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EPA 840-N-96-002 (Spring 1996)

Watershed Events

A Bulletin on Sustaining Aquatic Ecosystems

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A special focus on the past and future of the watershed approach . . .

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Note from the Editor

The theme for this issue is "learn from the past, look toward the future." Five years ago, we made our commitment to a different if not entirely new paradigm for managing the water environment and called it "the watershed approach". It established a cleaner environment as a common goal and encouraged all stakeholders at the federal, state, and local level to share their resources, expertise, and authority to work together toward that goal on a watershed or community basis.

Vice President Gore's National Performance Review for reinventing government gave further impetus to this approach. In the past four issues, we have tried to profile how federal agencies are reinventing themselves and paving the way to empower and enable local people to make decisions for their own watersheds. In this issue, we would like to share some of the lessons learned so far and offer some issues that still merit our attention. Please send us your thoughts on these issues.

Watershed Events

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Watershed Events is intended to update interested parties on the development and use of watershed protection approaches. These approaches consider the primary threats to human and ecosystem health within the watershed, involve those people most concerned or able to take actions to solve those problems, and then take corrective actions in an integrated and holistic manner.

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The Watershed Approach and Reinvention-- *"learn from the past, look toward the future"*

[Reflecting on the Watershed Approach: Lessons Learned](#)

[A Watershed Approach to River Cleanup -- Some Tips and Traps](#)

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One of the special attractions of the watershed approach is its recognition that each watershed has its unique characteristics and requires its very own action plans. While we have learned that the basic principles of the process for developing and implementing those plans may be the same, the roles and responsibilities of the stakeholders may be different from watershed to watershed.

This poses a new challenge for many stakeholders who have very focused and recognizable programs with well-defined roles, responsibilities, and traditional supporters/customers. Looking toward the future, we must be able to address the underlying issues that these stakeholders may face in assuming their different roles in various watersheds.

The feature article begins with EPA's attempt to highlight some of these issues. However, keep in mind that each agency or organization must arrive at its own conclusions.

We welcome the first time contribution from the National Park Service.

Reflecting on the Watershed Approach: Lessons Learned

Since 1991, we at EPA have embraced the watershed approach as the major mechanism for achieving the next generation of water protection nationally.

Through our involvement in over 120 watershed projects nationally, we have seen the economic and environmental benefits of this approach. For example, in the Massachusetts Bays, 12 agencies came together to implement a "doable" agenda of reopening shellfish beds. By focusing communities and resources on this problem, more than 600 acres of productive beds have been returned to the local economy.

Over the last five years, we have learned several important lessons. First, we have learned that watershed associations are critical to achieving watershed protection. Fortunately, more and more watershed associations are being established to take action in individual watersheds.

- The national "Know Your Watershed" campaign, which serves as a clearinghouse on watershed information, organizations, and events, has already tallied approximately 700 watershed groups and we expect that number to increase rapidly.
- The coalition called "River Network" is dedicated to building citizen groups to speak out for rivers in every watershed across the country. They have a strategic plan called "Watershed 2000," and under it they are working to have 2,000 Citizen Councils by 2020.

Second, we have learned that states are key partners in the approach and can benefit by moving to management by watersheds.

Approximately thirty-six states are in the process of developing or implementing watershed approach frameworks. In North Carolina, the watershed approach has resulted in cost savings. Since implementing the approach, the state has been able to monitor 40 percent more waters with the same level of effort.

In EPA, we have learned that we needed to transform our programs to better support the watershed approach. A few examples include:

- Our wetlands program, in conjunction with other Federal agencies, is promoting the use of watershed planning to identify and characterize wetlands and to establish mitigation banks. By establishing an overall watershed plan, the development community can enjoy greater predictability on regulatory decisions while the entire community can expect greater success with protecting and restoring wetlands.
- The National Pollutant Discharge Elimination System (NPDES) program has been reorganized to allow states to synchronize permitting within a watershed. This reorganization has reduced permittee monitoring and reporting requirements by 25 percent, has streamlined permit application data requirements, and has provided a more efficient and equitable allocation of pollution control responsibility.

In addition to transforming programs, we have learned that financial and technical tools are needed to support state and local transitions to the watershed approach. Some examples are:

- Watershed management training will soon be available through the Watershed Academy which will offer a set of core courses and related materials about basic watershed management principles. During 1995, the two-day Statewide Watershed Management Course was offered in five locations to over 300 people.
- SURF YOUR WATERSHED is the newest item to be added to our internet toolbox, which already contains over 1000 water holdings. It was unveiled at the Watershed '96 conference in Baltimore. In partnership with USGS, we have created an on-line map on the Internet where anyone interested in locating and learning about what is going on in his or her watershed can visit. (See [Cyberspace](#) on page 19 for Internet address.)

Eye to the future

We continue to believe that the benefits of focusing on watersheds and working with communities are substantial. Because we cannot be everywhere, we have learned that we must partner with those who share our concern for clean water and healthy ecosystems if we are to achieve a sustainable environment for generations to come.

A Watershed Approach to River Cleanup -- Some Tips and Traps

TVA's Debbie Hubbs and other members of a recently formed River Action Team will report on their progress as it unfolds. This is their first report.

TVA's newest River Action Team hit the ground running in October last year. The five member team is assigned to the Fort Loudoun-Melton Hill-Watts Bar watershed, a 17- county area that covers 2,850 square miles and is home to nearly a half-million residents. The team's mission -- to improve water resources by targeting cleanup and protection efforts.

In fulfilling their mission, the team members first turned their attention to Second Creek -- one of the more prominent and abused streams that runs through a thickly populated and industrialized part of Knoxville, Tennessee. To the team, it was a good decision for two reasons. First, Knoxville's Water Quality Forum, made up of members from Ijams Nature Center, the Knoxville Utilities Board, the University of Tennessee, and others, was already working to clean up and improve the condition of the creek. TVA was able to join an established group with similar goals to pull in community involvement at an early stage. Second, the team recognized the potential for Second Creek to serve as a model for cleaning up other urban streams in Tennessee Valley watersheds.

Although relatively new to the business of watershed cleanup, the team members have some advice to share:

Pick the low-hanging fruit first -- Tackle projects in which you can achieve quick successes, then move on to the more difficult challenges. If an existing coalition or group shares your common interests and goals, join them. Don't reinvent the wheel when you don't have to. Above all, give credit to those who earn it.

Know your limitations -- Partnering with others implies sharing responsibilities and tasks. Allow your cooperators to carry their fair share of the load, and resist the temptation to take on more than you can handle. Cooperative projects often take much longer to accomplish than anticipated, so set realistic timeframes.

Hopefully, others involved in watershed cleanup and protection activities can benefit from the team's experience.

"Hands On" Experience with the Watershed Approach

Historically, most Corps of Engineers (Corps) water resources development projects have been "watershed"-based. That is, whether the project's primary purpose is flood damage reduction, improved navigation, or environmental restoration, the natural and human attributes and activities of the "watershed" affecting, or affected by, the project are considered. What is new within the Corps is partly the terminology (i.e., the watershed approach), and secondly, the emphasis on considering multiple watershed functions, both natural and economic, working closely with watershed stakeholders from the outset.

It is difficult to summarize the lessons learned from hands on experience with the watershed approach for an entire agency like the Corps. However, a look at one ongoing watershed-based project offers valuable insight. The Corps has been involved in the Anacostia River basin in Washington, DC and Maryland for more than 115 years. In the past, projects and programs centered on navigation, flood control, debris removal, and recreation. While these projects served their purposes well, their construction eliminated approximately 2,600 acres of wetland habitat from 1902 to the 1960s.

In recent years, the focus in the Anacostia has shifted to restoring lost habitat. In 1991, the Corps began working with the Anacostia Watershed Restoration Committee, a partnership that restored 32 acres of wetlands in Kenilworth Marsh adjacent to the Anacostia River. Last year, six small-scale projects designed to restore fisheries habitat and remove barriers to migratory fish were completed.

Currently, the Corps' Baltimore District, along with non-federal sponsors, is proposing the construction of additional fish and wildlife restoration measures. The cooperation and coordination of federal, state, and local governments was a critical element in developing the proposed plan. Several non-federal sponsors cost-shared the feasibility study that developed the proposed plan. Congress has authorized the proposed plan, and, depending on the availability of federal funds, project construction will begin at 13 sites in 1997.

Although the Corps' role in restoring the Anacostia River is really just beginning, one of the most significant lessons learned from the feasibility phase is the importance of early cooperation and coordination among federal, state, and local governments. In both budgetary and operational issues, the need for an integrated Anacostia ecosystem restoration plan has been made evident. The success of the Kenilworth Marsh project has demonstrated the positive results that can be achieved from such an approach.

Coordinating Watershed Efforts

The U.S. Fish and Wildlife Service's (USFWS) Coastal Ecosystems Program, as its name implies, conserves and manages coastal ecosystems. However, because coastal resources are influenced by tributary watersheds, USFWS recognizes that it cannot achieve this endeavor alone. As a result, the agency coordinates its efforts with other federal and state agencies, international cooperators, tribal representatives, private sector groups, and individuals.

USFWS's Coastal Ecosystem Program is active in 11 coastal areas around the country. The agency deliberately considers the priority areas and workplans of other federal agencies in selecting areas to target and in tailoring its program.

The Coastal Ecosystems Program integrates all USFWS activities in high priority coastal ecosystems to: identify the most important natural resource problems and solutions; influence the planning and decision making processes of other agencies and organizations; implement on-the-ground solutions in partnership with others; and instill a stewardship ethic and catalyze the public to help solve problems, change behaviors, and promote ecologically-sound decisions.

The Coastal Ecosystems Program has had tremendous results. Through partnerships, the program has: protected 6 miles of shoreline; restored 15 acres of riparian habitat; reopened 123 miles of coastal streams for anadromous fish; restored 1,230 acres of coastal uplands; restored more than 9,100 acres of coastal wetlands; and protected 31,610 acres of habitat through conservation easements.

Pursuing partnerships allows the USFWS to pursue goals beyond its reach and reduces duplication of effort. While federal agencies such as the EPA, the National Oceanic and Atmospheric Administration (NOAA), and the Army Corps of Engineers focus on the quality of coastal waters, USFWS concentrates on fish and wildlife and their habitat. By forging partnerships with these other agencies, USFWS's Coastal Ecosystem Program can achieve a more holistic watershed approach.

At Work in the Chesapeake Bay Watershed

As the caretaker of all of the nation's parks, the National Park Service has a lot to contribute to the watershed approach at the national, regional, and local levels. The agency's involvement in the Chesapeake Bay watershed is a prime example of its multi-faceted services.

As the third largest federal land owner in the Chesapeake Bay watershed, after the Department of Defense and the U.S. Forest Service, the National Park Service is hoping to use its presence in the watershed to set an example of responsible stewardship.

In its 1994 Chesapeake Bay Action Agenda, the Park Service outlines four ways it will work to further restoration goals in the watershed:

- 1) *In National Parks* -- As a land owner in the Chesapeake Bay watershed, the Park Service will use interpretive programs to increase public awareness and foster a conservation ethic. Interpretive signs about the bay are already in place at Fort McHenry and George Washington's birthplace national monuments.
- 2) *At the Watershed Level* -- The Park Service will help to increase public understanding of the watershed as an ecosystem that crosses jurisdictional bounds. The Park Service will also be working with state and local partners to increase opportunities for public access to the bay.
- 3) *At the Regional and State Level* -- The Park Service will assist in developing and implementing projects such as statewide river assessments, regional trail networks, and greenway corridors.
- 4) *At the Local Level* -- The Park Service helps local communities nationwide to conserve important resources through its Rivers, Trails, and Conservation Assistance Program (for more information on this program, see related story in this issue). This program has increased public awareness and enhanced personal investment in the welfare of the watershed.
- 5) This summer, the Park Service will station a full-time Bay coordinator at the Chesapeake Bay Program office in Annapolis, Maryland. Supported by a multi-disciplinary task force of park managers and staff specialists, the coordinator will work to implement the agency's 1994 Action Agenda.

The National Park Service encourages the public and organizations to find out how it can contribute locally to their watershed efforts.

CONCLUSION

In conclusion, as noted by these stories, there is no cookie-cutter solution, no business-as-usual, no auto-pilot process for stakeholders or their organizations. In reinvention and the watershed approach, only the purpose is constant. It is up to stakeholders to find their way and the means available to them to achieve their purpose.

FOR MORE INFORMATION

For more information on agency involvement in local programs, contact...

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(410) 573-4582

CYBERSPACE

The following is a listing of Internet resources which may be of interest to readers. To be added to the mailing list of "Internet Newsbrief," an electronic update service from the EPA Headquarters Library, contact Richard Huffine at huffine.richard@epamail.epa.gov. or at (202) 260-5080. Watershed Events appreciates the cyberspace contributions provided by Richard and other readers.

Wetlands, Oceans, and Watersheds Online

[URL=http://www.epa.gov/OWOW](http://www.epa.gov/OWOW)

Browse through EPA newsletters, fact sheets, brochures, publications, regulations, press releases, and Congressional testimony; order EPA publications online; request STORET water quality data; join in a nonpoint source discussion group; visit Know Your Watershed and Surf Your Watershed; and more.

EPA's Watershed Tools Directory

[URL=http://www.epa.gov/OWOW/watershed/wsb2.html](http://www.epa.gov/OWOW/watershed/wsb2.html)

A useful collection of 250 watershed tool summaries canvassed from EPA headquarters and regions, other federal agencies, states, and watershed organizations.

Water Environment Web

[URL=http://www.wef.org/](http://www.wef.org/)

A guide to the Water Environment Federation's programs, activities, and services and related water news.

Chesapeake Bay Program Scientific Links

[URL=http://www.chesapeake.org/stac/home.html](http://www.chesapeake.org/stac/home.html) &

[URL=http://www.chesapeake.org/crc/crc.html](http://www.chesapeake.org/crc/crc.html)

Information about the Chesapeake Bay Program's Scientific and Technical Advisory Program and the Chesapeake Research Consortium (CRC), including CRC's Environmental Management Fellowships for bachelor and master's level students.

EPA Region 9 Home Page

[URL=http://www.epa.gov/region09/](http://www.epa.gov/region09/)

Information on environmental activities in Arizona, California, Hawaii, Nevada, and the Pacific Islands.

EPA Region 3 Home Page

[URL=http://www.epa.gov/region03/](http://www.epa.gov/region03/)

Information on environmental activities in Delaware, Maryland, Pennsylvania, Virginia, West Virginia, and the District of Columbia.

Catalog of Federal Domestic Assistance

[URL=http://www.gsa.gov/regions/wk/wku/](http://www.gsa.gov/regions/wk/wku/)

A "government-wide compendium of federal programs, projects, services, and activities which provide assistance or benefits to the American public" produced by the General Services Administration.

U.S. Fish and Wildlife Service List Servers

[URL=http://www.fws.gov/servers.html](http://www.fws.gov/servers.html)

Lists all Fish and Wildlife Service list servers.

Environmental Law Institute Online

[URL=http://www.igc.apc.org/eli/](http://www.igc.apc.org/eli/)

Information on the institute, its publications, programs, and people.

Community-Based Environmental Protection Network

[URL=http://www.epa.gov/ecosystems](http://www.epa.gov/ecosystems)

Designed to empower communities by providing them with information about efforts to protect ecosystems and address human health issues.

National Park Service Home Page

[URL=http://www.nps.gov/](http://www.nps.gov/)

Includes information on programs and partnerships to protect America's parklands.

The Nature Conservancy

[URL=http://www.tnc.org/welcome/index.html](http://www.tnc.org/welcome/index.html)

Conservancy projects and publications.

What is a Watershed Community? --

The people and resources (water, wildlife, minerals, etc.) which live, work, and play in a watershed whether short- or long-term in nature.

Source: Mobilizing the Watershed Community: Linking Land, Water, and People, Fall 1995, Illinois EPA.

Conference Schedule

Conference Schedule

- o [August 5-7](#)
 - o [August 24-28](#)
 - o [October 5-9](#)
 - o [October 26-29](#)
- Call for Papers
- o [September 1](#)

August 5-7

Working with Wetlands and Wildlife, Denver, CO. Contact the Wildlife Habitat Council for other dates and places, (301) 588-8994.

August 24-28

International Public Works Congress & Exposition, Washington, DC. Contact American Public Works Association, (816) 472-6100.

October 5-9

WEFTEC '96: The Water Environment Federation's 69th Annual Conference and Exposition, Dallas, TX. Contact WEF's Member Services Center, 1(800) 666-0206 or (703) 684-2452.

October 26-29

World Environmental Congress, Cincinnati, OH. Contact Science & Technology Integration, Inc., Ontario, Canada, (519) 858-5055.

Call for Papers

September 1

Abstract deadline for Coastal Zone 1997, Boston, MA, July 20-6, 1997. Session themes are "Where Have We been?," "Where Are We Going?," and "New Directions: Charting the Course." Contact Dr. Martin C. Miller, USACE Waterways Experiment Station, ATTN: CEWES-CR-O, 3909 Halls Ferry Road, Vicksburg, MS 39180.

Statewide Watershed Approaches

[Georgia's River Basin Management Planning Framework](#)

[Utah's Watershed Approach Framework](#)

[Vice President Al Gore in letter to attendees of Watershed '96](#)

This feature describes statewide watershed protection approaches and projects. For more information on this feature, please contact Ruby Cooper Ford at EPA's Office of Wastewater Management, 401 M St. SW, Rm 2104(B) MC 4203, Washington, DC 20460, (202) 260-6051, fax (202) 260-1460, e-mail: ford.ruby@epamail.epa.gov.

Georgia's River Basin Management Planning Framework

Georgia has adopted a watershed protection approach. Known as River Basin Management Planning (RBMP), the approach provides a framework for developing management strategies to reduce pollution, enhance aquatic habitat, and provide a dependable water supply. Georgia's Department of Natural Resources, Environmental Protection Division (GAEPD) is guiding the implementation of the RBMP approach under legislative authority granted by the 1992 Georgia General Assembly.

To gain greater public support for its technical, policy, and economic decisions, GAEPD staff first met with local advisory committees from several river basins and defined the vision, mission, goals, and objectives of the RBMP approach. Following these meetings, GAEPD formed a workgroup of representatives from its water resource programs and the Department of Natural Resources, Wildlife Resources Division to define and tailor the framework.

The workgroup divided the state into 14 major river basins and five geographic regions to facilitate implementing RBMP on a five-year repeating schedule. Management plans for the first basin group will be drafted in late 1996 and implemented in 1997. The first iteration of basin plans for all basin groups will be complete in 2002.

GAEPD will appoint a committee of stakeholders in each basin to help with RBMP. Made up of representatives from such interests as local government, agriculture, industry, forestry, environmental groups, landowners, and citizens, the committee will help to identify watershed issues and build consensus among stakeholders. In addition, GAEPD program staff and key partners will serve on basin technical planning teams to carry out the 12-step basin management cycle:

1. Organize advisory committee and basin team
2. Review basin planning goals and objectives
3. Compile and review preliminary information
4. Develop and implement monitoring plan
5. Compile detailed information/data
6. Analyze and evaluate information/data
7. Identify issues and prioritize watersheds
8. Develop strategies for priority watersheds
9. Prepare/update draft river basin plan
10. Agency and public review/hearings
11. Finalize river basin plan
12. Implement river basin plan
(repeat cycle of steps)

GAEPD and its partners will phase RBMP into their activities to allow time for the approach to mature. A large amount of time and effort will be needed to fully establish the RBMP infrastructure to support the initial development and implementation of river basin

management plans. As a result, initial plans may not be as detailed, and are unlikely to address every issue in all basins.

In Georgia's River Basin Management Planning Framework, basin management is a dynamic process. Priorities not addressed during one planning cycle can be considered in the next. As a result, the management plans will evolve over time providing for updated assessments, priorities, and management and implementation strategies every five years.

For more information, contact Mork Winn or Paul Lamarre at the Georgia Department of Natural Resources, (404) 656-4905.

Utah's Watershed Approach Framework

Utah's Department of Environmental Quality has the authority to develop programs to prevent, control, and abate new or existing pollution of waters of the state under the Utah Water Quality Act. The Division of Water Quality (DWQ) is the lead entity charged with reorganizing Utah's water protection approach.

In February, DWQ released a draft Watershed Approach Framework document. With an emphasis on better coordination and integration of existing management programs, the framework will enable Utah citizens to be more directly involved in managing and protecting Utah's water resources.

Utah's Watershed Approach Framework is based on nine elements:

1. Divide the state into watershed management units to encourage a sense of ownership and encourage stakeholder involvement in stewardship activities.
2. Establish a five year watershed approach planning cycle.
3. Encourage stakeholder involvement to ensure that "those most likely to be aware of watershed conditions and concerns will be highly instrumental in defining and implementing watershed management unit plans."
4. Coordinate a strategic environmental information plan for each management unit to address funding, personnel, special study requirements, compliance, and enforcement.
5. Broaden watershed assessment to consider habitat factors (e.g., channel condition), landscape characteristics (e.g., imperviousness), and point and nonpoint sources of pollution.
6. Prioritize waterbodies based on factors such as beneficial use, ecological value, severity of impact, and degree of risk to human health or wildlife. Allocate resources to those waterbodies according to factors such as feasibility of management, cost, potential for success, and degree of public support.
7. Develop management strategies to achieve identified goals and objectives. Whenever possible, these strategies will build on existing projects and efforts.
8. Develop watershed management unit plans written in a non- technical style to reach a wide audience and update them every five years.
9. Implement the strategy, including support of ongoing projects and efforts, issuance of permits with conditions reflecting watershed plan provisions, and voluntary best management practices to control nonpoint source pollutants.

DWQ plans to continually update Utah's Watershed Approach Framework based on the lessons learned by stakeholders as they implement the approach in their watersheds.

For more information, contact Jim Christensen at the Utah Division of Water Quality, (801) 538-6605.

Vice President Al Gore in letter to attendees of Watershed '96

"I am confident that your close examination of our approach to watershed management will be valuable to citizens and lawmakers around the country. By working together, we all can make a lasting difference for our planet."

WHAT'S HAPPENING IN THE STATES?

[Establishing a Minigrants Program](#)

[A Two-Pronged Approach to Drinking Water Protection](#)

[Open Communication Helps Integrate Surface and Ground Water Protection](#)

[Subdividing a Watershed for Action](#)

[South Carolina's Gills Creek Watershed NPS Project](#)

This feature describes state watershed projects and the lessons states have learned through their watershed efforts. We welcome your submissions.

Establishing a Minigrants Program

Andy Miller is Environmental Health Manager with the South Carolina Department of Health and Environmental Control.

As part of South Carolina's fiscal year 1995 section 319 work plan, the South Carolina Department of Health and Environmental Control introduced a new grants program aimed at local governments and other nonprofits.

The objective of the "minigrants" program is to increase the number of organizations and individuals participating in nonpoint source pollution reduction or prevention activities. To achieve this, the department is making grants of between \$500 to \$20,000 available to organizations such as municipal and county governments, regional planning councils, school districts, lake associations, and environmental nonprofits for focused, locally oriented NPS projects.

Based on its experience, the department has advice to share with other organizations initiating a grant program for the first time:

- Develop an administrative process, with simplified accounting and administrative reporting requirements, and have it approved by the appropriate grant authorities *before soliciting proposals*.
- Make sure the proposal guidelines are highly specific with regard to the types of projects approvable. Most potential grantees don't know the 319 particulars regarding "implementation" and "allowable" expenses, etc.
- Coordinate with other sections or departments (e.g., Health Services Department) to share their experiences and concerns.

Despite the section's lack of experience with administering grants, the minigrants program is now going strong. A number of projects are currently under review and many more are expected. In addition, efforts are underway to simplify the accounting and reporting processes to accommodate organizations that may not have the administrative capacity of larger business and governmental organizations.

For more information, contact Andy Miller at the South Carolina Department of Health and Environmental Control, (803) 734-9238.

A Two-Pronged Approach to Drinking Water Protection

Ginger Tatom is Watershed Protection Coordinator with the Arkansas Department of Health.

Anticipating reauthorization of the Safe Drinking Water Act in 1994, the Arkansas Department of Health's Division of Engineering chose to pursue a two-pronged approach for drinking water protection.

One prong was to start an awareness and education program for water purveyors in the state. The goal was to educate them on what a watershed is, to look at the activities occurring in their watersheds, encourage them to think about how to protect their source of drinking water, and to encourage them to start educating their customers on the importance of protecting their drinking water sources. This is being achieved through classes at the division's training schools, at monthly water operator meetings, and at statewide conferences. The division has also developed educational publications and established a video library to educate the purveyors and their customers.

The second prong centers on targeting sources of pollution. For years, the division has been reviewing various types of pollution control permits issued within the state in relation to their potential effects upon drinking water sources. This includes NPDES permits, oil and gas well drilling permits, septic systems, confined animal operations, landfill sites, and the land application of animal wastes.

The division has been tracking these permits in a log book since 1987, and, in 1994, it compiled a computerized database to track the permitting process. The database can interface with most GIS systems and is useful in locating permitted operations in relation to the watersheds of public drinking water sources. The database capabilities are especially helpful in performing vulnerability assessments.

Even though reauthorization of the Safe Drinking Water Act has not yet occurred, Arkansas' watershed program continues to evolve. Currently, the division is working to build a better rapport with other government agencies involved in the watersheds of drinking water sources.

For more information, contact Ginger Tatom, Arkansas Department of Health, (501) 661-2623.

Open Communication Helps Integrate Surface and Ground Water Protection

Sarah Pillsbury is New Hampshire's State Wellhead Protection Program Coordinator.

In developing its Comprehensive State Ground Water Protection Program (CSGWPP), New Hampshire recognized that activities proposed for the work plan sometimes complemented, overlapped, or competed with the state watershed approach. By opening communication, the state has been able to address these issues and better integrate the two programs.

Communication has already helped address conflict between surface water and ground water protection. Group discussion led to the sharing of program practices that historically were not communicated because of their negative impacts on the other program's resource.

For example, discussions revealed that because stormwater control plans were not required for facilities that discharge to ground water, people had begun to redirect their stormwater runoff to ground water to avoid the surface water requirements. Once the problem was out in the open, New Hampshire was able to respond by changing the requirement so that facilities are now required to control the quality of stormwater regardless of where it discharges. Similarly, discussions with the Department of Transportation on ground water protection during road development led to the creation of new policies that protect ground water without shifting the contamination to surface water.

In this spirit of improved communication and integration, the state will use the CSGWPP to identify highly valued ground water sources unused for drinking water supplies, overlaying risks with quality and quantity, while simultaneously maintaining surface water protection.

For more information, contact Sarah Pillsbury, New Hampshire Department of Environmental Services, (603) 271-3503.

Subdividing a Watershed for Action

Renee DeShazo is Technical Assistance Coordinator with the Massachusetts Office of Watershed Management Nonpoint Source Program.

A primary objective of Massachusetts' watershed initiative, launched in 1994, is to increase participation by individuals that live, work, and play in the watershed.

The state initiative calls for a "watershed community council," made up of watershed associations, environmental groups, municipalities, and businesses in each watershed. These councils, in cooperation with a watershed team of state and federal representatives, will develop and implement watershed action plans.

Because of the large size of the watersheds (ranging from 50-725 square miles), the initiative focuses on subwatersheds, organizing subwatershed "stream teams" of local stakeholders to address nonpoint source pollution and encourage local participation. In the Neponset Watershed, the state's pilot basin (with an area of 120 square miles), a watershed community council is functioning with eight subwatershed stream teams.

Each of the Neponset stream teams has completed a shoreline survey identifying valuable resources and nonpoint source pollution, and several have developed action plans based on their findings. Currently, the stream teams' action plans are being integrated into a watershed-wide action plan with information and assistance from the state watershed team.

Not surprisingly, established watershed associations, land trusts, and regional planning agencies have been instrumental in making the watershed initiative work and, thus far, have served as conveners of the watershed community councils. Many of these organizations have been thinking in terms of watersheds for years, collecting their own data, developing management plans, and commenting on permits.

An essential, but more difficult, task is involving municipalities and businesses in watershed management. Some town boards and businesses aren't aware of the importance of watershed management; others realize its value but don't have the time to gather information on how to contribute to watershed protection.

The Department of Environmental Protection's Office of Watershed Management (OWM) provides education and training to towns on the value of the watershed approach and how they can implement this approach through comprehensive planning, town policies, bylaws, and review of development proposals. OWM and its partners also provide training to businesses on the requirements of the NPDES stormwater regulations, pollution prevention, and water conservation.

The state is hopeful that with increased cooperation, education, and technical assistance all stakeholders will become integral participants in the management and protection of their watersheds.

For more information, contact Renee DeShazo at the Office of Watershed Management, (617) 292-5929.

South Carolina's Gills Creek Watershed NPS Project

Andy Miller is Environmental Health Manager with the South Carolina Department of Health and Environmental Control.

Since February 1994, South Carolina's Department of Health and Environmental Control has undertaken a large-scale watershed project in the Gills Creek watershed. All types of major land uses occur within the 76-square-mile watershed where accelerating urban growth has resulted in nonpoint source (NPS) related water quality impairment. Trash and litter accumulations are also especially troublesome to those living around the numerous residential lakes in the watershed.

From the beginning, the department made a concerted effort to involve citizen groups in the planning process. Citizens were represented on a variety of technical, information, and outreach committees. Additionally, the department carried out extensive outreach and education activities, including information mailers, public presentations, and displays.

These efforts have generated considerable interest in the community but not a large-scale citizen involvement. The department now recognizes that it would have been best to try and form committees that were more autonomous. This would give the committees more ownership of the process and, simultaneously reduce the department's workload. The department is now trying to use this approach in the implementation of a Best Management Plan for the watershed.

A task force made up of area professionals and local neighborhood association presidents will be meeting in June to begin the process of designing an NPS Action Plan using available data. The department is hoping that this task force can produce a plan that can be adopted by the various decision makers in the area. Citizen involvement is still considered a key element for adoption since many of the NPS-related issues involve local issues that are not amenable to action at the state level.

For more information, contact Andy Miller at the South Carolina Department of Health and Environmental Control, (803) 734-9238.

From the Tribes . . .

[Wy-Kan-Ush-Mi Wa-Kish-Wit \(Spirit of the Salmon\)](#)

[The Columbia River Inter-Tribal Fish Commission](#)

[Water Quality Assessment for Tribes](#)

Wy-Kan-Ush-Mi Wa-Kish-Wit (Spirit of the Salmon)

Conversion of irrigation facilities in the Methow. Riparian fencing in the Deschutes. Streamside revegetation in the Umatilla. Streambank stabilization in the Imnaha. This year, tribes, landowners, watershed councils and government agencies will be working together to restore these watersheds and others throughout the Columbia Basin for salmon -- and for people.

The Columbia River treaty tribes have developed a plan using a basin-wide, or ecosystem, approach to halt the decline of Columbia River salmon and restore the once-abundant populations. *Wy-Kan-Ush-Mi Wa-Kish-Wit (Spirit of the Salmon): The Columbia River Anadromous Fish Plan of the Nez Perce, Umatilla, Warm Springs and Yakama Tribes* emphasizes the need for cooperative partnerships and alliances for watershed restoration.

Among the federal, state, and regional plans for salmon recovery, the tribal plan is the only one that also provides an implementation plan. A key component of the 12-year implementation plan is demonstrating success in the short term through a suite of "early-action" projects. The tribes have secured an allocation of \$6 million from the Bonneville Power Administration, through the Northwest Power Planning Council, for implementing this set of habitat restoration projects in 1996. The Early Action Watershed Package is based on the following principles:

Timeliness: The projects are ready for immediate, on-the-ground implementation. Agreements have already been negotiated with landowners and permit processes have been initiated. Each of the projects includes a monitoring and evaluation component, which will provide important information about salmon restoration in a timely manner.

Partnerships and collaboration: Tribes, landowners, states, local governments, watershed councils, and federal agencies have all been involved in the development of the projects and will participate in their implementation. All of the projects include cost shares of at least 10 percent. In many cases, although the tribe serves as the technical lead, local entities such as irrigation or soil and water conservation districts will implement them.

Science-based, watershed approach to decision making: The projects rely upon the region's best science and are consistent with ongoing regional salmon recovery efforts including the Northwest Power Planning Council's Fish and Wildlife Program, the Strategy for Salmon, its 1997 project prioritization process, and the Tribal Salmon Restoration Plan. Because the projects focus on watersheds, they provide benefits for all species, including resident fish and wildlife -- not just salmon.

Financial and biological accountability: The projects are structured around low administrative costs through local management; this maximizes the dollars spent on the ground. Financial and biological reporting requirements will identify and quantify the direct benefits for salmon resulting from the projects in terms of increased survival in each of the life stages.

These early action projects will demonstrate a more coordinated, rational, and community-based approach to salmon recovery through watershed planning and local decision making.

For more information, contact Megan Callahan Grant of the Columbia River Inter-Tribal Fish Commission, (503) 238-0667.

The Columbia River Inter-Tribal Fish Commission

The Columbia River Inter-Tribal Fish Commission was formed in 1977 by a resolution of four tribes (the Nez Perce Tribe, the Confederated Tribes of the Umatilla Indian Reservation, the Confederated Tribes of the Warm Springs Reservation of Oregon, and the Confederated Tribes and Bands of the Yakama Indian Nation).

The commission functions as a technical support and coordinating agency for the fisheries management policies of the member tribes. Governed by the tribal fish and wildlife committees, the commission employs scientists, public information specialists, policy analysts, administrators, and enforcement officers.

Water Quality Assessment for Tribes

In May 1995, EPA released *Knowing Our Waters: Tribal Reporting under Section 305(b)*, a publication encouraging tribes to take part in water quality reporting under Section 305(b) of the Clean Water Act. Participating in the reporting process provides tribes with the opportunity to document the status of their water quality and identify needed improvements. For a copy, call NCEPI at (513) 489-8190, or fax (513) 489-8695, and request document number EPA 841- B-95-003.

From the Grassroots . . .

[A Blueprint for Watershed Management in New York](#)
[AmeriCorps Volunteers at Work in the Lake Winnepesaukee Watershed](#)
[A Grassroots Effort in New England's Largest Basin](#)
[Restoring Fish Habitat in Wyoming](#)
[Land/Forest Management in California](#)

This feature describes local watershed protection projects and the lessons localities have learned through their watershed efforts. We need your input. Please send your submissions to John Pai, Editor.

A Blueprint for Watershed Management in New York

Michael Deering is Executive Director of Friends of the Bay, an organization "working to keep the oyster in Oyster Bay."

The Oyster Bay and Cold Spring Harbor ecosystems are highly sensitive estuarine environments that are home to a diverse population of plant and marine species. Recognizing its ecological value, New York State designated the watershed as an "Outstanding Natural Coastal Area" (ONCA) in 1995.

The ecological value of this ecosystem translates into economic value to the extent that the Long Island Sound and its inlets generate approximately \$5.5 billion a year from boating, commercial and recreational fishing, cargo shipping, ferry transportation, and tourism. Oyster Bay and Cold Spring Harbor, alone, supply 90 percent of New York's oyster harvest.

To protect the watershed, the New York Department of State's (DOS) Coastal Resources Division is undertaking a far-sighted planning and aggressive protection program. In a radical departure from government-as-usual, DOS asked the public what they wanted to see happen -- or not happen -- in the watershed before making any management decisions.

Residents were asked to envision the future of their watershed communities and to help chart the issues to be addressed by the ONCA Plan. Working in groups, citizens discussed and provided recommendations on a wide range of issues, including protecting and restoring wetlands and wildlife habitat, siting marinas, shoreline access, docks, sailing, and motor boating.

The resulting ONCA Plan will become the blueprint for local decision makers to use in managing the bay and surrounding shoreline activities. This blueprint, which has been achieved primarily through cooperative agreements, will also be the foundation of an inter-municipal agreement on the Oyster Bay/Cold Spring Harbor Outstanding Natural Coastal Area among ten villages, two towns, two counties, and the state.

For more information, contact Michael Deering at Friends of the Bay, (516) 922-6666.

AmeriCorps Volunteers at Work in the Lake Winnepesaukee Watershed

Christopher Darling is a USDA AmeriCorps member from New Hampshire. He is working with fellow member Jennifer Mayo on the Lake Winnepesaukee Watershed Project. Such volunteerism remains the essence of community service.

Initiated in 1993, the Lake Winnepesaukee Watershed Project (LWWP) is aimed at promoting water quality protection through

technical assistance and educational programs. Currently, two USDA AmeriCorps service members in Meredith, New Hampshire, supported by the Natural Resources Conservation Service and the North County Resource Conservation and Development Council, are helping to achieve these goals.

During earlier phases of the project, the LWWP:

- Published an illustrated book on how to develop shoreland property while protecting water quality,
- Worked with lakefront communities to initiate planning and land use measures,
- Provided boat owners with practices to minimize their impact while enjoying the lake,
- Worked with teachers and students to promote an understanding of water quality, and
- Conducted a series of workshops and seminars for shoreland owners, contractors, and landscapers.

The AmeriCorps members are currently reaching landowners through press releases, advertisements, and flyers. They offer public technical assistance in areas such as septic system maintenance, shoreland vegetative buffers, wetlands conservation, sediment and erosion control, lake friendly lawn practices, water quality monitoring, and answering questions about the New Hampshire Shoreland Protection Act.

Although funding for the LWWP is secured through 1996, this represents the project's next hurdle. The LWWP needs additional support to continue its role as the cornerstone of water quality protection efforts in the watershed.

For more information, contact Christopher Darling at the Lake Winnepesaukee Watershed Project, (603) 279-8171.

A Grassroots Effort in New England's Largest Basin

Tom Maloney is River Steward with the Connecticut River Watershed Council.

The Connecticut River watershed encompasses over 11,000 square miles, making it New England's largest basin. Formed in 1952 as a citizen advocate for the river, the nonprofit Connecticut River Watershed Council (CRWC) is undertaking the daunting task of adapting the watershed approach in this large, four-state basin.

The central theme of the council's efforts is partnerships. One of the most rewarding is with the U.S. Fish and Wildlife Service (USFWS) regarding the Silvio Conte National Fish and Wildlife Refuge. The refuge is a model for protecting habitats critical to conserving and enhancing biodiversity. To support the efforts of USFWS, the council developed a network of over 500 watershed partners and produced an informative newspaper insert, distributed throughout the watershed, describing the refuge.

In another partnership, CRWC and The Nature Conservancy coordinate monitoring studies on tributaries at the mouth of the river. Through the studies, the partners learned that tributary dams are causing a decline of anadromous river herring by blocking spawning migration. This information led the council to establish a fish passage program. Working in partnership with a local land trust, the Connecticut DEP, and the National Park Service, CRWC is now developing its first fishway at one of the dams.

Successfully engaging appropriate partners based on the tasks at hand has allowed the Connecticut River Watershed Council to accomplish much more than it could have achieved working alone.

For more information, contact Whitty Sanford, Associate Director, at the Connecticut River Watershed Council, Inc., (413) 529-9500.

*The next two grassroots stories are adapted from excerpts from **The Watershed Source Book** recently released by the Natural Resources Law Center of the University of Colorado School of Law. For more information on the publication, see [New In Print](#) in this issue.*

Restoring Fish Habitat in Wyoming

In western Wyoming, the La Barge Watershed Cooperative Management Project is working to restore Colorado River cutthroat populations diminished by habitat degradation and the introduction of exotic trout species.

The project, which began in 1992, is spearheaded by several chapters of Trout Unlimited working in partnership with the U.S. Bureau of Land Management, Wyoming Game and Fish Department, the U.S. Forest Service, and individuals with grazing permits. The Forest Service provided leadership in developing a cooperative management agreement plan to address the problem.

In 1995, plan activities included analyzing the effects of camping on national Forest Service lands, identifying sites for experimental enhancement of spawning gravel, and installing fencing to protect riparian areas. Additional project activities have installed four fish migration barriers to protect the genetic purity of the cutthroat, removed non-native trout from tributaries, and began erosion control work on La Barge Creek.

Among its other accomplishments, the La Barge Watershed Cooperative Management Project has introduced the concept of watershed management and the importance of restoring the cutthroat population to the local public. The project's next hurdle is funding. Cost estimates to implement a ten-year habitat project exceed one million dollars.

The project is working to overcome this challenge. So far, the National Fish and Wildlife Foundation has agreed to match non-federal contributions. In addition, the participating agencies and Trout Unlimited will continue to assist the effort.

For more information, contact Kathy Buchner, Trout Unlimited, Wyoming Council, (307) 733-6991.

Land/Forest Management in California

In California's French Creek watershed, erosion and sedimentation is harming salmon and steelhead habitat. The U.S. Forest Service, timber companies, and ranchers all own land in the watershed -- a mix accompanied by a variety of views on forest management, and, ultimately, tension.

To the California Board of Forestry and the California Department of Forestry and Fire Protection, the French Creek watershed was the ideal site for a case study on landowner watershed management. The agencies provided funding to establish the French Creek Watershed Advisory Group (WAG), made up of participants from private companies, industry, government agencies, property owner associations, and environmental groups.

One of the WAG's first activities was a field trip to examine erosion problems common to the area because of its granitic soils. In 1992, the group was organized to the extent that it published its own newsletter.

The WAG went on to adopt three plans to reduce sedimentation in the watershed: 1) a road management plan, 2) a fire and fuel management plan, and 3) a monitoring plan. Monitoring results show that the WAG's efforts are improving water quality in the watershed.

Now, the WAG faces a hurdle common in watershed efforts -- funding. When state funding was available, the group was able to use a facilitator to help run WAG meetings. Now, the group operates without a facilitator, but still makes an effort to meet at least once a year. Despite these challenges, the WAG has completed nearly all of the road rocking needed and has continued to monitor sediment and fish on its own initiative.

Regardless of the funding outcome, the WAG has made at least one lasting difference in the watershed -- it brought stakeholders of diverse interests together to seek common solutions.

For more information, contact Jay Power, Chairman, French Creek Watershed Advisory Group, (916) 468-5351.

NEW IN PRINT

Watershed Approach Framework (EPA 840-S-96-001) --

EPA's statement to states and others of what it means by the watershed approach. Describes guiding principles, benefits, and how principles can be implemented at the state and tribal levels. Call NCEPI, (513) 4898190.

Watershed Progress: Rouge River Watershed, Michigan (EPA 840-F-96-001) --

A short, four page progress report on the Rouge River Watershed published by EPA. This is the first document of a series designed to describe where the watershed approach is making a difference. Call NCEPI, (513) 489-8190.

Why Watersheds? (EPA 800-F-96-001) --

Highlights actions EPA has taken to facilitate state adoption of watershed management. Contact NCEPI, (513) 489-8190.

Lakewalk Manual (EPA 910-B-95-007) --

This EPA manual/workbook gives citizens the opportunity to learn about their lakes and collect observed information and data. Contact NCEPI, (513) 489-8190.

The Watershed Source Book: Watershed-Based Solutions to Natural Resource Problems, 1996 --

Contains descriptions of 76 collaborative watershed initiatives in the western United States; problems, group structure, goals, activities, and funding. Contact the University of Colorado School of Law, Natural Resources Law Center, (303) 492-1288.

Tidal Wetland Restoration: A Scientific Perspective and Southern California Focus, by Joy B. Zedler, Principal Author (T-038) --

Recommendations for improved wetland management. Contact California Sea Grant College System, University of California, (619) 534-4444.

Urban Waterways Restoration Training Manual for Youth Conservation and Service Corps --

Published by the Southwest Regional Office of the Coalition to Restore Urban Waters/Waterways Restoration Institute, this manual is part of a curriculum designed for hands-on, field-based training with youth service and conservation corps. For access to the manual, contact the National Association of Service & Conservation Corps, (202) 737-6272, to find the location of the youth corps nearest you.

Lessons Learned in Subwatersheds of the Merrimack River Watershed: the Nashua, Souhegan, and Stony Brook Watersheds --

This report documents the lessons learned from subwatershed projects funded by the Merrimack River Initiative from 1993 through 1996. Contact the New England Interstate Water Pollution Control Commission, (508) 658-0500.

Montana Stream Management Guide for Landowners, Managers, and Stream Users --

Sponsored by the Montana Association of Conservation Districts and the Montana Department of Environmental Quality, this booklet describes the characteristics and behavior of healthy streams, how the public can help make management and restoration decisions, and provides specific examples of stream problems. Contact the Department of Environmental Quality, (406) 444-2406.

National Review of Non-Corps Environmental Restoration Projects (IWR Report #95-R-12) --

This Corps publication reviews and compares management measures, engineering features, monitoring techniques, and detailed costs for a sample of non-Corps projects. To request a copy, fax Arlene Nurthen, (703) 428-8171. For more information, contact Joy Muncy, (703) 428-6009.

An Introduction to Risk and Uncertainty in the Evaluation of Environmental Investments (IWR Report #96-R-8) --

An introduction to the basics of risk and uncertainty analysis, developed by the Corps. To request a copy, fax Arlene Nurthen, (703) 428-8171. For more information, contact Leigh Skaggs, (703) 428-9091.

Linkages Between Environmental Outputs and Human Services (IWR Report #96-R-4) --

This Corps report analyzes the question: "What are the possible changes in the ecosystem that may result from Corps environmental mitigation and restoration projects, and what outputs and services do these changes provide society?" To request a copy, fax Arlene Nurthen, (703) 428-8171. For more information, contact Gerald Stedje, (703) 428-7257.

Significance in Environmental Project Planning: Resource Document (IWR Report #96-R-7) --

Developed by the Corps, this document addresses resource significance, in terms of institutional, technical, and public parameters, as one of the metrics used in selecting environmental projects. To request a copy, fax Arlene Nurthen, (703) 428-8171. For more information, contact Darrell Nolton, (703) 428-9084.

Trends and Patterns in Cultural Resource Significance: An Historical Perspective and Annotated Bibliography (IWR report #96-EL-1) --

This Corps publication offers a broad, analytical review of the literature concerned with evaluating cultural resource significance. To obtain a copy, visit the Waterways Experiment Station (WES) Web site at <http://www.wes.army.mil>. For more information, contact Frederick Briuer at the WES, (601) 634-4204.

Community-Level Indicators Primer --

This Office of Sustainable Ecosystems and Communities (OSEC) primer introduces the concept of indicators, explains a four-stage approach for developing indicators, and describes how to tailor indicators for different audiences, how to evaluate potential indicators, and important characteristics of information sources. To obtain a copy, or for more information, contact John Moses, OSEC, (202) 260-6380.

Mining Ideas: Turning a Grant Assistance Program into a Knowledge Base --

In April, EPA's Great Lakes National Program Office (GLNPO) released this report on the Ecological Protection and Restoration Program in the Great Lakes Basin. It includes a summary of 87 on-the-ground demonstration projects and emphasizes small scale community-based demonstration projects as optimal opportunities for public education and involvement. Contact GLNPO, (312) 353-2117.

Draft Framework for Watershed-Based Trading (EPA 800-R-96-001) --

Released by EPA's Office of Water in May, the draft is available for public comment until September 9. To obtain a copy, fax NCEPI at 513/569-7186 and indicate publication number. It can also be accessed on the EPA Office of Water Homepage at <http://www.epa.gov/owowwtr/index.html>.

Liquid Assets: A Summertime Perspective on the Importance of Clean Water to the Nation's Economy (EPA 800-R-96-002) --

This EPA Office of Water publication examines water's importance in five key industrial sectors. It shows how clean water brings billions of dollars into the American economy and brings jobs and profits to local communities. Free from EPA's Water Resources Center, 202/260-7786.

Industry Initiatives

[Alcoa Donates Virginia Wetland](#)

[NORTEL Offers Environmental Solutions on the Net](#)

[Busch Gardens/Sea World Endangered Species Link](#)

Many industries and industrial associations have participated in the watershed approach at different levels, in different capacities. The following are a few examples. We encourage their continued involvement and welcome their submissions to this feature.

Alcoa Donates Virginia Wetland

In 1995, the Alcoa Corporation in Augusta, Virginia, donated 14 acres of rare wetland habitat to The Nature Conservancy (TNC). Part of an Alcoa Building Products manufacturing plant, the wetland contains fourteen rare Virginia plants that provide habitat for many varieties of birds and animals.

The wetland was able to survive past attempts to drain it for agriculture due to its precarious location next to the railroad tracks and its strong spring. Pat Haden, Alcoa's Augusta plant environmental Coordinator, has been working with TNC and other conservation agencies to protect the wetland since 1983. Alcoa's gift will allow TNC to further protect the rare wet prairie habitat.

NORTEL Offers Environmental Solutions on the Net

Canada's Northern Telecom Limited (NORTEL) is a telecommunications company "committed to leading the telecommunications industry in protecting and enhancing the environment." As part of this effort, NORTEL maintains an Internet Web site (<http://www.nortel.com/cool/environ/habitat.html>) of helpful tools for developing solutions to the environmental issues that arise from industry products, operations, and business activities.

Web site tools include an Environmental Performance Index, developed by NORTEL and Arthur D. Little, that provides a company performance rating based on the stated environmental goals and Envirobase, a downloadable database developed by NORTEL to track, organize, and deliver key environmental information.

Busch Gardens/Sea World Endangered Species Link

Another corporation is using the Internet to reach out to the public. Busch Gardens/Sea World provides Web links to endangered species information from government, international organizations, and private groups. The Web site (http://www.bev.net/education/SeaWorld/endangered_species/escont.html) also provides bibliographies, including one designed for children, and a comprehensive index with links to specific endangered species.

News Bits

[Wetlands Water Quality Standards Video](#)

[Orwell Lake, Minnesota](#)

[Green Island Headwall Modification Project on the Mississippi River near Bellevue, Iowa](#)

[EPA's Region 8 Recognizes Jim Christensen of Utah's Division of Environmental Quality](#)

[Chief's Stewardship Award Recipient](#)

[Shellfish Challenge in the Gulf of Mexico Program](#)

[1995 Glen Canyon Dam Environmental Impact Statement](#)

[Quote from Walter J. Hickel](#)

EPA recently released a new video on state/tribal wetlands water quality standards. The 25-minute video documents the key components and benefits of wetlands standards through interviews with states and tribes. It also serves as a follow-up to EPA's 1990 guidance on this topic. To borrow a copy of Wetlands Water Quality Standards, contact EPA's Wetlands Hotline (contractor operated), 1(800) 832-7828, or the Water Resource Center, (202) 260-7786.

In October 1995, the St. Paul District of the U.S. Army Corps of Engineers completed construction of a habitat restoration project at Orwell Lake in west central Minnesota. The Corps constructed two sub-impoundment areas in selected bays along the periphery of the lake to control water levels, providing 66 acres of improved land and water habitat for waterfowl. Prior to the project, rainfall and snowmelt caused wide fluctuations in water levels, limiting aquatic vegetation used as food and cover by fish and nesting waterfowl. Located in the Prairie Pothole Joint Venture Area, the Minnesota Department of Natural Resources co-sponsored the \$248,000 project, designated by the U.S. Fish and Wildlife Service as the highest priority restoration effort for the St. Paul District.

In July 1995, the Rock Island District of the U.S. Army Corps of Engineers completed construction of the Green Island Headwall Modification Project on the Mississippi River near Bellevue, Iowa. Responding to the 1993 Mississippi floods, the Corps constructed a new gated water control structure to better manage water levels in the 3,722-acre Green Island Wildlife Area. Part of the Mississippi Flyway Management Plan, the wildlife area is a backwater complex of marsh, forested floodplain, and cropland that provides a plentiful food source and diverse habitat for migratory waterfowl, mallards, Canada geese, wood ducks, herons, white-tailed deer, wild turkeys, and pheasants. The \$272,000 project will help its cost-sharing sponsor, the Iowa Department of Natural Resources, protect and manage the wildlife area.

On June 12, EPA's Region 8 office recognized Jim Christensen of Utah's Division of Environmental Quality for his outstanding contributions to the development and implementation of Utah's Watershed Approach. The region commended Mr. Christensen for his role in developing the approach: "Working with Utah Division of Water Quality staff and management to identify the benefits of taking a watershed management approach, Jim provided the impetus for Utah to become 1) the first state in the region to adopt a statewide watershed strategy and 2) a role model for the local organizations that will implement watershed management."

The U.S. Forest Service's Northeastern Area State and Private Forestry Section recently received the Chief's Stewardship Award which recognizes examples of outstanding stewardship accomplishments leading to the conservation of soil, water, and air resources. The award recognized the section for developing and implementing a strategy to integrate forests and forestry as a means to achieving Chesapeake Bay ecosystem restoration and management goals.

The Gulf of Mexico Program recently released a one-page update on the status of its Shellfish Challenge. The challenge seeks to "increase Gulf shellfish beds available for safe harvesting by 10 percent." In February 1994, the Gulf of Mexico Program teamed with NOAA's Office of Ocean Resources Conservation and Assessment to assess issues impacting gulf shellfish bed closures. Since that time, the partnership has hosted two stakeholder workshops, identifying and ranking strategies. Currently, the partners are working to develop implementation plans for selected watersheds. For more information, contact the Gulf of Mexico Program's Chief of Science and Technology, Fred Kopfler, (601) 688-2712, or Daniel Farrow of NOAA's SEA Division, (301) 713-3000, ext. 156.

For two weeks, from March 22 to April 7, the Bureau of Reclamation initiated a controlled water release from Glen Canyon Dam flooded the Colorado River. The flooding is included in the 1995 Glen Canyon Dam Environmental Impact Statement and fits the intent of the Grand Canyon Protection Act of 1992 because of its beach and habitat building effects. The most recent flooding created 55 new beaches in the Grand Canyon and cleared non-native plant species, reinvigorating fish habitat. Patricia J. Beneke, Assistant Interior Secretary for Water and Science summarized the overall results of the flooding, noting "These observed results demonstrate that the experiment had a restorative effect on the Grand Canyon. By any standard, the flood continues to prove a success."

"You cannot separate man and nature. So, the environmentalist's job is to make 'em compatible."

-- Walter J. Hickel

Introducing . . .

[Cooperative Riparian Management Program](#)
[Rivers, Trails, and Conservation Assistance Program](#)

The next two articles are part of a regular feature designed to introduce specific programs pertaining to the watershed approach in different federal agencies. Please let us know what programs you would like to see featured in future issues.

Cooperative Riparian Management Program

The Forest Service (USDA) and the Bureau of Land Management (USDI) recognize the importance of riparian health to the well-being of communities dependent on related benefits, such as sustained supplies of clean water. Riparian areas typically reflect the overall health of their surrounding watershed and are critical to the sustained well-being of the communities dependent on the land and water for jobs, food, products, recreation, and other benefits.

The Forest Service and the Bureau of Land Management recently agreed to sponsor a joint program to accelerate the restoration and improved management of riparian areas in the western United States. The Cooperative Riparian Management Program focuses on lands managed by these agencies while encouraging similar voluntary restoration on adjacent federal and non-federal lands. The program will:

- develop common goals, objectives, and management directives for riparian areas in a "common-sense" manner;
- direct efforts to opportunities with a high probability for positive change with a reasonable investment;
- ensure that management and problem resolution takes place at the ground level, by those most affected by success or failure; and
- establish a common vocabulary, definitions, and methods for evaluating the health and condition of riparian areas.

Implementing the program relies on two key components: 1) forming a Riparian Service Team to provide training, technology transfer, consulting, advisory services, and program review, and 2) establishing a network of riparian program coordinators from both agencies to serve on technical advisory groups and facilitate participation of outside agencies, conservation and industry groups, and affected communities.

The Cooperative Riparian Management Program is just getting off the ground and input from interested parties is welcomed to help develop the implementation plan.

[For more information, contact Russ LaFayette, *Forest Service, USDA, Watershed and Air Management, (202) 205-1093.*]

Rivers, Trails, and Conservation Assistance Program

The National Park Service's (NPS) Rivers, Trails, and Conservation Assistance Program (RTCAP) works with communities to protect rivers, trails, and open space. Under the program, NPS specialists help bring citizens and public agencies together to develop tailored strategies for protecting special places in their community.

The types of projects that RTCAP is involved in include: river and trail corridor planning for greenways; statewide assessments to help states inventory and evaluate their important river and trail corridors; heritage projects; conservation workshops and consultation to help bring diverse groups together; and finding ready solutions based on its experience in similar projects.

Local agencies or citizen groups can request NPS participation through written correspondence. Their letter should include sufficient information for NPS to justify its participation, such as a description of the project, significance of the resources to be protected, public support and cost-sharing of the project, and assistance requested from NPS. The request should be sent to NPS field offices, system support offices, or to the Superintendent of the nearest National Park.

[For more information, contact Joe DiBello of NPS's Chesapeake/Allegheny System Support Office in Philadelphia, (215) 597-1581.]

Improving the Delivery of Services for Watershed Projects

EPA's Region III Chesapeake Bay Program Office has described a variety of ways to help improve the delivery of federal, state, and private sector services for local watershed protection efforts. The approaches, which are described in a publication entitled "Local Watershed Protection Alternatives," capture some of the recent watershed protection and sustainable development experiences of EPA within the 64,000-square-mile Bay watershed.

The Bay Program's "service delivery" approach is aimed at targeting public and private services to increase the capability of local governments and community groups to design and implement place-based environmental protection strategies. Illustrating experiences at the community, sub-watershed, and regional level, the Chesapeake Bay Program's examples demonstrate creative, cost-effective ways to bring existing services to communities for local protection projects. Included are alternatives drawn from a locally developed watershed action plan; a watershed-wide Memorandum of Agreement among federal government agencies; a three-state, 68 organization public and private consortium to protect migratory bird habitat and stimulate ecotourism; and numerous community-based sustainable development "visioning" projects.

For more information, contact J. Glenn Eugster, at CBPO at (410) 267-5722.

Commonly Encountered Issues in the Watershed Approach

Based on his experience, and his tenure as Vice President of The Elizabeth River Project from 1994-1996, David J. Owens takes us through some of the issues commonly encountered when pursuing the watershed approach. The following is an excerpt from a paper he is preparing.

Generally, there are ten issues that, if addressed early, would make the watershed planning process much smoother:

1. In selecting stakeholders, seek to represent a cross section of the watershed community.
2. Note that committees with few members are easily managed, yet larger committees are likely to garner a broader base of community support.
3. Initially, stakeholders should be grouped by interest to encourage less inhibited discussions of critical issues.
4. Use a consensus building approach to manage disagreement and make sure everyone has a chance to be heard.
5. Develop a clear and concise purpose statement.
6. Devise a method to deal with uncertainty, recognizing that there will almost never be sufficient data upon which to base your decisions.
7. In order for outsiders to understand your process, you must document the issues that were considered and the final disposition of those issues.
8. After completing a task, allow for a public review and comment period to get your product into the hands of nonparticipants on a regular basis.
9. Be creative in your approach, considering both regulatory and nonregulatory management measures.
10. Don't forget, for each management measure proposed, there should also be an accompanying measure of success.

The key in pursuing the watershed planning process is to remember that it is iterative and dynamic. Developing and implementing a watershed management program is not the end of the process -- it is only the beginning.

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Watershed '96: Moving Ahead Together Baltimore, June 1996

[Large Group Exercise](#)

[Watershed '96: Moving Ahead Together](#)

[On the Air: Watershed Case Studies](#)

The large amount of energy and enthusiasm exhibited at Watershed '96, cosponsored by Water Environment Federation and 14 federal agencies with over 100 cooperating organizations, is evidence of how much is going on nationally in our watersheds. Approximately 1,800 people -- scientists, land owners, farmers, all levels of government, bipartisan political leaders, industry, environmentalists -- came together for over three days to share watershed success stories, discuss challenges, and learn from each other. Sensing the energy in Baltimore, Department of Interior Secretary Bruce Babbitt decided unexpectedly that he had to come and see for himself what was going on. In his words, "*When I learned about the subject of this conference...I said to myself, 'There's something real big happening up there in Baltimore.' I decided that no matter what it took, I had to be there.*" He was welcomed with a rousing standing ovation.

The conference was filled with preconference workshops, interactive breakfasts, field trips, table topic lunches, plenary sessions, and technical sessions centered around the theme of moving ahead together in watersheds (see box statistics). Particularly popular were the sessions addressing state and local programs, consensus building, nonpoint source pollution partnerships, sustainable development, conflict resolution, watershed-based trading, and biological monitoring.

The conference opened with a model Watershed Festival featuring 31 activities ranging from the "Wastewater Wheel of Fortune," to the "Toxic Toss." In addition, there were on-stage performances by "The Eco Bunch", a youth theater troupe from Tallahassee, Florida, the Ritchie Brothers' "Water Dance" from Toronto, Canada, and many others.

The first of two major plenary sessions was on sustainable development and featured Jonathan Lash of the President's Council for Sustainable Development, along with Baltimore's Mayor Schmoke, and Maryland's Governor Parris Glendening. Lash presented the findings of a public-private and nonprofit advisory group which he co-chaired. He noted that it took his diverse group quite a while to develop consensus; however, in the end, they were able to develop a vision, statement of beliefs, long-term national goals, and related action items for a Sustainable America. Lash explained that working in watersheds is a way to take the Council's goals and make them a reality.

The other plenary session focused on a framework for watershed protection and featured a diverse set of players, including a corporate representative, leaders from all levels of government, and a local activist. Larry Selzer, Director of the National Forum on Nonpoint Source Pollution, moderated the panel and noted the qualities of the next generation of environmental protection -- it will be collaborative, integrate economics, and engage the private sector, as well as being technology-driven and community-based. The panel discussed their watershed successes and challenges with the audience. For example, Trudy Coxe, Secretary of the Massachusetts Department of Environmental Affairs, asked whether agencies are prepared to take on new roles as watershed associations are empowered.

Exciting new tools were unveiled at the conference, including SURF YOUR WATERSHED, an internet tool developed by EPA in partnership with USGS and the *Know Your Watershed* campaign. Using this tool, anyone can click on to his or her watershed and discover what is going on. In addition, watershed associations can upload their information to share with others.

The final afternoon began with a luncheon address by Bruce Babbitt. The enthusiasm exhibited for the watershed approach at the conference proved that a truly historic phenomenon was in the making. As Babbitt stated in his remarks, a "new chapter in conservation history is going to be written in watersheds by communities...That is the next generation as surely as John Muir set off one generation of land protection, as surely as Rachel Carson set off another generation that led to the EPA set of issues." Following Secretary Babbitt, Judith Gradwohl of the Smithsonian Institution shared her experience as the curator for the Ocean, Planet, and Tropical Rainforests exhibits. The day closed with a very exciting satellite broadcast featuring EPA Administrator Carol Browner,

followed by watershed case studies which were broadcast to over 150 down link sites (see box).

Videos of the case studies are available at cost. Contact Deborah Grantham at the Cornell University Extension Service, (607) 255-4931.

[For more information, contact Janet Pawlukiewicz at 202-260-9194 or "Watershed '96 On-Line" at [URL:http://earth1.epa.gov/OWOW/watershed/w96index.html](http://earth1.epa.gov/OWOW/watershed/w96index.html). "Watershed '96 Online Highlights" is also available at [URL:http://earth1.epa.gov/OWOW/watershed/online.html](http://earth1.epa.gov/OWOW/watershed/online.html). To order the proceedings of the conference, contact the Water Environment Federation at 1(800) 666-0206, extension 7760.]

Large Group Exercise

Edward Dickey of the Corps of Engineers conducted a large group exercise during one of the plenary sessions. He asked the entire conference three questions: (1) How do you recognize successful watershed management? (2) What are the obstacles to using a watershed approach? and (3) During the next ten years, what should be done to improve watershed management?

In terms of responses, the group felt watershed management is successful when it focuses on environmental results and has broad community involvement. As for obstacles, the group felt that turf issues need to be addressed. As for the next ten years, participants believe that more education of professionals and the public is needed, as is an increase in funding and incentives.

Watershed '96: Moving Ahead Together

A success with . . .

Approximately 1,800 participants,

Over 340 speakers and moderators in 80 technical sessions,

20 computer demonstrations,

57 Exhibitors, and

150 satellite down link sites.

On the Air: Watershed Case Studies

Thanks to the U.S. Department of Agriculture Extension Service, participants got a chance to connect with regional watershed groups across the nation and in several other countries through over 150 satellite down links. Four video case studies were presented on local watershed projects. EPA Administrator Carol Browner opened the session stating, "At today's conference, we are hearing the good news about what can happen when people come together to protect their watershed -- to protect their health, the places where they work and live -- industry, government, citizens joining together to find the solutions that make sense for their watershed, their community". After each video case study, there was a lot of interaction and questions from the field.

What Can \$41,239 Buy?

Plenty, according to Massachusetts' Merrimack River Initiative (MRI). In fact, it is the grand sum awarded by MRI as Local Involvement Grants to various volunteer groups in the Merrimack River Watershed to implement the following projects:

- Provide needed equipment to remove debris from waterways and shorelands.
- Develop a guide for school age children on the Merrimack River and its tributaries.
- Improve a 300' trail and install bridges, a boardwalk, and a view platform in the Riverland Conservation Area.
- Establish community and school stewardship of river banks.
- Support a citizen volunteer water quality monitoring program.
- Demonstrate the interconnectedness of different portions of the SuAsCo watershed and build alliance among citizens.
- Coordinate community-based river cleanup projects and monitor the amounts and kinds of debris found.
- Partner with local colleges, high schools, and other association to organize a Conservation Camp.
- Develop a 16-page, tab-format reference guide to the Souhegan watershed's environmental resources and the town's environmental policies.

For additional information, contact NEIWPC at (508) 658-0500.