass is one of the most diverse and productive underwater habitats found 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.

Project partners transplanted the eelgrass using three methods: in peat pots, on coconut fiber mats, and attached to TERFS (Transplanting Eelgrass Remotely with Frame Systems) racks. As of July 19, 2000, based on a scuba survey, 1,262 plants were spread over the site, ranging from 30 to 100 centimeters long. There were few epiphytes or invasive algae, and the eelgrass plants looked healthy. A qualitative survey of the transplant bed in October 2000 revealed approximately 100 peat pot eelgrass plants, no plants 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. The 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.]**

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

## **Community-Based Restoration Partnerships**

### **Crawford County Students Complete Three-Year Restoration Project on Muddy Creek**

Maplewood High School students from Crawford County in Pennsylvania have continued the work they started nearly 3 years ago—improving the health of Muddy Creek and its tributaries. Under the direction of their teacher Jason Drake and high school senior Maria Anderson, biology classes have completed a fourth riparian restoration project in the Muddy Creek watershed. To date, the students completed the following:

- Planted more than 1,500 assorted trees.
- Installed 2,000 live stakes (sections of willow, dogwood, and other trees about 18 inches long and 2 inches thick cut from trunks and branches when trees are dormant and installed in stream banks in the spring where roots will sprout and develop stems and leaves).
- Strung more than 10,000 feet of stream bank fence.
- Installed fascines (rope-shaped long bundles of live cuttings lashed together with twine and buried in shallow trenches within the stream bank).
- Stabilized heavily eroded areas.

The students' latest project was on the Artman farm near Little Cooley in Crawford County. The students completed the project on November 5, 2002, with a little help in the form of materials and expertise from the Crawford County Conservation District, Natural Resources Conservation Service, DCNR Bureau of Forestry, French Creek Project, Ducks Unlimited, Penn State Extension, and Allegheny College Creek Connections. "These projects are a great way for the students to give something back to the community and create memories that will last a lifetime," said Ron McCorkle of the Natural Resources Conservation Service.

The students at Maplewood are making plans for a spring project that will involve removing invasive species. For more information about Crawford County's watersheds, programs, projects (including the Muddy Creek project), and events, please contact Watershed Specialist Brian Pilarcik at the Crawford County Conservation District office at 814-724-1793 or [consbria@toolcity.net](mailto:consbria@toolcity.net) or visit the Web site at [www.crawfordconserv.com](http://www.crawfordconserv.com).

To view the original article and a photograph of Muddy Creek restoration efforts, see the December 2002 issue of the Pennsylvania Organization for Watershed & Rivers' *Watershed Weekly* at [www.pawatersheds.org](http://www.pawatersheds.org).

### **Saugus River Watershed Council Coordinates Watershed Restoration Efforts**

The Saugus River watershed is getting cleaner, one step at a time, because of the efforts of the Saugus River Watershed Council. The Council is a nonprofit organization founded in 1991 to protect the natural resources of this Massachusetts watershed. The organization works to restore water quality, expand public access, restore habitat for anadromous fish and other wildlife, and protect critical resources. Over the past 10 years, the Council has worked with numerous groups to achieve watershed restoration and protection goals.

For example, illegal dumping is a serious problem facing the river. In a recent effort on June 29, 2002, Council members gathered to remove more than a ton of debris from the river. The Council teamed with the Saugus Department of Public Works, which provided vehicles to transport the debris to a local landfill. A grant from the Massachusetts Riverway Program will continue to support the Council's efforts to address illegal dumping in the watershed.

The Council has also worked to preserve Rumney Marsh, a 2,634-acre urban salt marsh. In June 2002 Council members worked to have the marsh designated as a nature preserve. Now that the land has been set aside, the Council organizes public education programs to help families learn about marsh inhabitants. On July 14 approximately 20 people joined Council members for a day-long program called "What Lives at Rumney Marsh." Over the past year almost 200 middle school students have explored the marsh.

The Council and its watershed partners have made the river more accessible to the public. In fall 2001 Council members worked with Boy Scout Troop 61 to rebuild sections of the Partridge Island Boardwalk. The boardwalk allows natural history and environmental education programs to take groups near the river without damaging riparian ecosystems. The Boy Scouts raised more than \$1,200 in cash and received in-kind donations from local sponsors to complete the project. The Scouts also dedicated several of their weekends to construction work at the site.

Finally, the Council has also been instrumental in organizing other public education campaigns to help preserve the watershed. Efforts have included storm drain stenciling programs, a clean boating campaign, canoe trips along the river, and pond cleanup days. For more information on the ongoing activities sponsored by the Saugus River Watershed Council, visit [www.saugusriver.org](http://www.saugusriver.org).

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

## **Achieving Restoration Results**

### **Washington's Small Habitat Restoration Program Makes a Big Difference**

The Small Habitat Restoration Program (SHRP) operated by King County's Natural Resources and Parks Division achieves habitat restoration through small-scale stream corridor and wetland restoration projects. Typical projects involve stabilizing eroding streambanks, installing livestock fencing, controlling invasive weeds, and planting native vegetation. The program sponsors projects on both private and public lands. The project must provide benefits to the public at large.

Since 1995 the program has funded 127 habitat restoration projects and provided technical assistance to an additional 133 projects. Projects completed last year include the following:

- **The Denny Creek Fencing and Buffer Project.** This project removed invasive nonnative plants, including Japanese knotweed, from Seattle Parks property. The plants were replaced with native trees and shrubs and protected by a post and rail fence. The project restored a total of 18,000 square feet of riparian area.
- **The Patterson Creek Habitat Restoration Project.** SHRP sponsored a project to restore Patterson Creek by removing debris by hand and then restoring the stream to its original path through a forested wetland. This project restored access to more than 8,000 feet of spawning and rearing habitat for coho salmon.
- **O'Hanley Habitat Management Plan.** SHRP supported the development of a habitat management plan to restore fish and wildlife habitat on 153 acres of private property including Harris Creek and the Snoqualmie River. Last year project partners used this plan to reestablish 21,000 square feet of riparian buffer along 400 feet of Harris Creek by removing invasive species and replacing them with willow and Douglas fir plantings.
- **The Tributary 383 Restoration Project.** Both SHRP and the National Fish and Wildlife Foundation provided grant awards for this stream corridor restoration project along Patterson Creek. The project restored almost 50,000 square feet of riparian buffer and provided access to 1,000 feet of habitat in a tributary to Patterson Creek.

SHRP continues to assist and fund stream and habitat restoration programs throughout King County, Washington. For more information on funded projects and habitat restoration assistance, visit [dnr.metrokc.gov/wtd/shrp](http://dnr.metrokc.gov/wtd/shrp).

### **Hall's Pond Sanctuary Protected from Stormwater Runoff**

Hall's Pond Sanctuary is a remnant of the natural landscape of the Cottage Farm Historic District in Massachusetts. Until well into the 20<sup>th</sup> century, the area around Hall's Pond was an ancient cedar swamp. Today, this 3.5-acre parcel provides a surprising range of habitats for animal species, especially songbirds, in a densely populated urban environment. The pond is fed by storm water runoff from a 107-acre watershed, and as a result sediment and debris have been filling the pond and degrading the water quality. Degraded water quality is reducing the number of tall trees that once provided a natural canopy, and invasive, nonnative vegetation has crept in and crowded out the area's native plants.

The Town of Brookline, Commonwealth of Massachusetts, Stoneman Family Foundation, and Natural Resources Conservation Service worked together on a restoration project to reduce the impacts of storm water runoff on the pond. The restoration project included installing a new storm water drainage system to control runoff entering and exiting the pond. The system is designed to direct the "first flush" of runoff into a sedimentation forebay, where the majority of sediments are deposited and routinely cleaned out. Water is then directed into a newly created fringing marsh before it finally enters the pond. Additional runoff, when present, bypasses the pond through a diversion pipe.

Substantial invasive plant removal and landscaping with native plants were undertaken through the upland area surrounding the pond. Supplemental planting of native species within the marsh area continued throughout 2002. In the future, local school groups will monitor vegetation and wetland functions regularly. For more information on Massachusetts' wetlands restoration programs, visit [www.state.ma.us/envir/mwrp](http://www.state.ma.us/envir/mwrp).

*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](mailto:restorationupdate@tetratech-ffx.com).*

## **Funding for Restoration Projects**

### **MARSH Program Protects Habitats**

Ducks Unlimited's Matching Aid to Restore States Habitat (MARSH) program creates a positive fund-raising atmosphere through the acquisition and enhancement of waterfowl habitat within each state. This reimbursement program provides matching funds and grants to public and private agencies and organizations within each state based on a percentage of Ducks Unlimited's net annual grassroots fund-raising in that state plus any unused MARSH funds from the previous year.

MARSH projects develop, maintain, restore, and preserve wetland and associated upland habitat in the United States. Projects protecting or restoring habitats within North American Waterfowl Management Plan Joint Venture areas receive first consideration.

The MARSH Donor program allows individuals, corporations, foundations, and other organizations the opportunity to target funds to a particular MARSH project. Because all MARSH projects must meet minimum biological and cost-efficiency standards, it is preferred that donor projects be selected from existing approved or completed projects. For information about your state MARSH program please contact the appropriate Ducks Unlimited regional office (see [www.ducks.org](http://www.ducks.org) for contact information).

### **Virginia Environmental Endowment Offers Grants**

The Virginia Environmental Endowment makes grants to nonprofit organizations and government agencies for projects that promise measurable results in the improvement of the environment. The endowment offers three grant programs, the Virginia Program, the Virginia Mini-grant Program, and the Kanawha and Ohio River Valleys Program. Each program provides grant awards for projects that involve the community, strengthen stewardship, and improve water quality. Amounts of last year's grant awards ranged from \$700 to \$47,650. For further information about Virginia Environmental Endowment's grant programs, visit [www.vee.org](http://www.vee.org).

### **Illinois Wildlife Preservation Fund Small Project Program Funds Available**

Applications are being accepted for the Small Project Program of the Illinois Wildlife Preservation Fund, administered through the Illinois Department of Natural Resources, Office of Resource Conservation, Division of Resource Protection & Stewardship. This program is funded through a voluntary check-off designation to the Wildlife Preservation Fund on the state income tax form.

Small Project Program proposals may address many types of projects, including management, site inventories, and education. Examples of past projects include wildlife habitat improvement, species enhancement, and education and research projects throughout the state, focusing on species ranging from birds to turtles and habitat ranging from forests to prairies. Individual proposals are eligible for up to \$1,000 from the Wildlife Preservation Fund. The grants will be effective July 1, 2003–June 30, 2004.

The Illinois Wildlife Preservation Fund Small Project Program packet for 2004 includes a program explanation, instructions for completing the application form, and an application form. The packet can be requested by calling 217-785-8774 or by sending e-mail to [SpecialFunds@dnrmail.state.il.us](mailto:SpecialFunds@dnrmail.state.il.us). You will need to provide the following information: name, affiliation, address, and telephone number. Applications will be accepted through April 15, 2003.

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

## News and Announcements

### **Federal Agencies Take Actions to Improve Mitigation and Further the Goal of “No Net Loss” of Wetlands**

The U.S. Army Corps of Engineers and the U.S. Environmental Protection Agency, in conjunction with the Departments of Agriculture, Commerce, Interior, and Transportation, have strengthened their commitment to achieve the goal of no net loss of the Nation’s wetlands with the December 27, 2002, release of a comprehensive action plan and improved guidance to ensure effective, scientifically based restoration of wetlands affected by development activities. The Corps’s regulatory guidance and the multiagency action plan will help advance technical capabilities for wetland restoration and protection, as well as clarify policies to ensure ecologically sound, predictable, and enforceable wetland restoration completed as part of Clean Water Act and related programs. Both actions are the result of extensive multiagency collaboration.

The *National Wetlands Mitigation Action Plan* lists 17 action items that the agencies will undertake to improve the effectiveness of restoring wetlands that have been adversely affected or lost to activities governed by clean water laws. Completing the actions in the plan will enable the agencies and the public to make better decisions regarding where and how to restore, enhance, and protect wetlands; improve their ability to measure and evaluate the success of mitigation efforts; and expand the public’s access to information on these wetland restoration activities.

A revised Regulatory Guidance Letter leads the list of action items in the *National Wetlands Mitigation Plan*. Crafted with input from the federal agencies that play a role in wetland protection, the Corps’s Regulatory Guidance Letter will improve wetland restoration implemented under the Clean Water Act in support of the Administration’s “no net loss of wetlands” goal.

To advance the goal of no net loss of wetlands, the guidance letter emphasizes the following: (1) a watershed-wide approach to prospective mitigation efforts for proposed projects affecting wetlands and other waters, (2) the increased use of functional assessment tools, and (3) improved performance standards.

In addition, the guidance letter emphasizes monitoring, long-term management, and financial assurances to help ensure that wetland restoration actually results in planned environmental gains. The guidance letter also provides greater consistency across the Corps’s 38 district offices on issues such as the timing of mitigation activities and the party responsible for mitigation success.

Recent independent evaluations published in 2001 by the National Academy of Sciences (NAS) and the General Accounting Office (GAO) reviewed the effectiveness of wetlands compensatory mitigation for authorized losses of wetlands and other waters under Section 404 of the Clean Water Act. In its study, the NAS concluded that, despite progress in the past 20 years, the goal of no net loss of wetlands is not being met for wetland functions by the compensatory mitigation programs of federal agencies. The new action plan and guidance were developed in response to, and are consistent with, the recommendations made in those reports.

Copies of the *National Wetlands Mitigation Action Plan* and the Regulatory Guidance Letter, as well as links to the independent studies mentioned above, will be available on the Corps's and EPA's Web sites at <http://www.usace.army.mil> or <http://www.epa.gov/owow/wetlands>. For further information, contact David Hewitt, US Army Corps of Engineers, 202-761-0289. To view the press release visit [www.epa.gov/epahome/headline\\_122702.htm](http://www.epa.gov/epahome/headline_122702.htm).

### **Agreement Reached on Washington's Shoreline Guidelines**

On December 20, 2002, Washington Governor Gary Locke announced that the state has reached a long-awaited agreement on Washington's shoreline management guidelines. "This important agreement will help us move forward to protect our shorelines," Locke said. "By bringing businesses and environmentalists together, we have proven that we can achieve consensus on even the most controversial issues." The state's Shoreline Management Act directs the state Department of Ecology to adopt guidelines for how to satisfy the protection standards contained in the act, and it requires cities and counties to adopt local shoreline ordinances that comply with the state guidelines.

Two years ago, the Department of Ecology updated the state's shoreline management guidelines for the first time since 1972. However, a coalition of business groups and local governments challenged the guidelines, and the Shoreline Hearings Board subsequently invalidated them. Washington Department of Ecology Director Tom Fitzsimmons asked Locke and Attorney General Christine Gregoire to sponsor mediation talks aimed at reaching a legal settlement. "The successful mediation avoided further litigation that would have been costly and time-consuming for all parties," Gregoire said. "This is an example of how business, environmentalists, and local governments can work together to achieve their mutual goals."

Under the negotiated shoreline guidelines, local shoreline master programs must

- Manage shoreline development and uses in a manner that preserves and protects the environmental functions of the shorelines.
- Ensure that new development will result in no net loss of shoreline ecological functions.
- Set priorities and include a plan for restoring past shoreline damage, where appropriate.
- Coordinate shoreline programs with local comprehensive plans and regulations, and with other state and federal requirements.
- Respect constitutional and legal limits on regulating private property.

Fitzsimmons said the negotiated guidelines will provide more flexibility in managing and using shorelines, while providing a greater degree of protection for crucial shoreline functions, such as containing floodwaters, preventing erosion, and providing habitat for a host of aquatic life. For more information see Washington State Department of Ecology's *Ecology News* at [www.ecy.wa.gov/news/2002news/2002-239.html](http://www.ecy.wa.gov/news/2002news/2002-239.html). For the history of the Shoreline Management Act and guidelines, see [www.ecy.wa.gov/programs/sea/SMA/guidelines/newguid.htm](http://www.ecy.wa.gov/programs/sea/SMA/guidelines/newguid.htm).

## **New Chesapeake Bay Watershed Resident Survey Shows Continued Concern About Chesapeake Bay Health**

Nearly 90 percent of Chesapeake Bay watershed residents are concerned about the health of the Chesapeake Bay and its rivers and streams, according to a recent survey commissioned by the Chesapeake Bay Program, the federal-state partnership coordinating bay protection and restoration efforts. Nevertheless, the survey also shows that nearly half the watershed's residents do not understand that their daily actions have a direct impact on water quality locally and in the bay.

According to the survey, residents of the Chesapeake Bay watershed—the 64,000 square miles in Virginia, Maryland, Washington, DC, Pennsylvania, West Virginia, New York, and Delaware that drain into the Bay—believe that "business and industry" are the leading sources of pollution in local waters. The leading source of water pollution throughout the watershed is nonpoint source pollution, or pollution carried by water that drains from farmlands, construction sites, streets, parking lots, and residential lawns.

“The survey confirms that the people of the Chesapeake Bay watershed see the bay as a special place—a national treasure that deserves to be protected and restored,” said Chesapeake Bay Program Director Rebecca Hanmer. “While bay leaders and government can take many steps to restore the bay, we will need the help of each citizen in the bay watershed to complete the job.”

Reducing the amount of nutrients flowing into the bay is the most critical step in restoring the estuary. To do this, expanded efforts to reduce nonpoint source pollution need to involve each of the nearly 16 million people living in the bay watershed. The Bay Program plans to develop materials to encourage citizens to become involved in “bay friendly” activities, including conserving water, driving fewer miles, properly maintaining septic systems, and avoiding overfertilizing lawns.

“We want to provide people more information so they can be part of the solution, rather than unknowingly being part of the problem,” said Hanmer. “The survey shows that many bay residents want to do their part to help but don’t quite know how. We hope to change that.”

For a copy of the 69-page report, including a full list of survey questions and region-specific data sets, please visit [www.chesapeakebay.net/survey.htm](http://www.chesapeakebay.net/survey.htm). To view the press release, visit [www.chesapeakebay.net/press.htm](http://www.chesapeakebay.net/press.htm).

## Upcoming Conferences and Events

### New Listings

#### **Pennsylvania Wildlands 2003: Prospects for Recovery and Rewilding**

February 1, 2003

State College, Pennsylvania

The second conference of the Pennsylvania Wildlands Recovery Project, “Pennsylvania Wildlands 2003: Prospects for Recovery and Rewilding,” will be held on Saturday, February 1, at the Penn State Conference Center in State College. Dave Foreman, publisher of *Wild Earth* and Chairman of the Wildlands Project, will give the keynote address. Other speakers include Conrad Reining, Northeastern Coordinator for The Wildlands Project; Chris Bolgiano, author of *Mountain Lion: An Unnatural History of Pumas and People* and vice-president of the Eastern Cougar Foundation; and Susan Hagood, Wildlife Specialist for the Humane Society and an expert on the construction of highway overpasses and underpasses for wildlife.

The conference registration fee is \$30 if registered before February 1, or \$35 if registering on the day of the conference. A student/low-income rate of \$15 is available. To register, make your check or money order payable to Pennswoods Wildland Recovery and mail it to PA Wildlands Recovery Project, PO Box 972, State College, PA 16804-0972. Please include your name, affiliation, and mailing address. For additional information, contact Tonya Boston-Sagar at [t.bostonsagar@worldnet.att.net](mailto:t.bostonsagar@worldnet.att.net) or PWRP president Alan Gregory at 570-788-1425 or [meg5@psu.edu](mailto:meg5@psu.edu).

#### **2nd Annual Northwest Stream Restoration Design Symposium**

February 4–6, 2003

Stevenson, Washington

This symposium, sponsored by River Restoration Northwest, OSU-CWEST, OSU-Civil Engineering, and Portland State University, will address stream restoration issues in the Northwest. The program will include:

- Design Methods—Long, invited presentations that will review restoration design basics and state-of-the-art thinking on design.
- Technical Sessions—Short presentations about restoration projects, with examples of design, monitoring, and lessons learned.
- Poster Displays—Technical project presentations in poster format.
- Special Luncheon and Evening Speakers—Speakers will address critical topics for restoration professionals or highlight topics of regional interest.
- Optional Field Trip—Sponsored by Inter-Fluve and KPFF Engineering, this field trip will take place on Friday and will show regional restoration projects.

For more information, see <http://rrnw.org/Skamaniam2003>.

### **Schuylkill Watershed Congress**

March 1–2, 2003

Reading, Pennsylvania

Organized annually since 1998, the Schuylkill Watershed Congress raises awareness of the watershed concept, offers training opportunities for river advocates, and fosters important partnerships for watershed protection and restoration. The first day of the conference will offer more than 30 sessions addressing a broad range of topics including watershed education, conservation landscaping, groundwater basics, citizen group success stories, watershed assessment approaches, agricultural best management practices, riparian restoration, floodplain protection, storm water management, and watershed planning. The second day will consist of watershed tours. For more information, contact Chari Towne of the Delaware Riverkeeper Network at P.O. Box 459, Saint Peters, PA 19470. Phone: 610-469-6005; fax: 610-469-6025.

## **Previous Listings**

### **Society for Ecological Restoration, Northwest—2003 Regional Conference**

**“The Restoration Toolbox”**

March 24–28, 2003

Oregon Convention Center

Restoration ecology is a rapidly growing field with broad participation from diverse technical and cultural groups. The conference brings ecologists together to share their questions and learn from each other’s experience in this complex, but essential endeavor. Conference sessions will include weed management, native plants, soils, fish and wildlife, and cultural restoration. For more information see [www.fisheries.org/wd/news/2002/Ecological\\_Restoration\\_Northwest\\_2003\\_Regional\\_Conference\\_CFP.htm](http://www.fisheries.org/wd/news/2002/Ecological_Restoration_Northwest_2003_Regional_Conference_CFP.htm).

### **Bogs, Playas, Pools: Protect America’s Unique Wetlands—2003 American Wetlands Campaign Bi-Annual Conference**

May 1–4, 2003

Minneapolis, MN

The Izaak Walton League’s biennial American Wetlands Conference is a national training and networking opportunity for wetland stewards. The purposes of the conference are to educate and to inspire people to initiate and sustain on-the-ground wetland conservation and education projects. This year’s conference will include three tracks: education and outreach, wetland science, and wetland conservation policy. In addition to obtaining the latest information on wetland issues, participants will receive training to further their ability to implement wetland conservation and education activities. The conference will also include sessions related to the 2003 American Wetlands Campaign theme—“Bogs, Playas, Pools: Protect America’s Unique Wetlands.” Each participant will be asked to conduct at least one wetland conservation or education project in the year following the conference. The League will provide assistance and follow-up. The conference is targeted to volunteer and professional wetland stewards

interested in learning more about wetlands and how to conserve them. Participants include volunteers, landowners, members and staff of nonprofit organizations, students and educators, government agency staff, business professionals, and anyone interested in coordinating or participating in wetlands conservation and education. For more information, see [www.iwla.org/SOS/awm/conference/](http://www.iwla.org/SOS/awm/conference/) or contact Leah Miller at 301-548-0150 x219 or by e-mail at [awm@iwla.org](mailto:awm@iwla.org).

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

## **Restoration-Related Web Sites**

<http://swamp.ag.ohio-state.edu/>

**Olentangy River Wetland Research Park.** Located at The Ohio State University, this park is designed to be one of the most comprehensive wetland research and education facilities in the nation at a major university. This site offers information about the research park and includes pictures, links to real-time wetland water level data, and research park news. *This site would be useful for someone interested in research-oriented wetland projects.*

[www.dnr.state.oh.us/wetlands](http://www.dnr.state.oh.us/wetlands)

**The Wonderful World of Wetlands.** This site, developed by the Ohio Department of Natural Resources' Wetland Division, offers general information about wetlands targeted to educate the public. Information includes wetland types, the history of Ohio wetlands, wetland restoration, wetland mitigation banking, wetland education, and applicable wetland regulations. The site also provides links to wetland organizations and offers Ohio wetland maps. *This site would be useful for anyone seeking general information about wetlands in Ohio or the Great Lakes region.*

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

**Jugbay Wetlands Sanctuary.** This Web site describes the Jugbay Wetlands Sanctuary, a 1,200-acre wetland sanctuary along the Patuxent River in Maryland. The site describes volunteer restoration projects and restoration-related research projects available for public participation. Programs include marsh cleanup, invasive plant removal, stream monitoring, and submerged aquatic vegetation surveys. *This Web site would be useful for Washington, DC, area residents interested in becoming involved in wetland restoration. It offers innovative ideas on how to involve volunteers in restoration projects and research.*

[www.state.ma.us/dfwele/river/rivLow\\_Flow\\_Inventory/home.html](http://www.state.ma.us/dfwele/river/rivLow_Flow_Inventory/home.html)

**Low Flow Inventory Web Page.** The Commonwealth of Massachusetts' Riverways Program recently developed the Low Flow Inventory Web page. The Low Flow Inventory is an ongoing compilation of references, resources, and observations about rivers and streams with low flow problems. The Web site provides information on the causes of low flows and describes the related habitat degradation that can result. *This site would be useful for anyone looking for information on the habitat impacts resulting from low water flows in rivers.*

[www.treefarmsystem.org/conservationprojects/index.cfm](http://www.treefarmsystem.org/conservationprojects/index.cfm)

**Forests for Watersheds and Wildlife.** The American Forest Foundation's Forests for Watersheds and Wildlife Program seeks to communicate information about protecting wildlife habitat, water quality, sustainable forestry, and soil conservation to private forest landowners. It achieves this goal through two programs—Shared Streams (riparian restoration focus) and Forested Flyways (bird habitat restoration focus). This site offers links to descriptions and pictures of ongoing and completed restoration projects. *This site provides useful resources for preserving riparian habitat areas.*

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

**Natural Trails and Waters Coalition.** The Natural Trails and Waters Coalition works to protect and restore all public lands and waters from the severe damage caused by dirt bikes, jet skis, and all other off-road vehicles. This Web site contains links to field studies documenting the habitat impacts of off-road vehicles and provides fact sheets and guides to help educate others about this form of habitat degradation. *This Web site is designed to be a resource for anyone wanting to know more about the impacts of off-road vehicles on natural resources and wildlife.*

[www.tomsofmaine.com/toms/community/cgp/nrap/default.asp](http://www.tomsofmaine.com/toms/community/cgp/nrap/default.asp)

**Tom's of Maine National Rivers Awareness Program.** In response to the threats on natural waterways, Tom's of Maine created a 5-year program to raise awareness about the need to protect and restore the nation's rivers and watersheds. The Web site provides tips on protecting and restoring local waterways and provides a link to find restoration-related activities throughout the country. *This site would be useful for anyone looking for locally based activities that will help protect and restore the nation's rivers.*

[www.dep.state.wv.us/item.cfm?ssid=11&sslid=202](http://www.dep.state.wv.us/item.cfm?ssid=11&sslid=202)

**West Virginia Save Our Streams.** This Web site provides information on the West Virginia Save Our Streams program, including the benefits of volunteer monitoring and how to get involved. The *West Virginia Save Our Streams Manual* and related forms can be downloaded from the site. The site also has links to two articles on introductory fluvial geomorphology and stream water quality published by the *Mountain State Monitor* newsletter. *This Web site would be useful for those looking for information on monitoring strategies to assess the success of their restoration projects.*

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

**Canaan Valley Institute.** Since 1995 the Canaan Valley Institute has been fostering local decision-making in support of sustainable communities in the Mid-Atlantic Highlands. The Mid-Atlantic Highlands include portions of Maryland, Pennsylvania, and Virginia and all of West Virginia. The Institute is a nonprofit, non-advocacy organization committed to enhancing the ability of the region's residents to improve their quality of life. The Canaan Valley Institute periodically offers training sessions on stream restoration techniques and practices and also administers a small grant program. *This Web site would be useful for anyone looking for information about getting a restoration project started in the Mid-Atlantic region.*

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

## Information Resources

### *A Volunteer's Handbook for Monitoring New England Salt Marshes*

By the Massachusetts Office of Coastal Zone Management, June 2002.

This manual outlines an approach volunteer monitoring groups can use to collect accurate, consistent data. Developed originally for groups monitoring Massachusetts' salt marshes, the guide is a useful tool for groups assessing salt marshes elsewhere in New England, the Gulf of Maine, or south along the Atlantic seaboard. The complete guidebook can be downloaded from [www.state.ma.us/czm/volunteermarshmonitoring.htm](http://www.state.ma.us/czm/volunteermarshmonitoring.htm) or can be ordered in hard copy format. For more information, call 617-626-1200.

### *Handbook for Restoring Tidal Wetlands*

By Joy Zelder, University of Wisconsin

This handbook serves as a broad based guide to the management of tidal restoration sites. Combining information from case studies and broad based principles, the book covers a full range of topics including the conceptual planning for coastal wetlands restoration, strategies for the manipulation of hydrology and soils, the reestablishment of vegetation and assemblages of fishes and invertebrates, and the process of assessing, monitoring, and sustaining restored wetlands. A summary of the book and the table of contents are available at [www.floridaplants.com/CR/sep2-6.htm](http://www.floridaplants.com/CR/sep2-6.htm). The book can be ordered on-line for \$89.95.

### *Life on the Edge: Improving Riparian Function*

By the Oregon State University Extension Service

Riparian areas play a pivotal role in the health of our watersheds. *Live on the Edge: Improving Riparian Function* is a 12-minute video showing viewers

- How this transition zone between the water's edge and the uplands provides food and cover for fish and wildlife, controls erosion, filters runoff, and produces the ingredients for fish habitat and stream channel stability.
- What land-use practices can affect riparian areas.
- The techniques landowners, volunteers, and professional resource managers are using to improve and protect riparian function.

To order *Life on the Edge: Improving Riparian Function*, send an e-mail to [puborders@orst.edu](mailto:puborders@orst.edu) or send a check or money order for \$19.95 (including shipping) payable to Oregon State University to Publication Orders, Extension & Station Communications, Oregon State University, 422 Kerr Administration Building, Corvallis, OR 97331-2119.

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