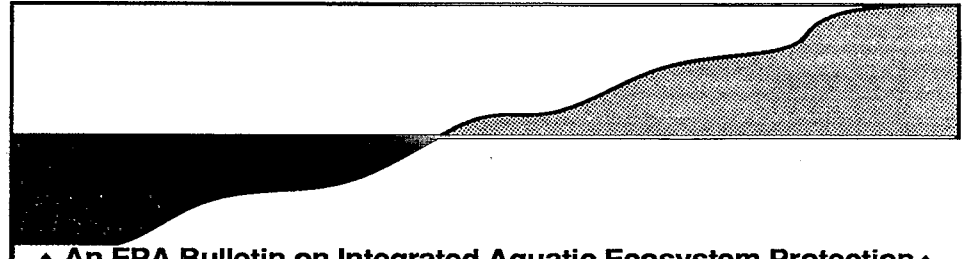


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WATERSHED EVENTS



◆ An EPA Bulletin on Integrated Aquatic Ecosystem Protection ◆

■ A Note from Bob Wayland

Every day I hear about more and more watershed protection projects underway. It strikes me that, although these projects vary in size and focus, they commonly address three key elements:

- Problem Identification,
- Partnership, and
- Integrated Action.

During problem identification, watershed project teams attempt to pinpoint the primary threats to human and ecosystem health and determine the sources of these problems. Problem assessment is obviously important while planning watershed

management activities; but, it is also critical after actions to protect resources have been implemented.

The dedicated effort of many partners, often under the leadership of an individual "champion," appears to be the single most important element in the success or failure of watershed efforts. The best partnerships bring together all of the people with any interest in the watershed to jointly determine the problems in the watersheds, search for consensus on the actions to be taken, and then implement those actions in an integrated fashion.

The multiple objectives that are considered by watershed management teams can be clumped into two major categories: 1) resource use, protection, and restoration; and 2) economic growth and development. Under resource use, protection, and restoration, teams are looking at such concerns as: the quality and quantity of both surface and ground water, the enhancement and preservation of fisheries and wildlife, and the health of land-based ecological communities (forests, wetlands, etc.). Of course, the viability of industrial, commercial, agricultural, and residential activities is of paramount concern to economic growth and development. State and local objectives for the nature and location of new facilities associated with

this growth should, then, be evaluated when looking at resource protection.

It is no easy task to balance all of these concerns and take actions that meet our needs without placing undue hardship on any particular segment of society. But, this "sustainable development," to use the lingo of the day, can be accomplished and will be accomplished best through true partnerships.

Precisely because partnerships are so important, we are asking several other organizations to join in sponsoring a national conference on watershed management—WATERSHED '93. The explicit purpose of WATERSHED '93 is to exchange information on watershed management approaches and build partnerships. We hope that people representing all aspects of watershed planning and management, from across the nation and from both the public and private sectors will attend. Conferees will have the opportunity to share experiences and build new alliances; exchange information on proven and emerging techniques; and explore past, current and proposed approaches for watershed protection.

See the announcement on WATERSHED '93 for more information about the conference. Hope to see you there!

In This Issue...

Thumbnail sketches

- Anacostia River
- Bear Creek Floatway
- Canaan Valley
- Elkhorn Slough
- Merrimack River
- Pequea and Mill Creeks
- Tomki River

News Bits

Announcement of WATERSHED '93--A National Conference on Watershed Planning and Management

■ ANACOSTIA RIVER

In this highly urbanized watershed, freshwater streams wind their way through two large suburban counties in Maryland, and then mix their waters into the tidal Anacostia River in the District of Columbia before emptying into the Potomac River. A significant portion of the river is confined within a constructed floodway.

PROBLEMS:

Over the past three hundred years, development along the Anacostia has resulted in water quality declines, blockage of annual fish migrations, loss of forest cover and riparian areas, and near total loss of both tidal and nontidal wetlands.

PARTNERS:

State of Maryland
Montgomery County
Prince George's County
District of Columbia
In cooperation with:
Interstate Commission on the Potomac River Basin (ICPRB)
Metropolitan Washington Council of Governments
U.S. Army Corps of Engineers
U.S. Department of Agriculture
U.S. Environmental Protection Agency
National Park Service
Washington Suburban Sanitary Commission
Maryland National Capital Park and Planning Commission
Local governments
Local citizens
Environmental groups

ACTIONS:

In 1987 the State of Maryland, Montgomery and Prince George's Counties, and the District of Columbia signed the Anacostia Watershed Restoration Agreement, establishing ambitious goals to restore the degraded waterways and forests of the watershed to as near natural condition as possible.

Projects underway are designed to abate pollution from combined-sewer overflows, revegetate riparian areas and reforest upland areas, remove fish barriers, create wetlands, build and upgrade stormwater facilities to improve pollution control, organize citizens to clean up streams and make habitat improvements, and generally raise public awareness. Contact ICPRB, Anacostia Public Education Project,

■ BEAR CREEK FLOATWAY

The Bear Creek Floatway in northwest Alabama is a 25-mile stretch of Bear Creek ideally suited for whitewater recreation such as rafting and canoeing.

PROBLEMS:

In 1984, the floatway was closed to the public due to high fecal coliform levels. In response, Congress required TVA to conduct an assessment of the situation, and undertake appropriate action to address the problem.

The assessment indicated that the problem was two-fold: 1) several wastewater dischargers were violating their NPDES permits, and 2) multiple livestock operations were in the area. The wastewater discharges did not account for the level of fecal coliform, and thus, TVA conducted aerial photographs of the area to identify and quantify the nonpoint sources of pollution. Livestock operations were found to be the most significant sources of bacterial contamination.

PARTNERS:

Tennessee Valley Authority (TVA)
U.S. Agricultural Stabilization and Conservation Service (ASCS)
U.S. Soil Conservation Service (SCS)
Local landowners

ACTIONS:

Once local livestock operators signed up to participate in the program to

improve their waste management systems, SCS visited each operation and identified it as a high, medium, or low priority. The result was a targeted effort directed at the most significant sources of nonpoint source pollution. Once priorities were set, TVA provided funding for cost-sharing with livestock operators. The funding was allocated through ASCS using existing assistance mechanisms. The waste management systems were designed by SCS and approved by TVA; SCS also oversaw the installation.

The floatway was reopened to recreational use in 1990 after water quality monitoring indicated that it was safe. The cleanup cost for the project was \$1.2 million, one-fifth the cost of cleaning up a comparable amount of waste at the local treatment plants.

Cooperators in the project point to several key factors that contributed to their success, including: multiple stakeholder involvement and support; a targeted, risk-based approach to problem identification; a driving force for action; a complete monitoring program before, during, and after project implementation; and a solution tailored to match the problem of that area. These factors are fundamental principles of watershed planning and management, and demonstrate the results that can be achieved when incorporated into a comprehensive plan of action. Contact Gary Springston, (615) 751-7336.

■ CANAAN VALLEY

The 35,000-acre Canaan Valley in West Virginia, designated as a National Natural Landmark in 1975, encompasses a fragile wetlands complex containing a unique and irreplaceable boreal ecosystem. The Blackwater

River, originating in the valley's southern end, is an important source of drinking water and the largest stream complex in the State with a self-sustaining brown trout population.

PROBLEMS:

The valley and its resources attract a wide spectrum of often competing interests. For example, a power company proposes flooding 7,000 acres of the valley; real estate developers plan to increase the number of vacation homes, golf courses, ski slopes and condominiums; a major off-road vehicle race, called the Blackwater 100, is held in the valley annually; and natural resource conservationists strive to protect rare plants, and wildlife habitat, including wetlands.

PARTNERS:

U.S. Environmental Protection Agency
 U.S. Fish and Wildlife Service
 U.S. Army Corps of Engineers
 U.S. Soil Conservation Service
 U.S. Geological Survey
 West Virginia Division of Natural Resources
 West Virginia Division of Environmental Protection
 Tucker County Planning Commission
 Tucker County Development Authority
 Tucker County Chamber of Commerce
 Landowner associations
 Development interest organizations
 Environmental organizations
 Recreational interest groups

ACTIONS:

In 1990, the partners formed the Canaan Valley Task Force to resolve a broad spectrum of issues, ensuring long-term environmental protection while allowing reasonable sustainable economic growth. Early accomplishments are: a study of the impacts of off-road vehicles; a study of the economic impact of the proposed Canaan Valley

National Wildlife Refuge; suspension of certain nationwide general permits for discharges of dredged or fill material in wetlands in the valley, advanced identification of wetlands and establishment of a wetlands surveillance program; and implementation of a public outreach program.

A key accomplishment from the perspective of the residents is that the task force has established an open, effective, and regular dialogue among all levels of government, special interest organizations, and the public. In addition, this project has been recognized by the National Environmental Awards Council of Renew America as being a model watershed program that organized community support to successfully meet current environmental challenges. Contact Richard Pepino, U.S. EPA Region III, (215) 597-1181.

■ ELKHORN SLOUGH

The Elkhorn Slough winds through farmlands and small communities for nearly seven miles inland from the California coast between Santa Cruz and Monterey. Encompassing 2,500 acres of salt marsh, mudflat, and tidal channels, it is the largest wetland in central California, and provides important habitat for a myriad of birds and other species.

PROBLEMS:

In a state where 90 percent of the wetlands have been permanently lost, the Elkhorn Slough was under pressure for development. In the 1950s, a local master plan included a deep water port, oil tanker terminal, oil processing facilities, a nuclear power plant, several pleasure boat harbors, a freeway across the slough, and masses of condominiums and houses. None of these have materialized, due to the concerted efforts of individuals and organiza-

tions over the years. By 1979, the slough had been designated a National Estuarine Sanctuary, and by 1991 more than 3,600 acres of the slough and its uplands had been acquired for protection.

Challenges still remain, however, to protect the slough from erosion and degradation from pollutants carried in wet weather runoff. Jetties once constructed to keep the mouth of the slough open cause massive tidal scouring, and pesticide runoff from local farms threatens the health of the slough's natural resources.

PARTNERS:

California Regional Water Quality Control Board
 California Department of Fish and Game
 California Coastal Commission
 California Coastal Conservancy
 U.S. Army Corps of Engineers
 U.S. Environmental Protection Agency
 National Oceanic and Atmospheric Administration
 Local farmers
 Local governments
 Local industry
 Elkhorn Slough Foundation
 Moss Landing Marine Lab
 The Nature Conservancy

ACTIONS:

The U.S. Army Corps of Engineers may place a shelf of huge boulders across the slough bottom to reduce tidal scouring. They also are using computer models to evaluate several other possible mitigation approaches.

A broad coalition of scientists, farmers, environmentalists and the State Coastal Conservancy are experimenting with ways to balance needs—to control crop pests and, at the same time, protect wetlands and water quality. Contact Suzanne Marr, U.S. EPA Region IX, (415) 744-1974.

■ MERRIMACK RIVER

The Merrimack River watershed covers 5,010 square miles in Massachusetts and New Hampshire. More than 300,000 people rely on the river for drinking water. The river also provides water for industrial and agricultural uses and serves to assimilate waste and generate electricity. Many people find rest and relaxation along the river.

PROBLEMS:

Wastewater discharges, toxic contaminants, urban runoff, increased water withdrawal, and wetlands loss are the primary threats to long-term water quality and ecological integrity.

PARTNERS:

Commonwealth of Massachusetts
State of New Hampshire
New England Interstate Water
Pollution Control Commission
U.S. Environmental Protection Agency
U.S. Department of the Interior
U.S. Army Corps of Engineers
U.S. Department of Agriculture
Merrimack River Watershed Council
Regional planning agencies
Local governments
Industries and utilities
Universities
Agricultural, environmental,
recreational and watershed
organizations

ACTIONS:

The Merrimack River watershed partners address both remediation and pollution prevention. For the portions of the river that suffer from poor water quality, a strategy for meeting compliance standards is being developed. To protect the watershed from degradation, the group is working to implement laws that will protect the resources. In addition, the group tackles water quantity issues, develops data management systems, and strives to balance competing needs within the wa-

tershed. A few projects already underway aim to: provide decision makers with information on the extent and condition of wetlands in order to protect the most valuable areas; help light industries, such as auto repair shops, dry cleaners or photofinishers, understand what steps they can take to prevent pollution; and, provide decision makers with information about potential contamination of water supplies, helping them to focus regulatory activities, such as inspections and permitting, to prevent pollution and plan for emergency response. Contact Bob Mendoza, U.S. EPA Region I, (617) 565-4940.

■ PEQUEA AND MILL CREEKS

Located in the heart of Pennsylvania Dutch country, the Pequea and Mill Creeks watershed covers 135,000 acres in southeastern Pennsylvania. Large dolomite and limestone aquifers yield a significant quantity of ground water, but are also particularly vulnerable to contamination. While ground water is the primary source of drinking and livestock water, people in the area also depend upon the creeks for drinking water, irrigation, boating, fishing, water sports, wildlife habitat, and industry.

PROBLEMS:

Agriculture is the predominant land use in the watershed; 63 percent of the land is devoted to cropland and 13 percent to pasture. The watershed has 55,000 dairy cattle, 5,500,000 poultry, and 122,000 swine. According to the Pennsylvania Department of Environmental Resources, 58.5 stream miles within the watershed have been degraded by agricultural storm runoff. Cropland is eroding at an alarmingly

high rate; high concentrations of nitrates, nitrate-nitrogen, and ammonia nitrogen in surface and ground water are suspected of causing high abortion rates and lowered milk production in local dairy herds; and pesticide contamination of the water has been documented. Human health, especially the health of infants under six months, and livestock health are at risk.

PARTNERS:

Lancaster County Conservation
District
Lancaster County Planning
Commission
Pennsylvania Agronomic Products
Association
Pennsylvania Dept. of Agriculture
Pennsylvania Dept. of Environmental
Resources
Pennsylvania Game Commission
Pennsylvania Fish Commission
Penn State Cooperative Extension
U.S. Agricultural Stabilization and
Conservation Service
U.S. Soil Conservation Service
U.S. Environmental Protection Agency
U.S. Geological Survey
Local consulting firms
Environmental advocacy groups
Local farmers

ACTIONS:

The partners are aiming to significantly reduce nutrients, bacteria, and pesticide contamination to surface and ground waters and control sedimentation from runoff and erosion. Geographic Information Systems (GIS) will identify those areas of high risk for contamination of drinking water, and ground water management plans will be developed.

The watershed has been designated as a high priority nonpoint source watershed in Pennsylvania and as a national U.S. Department of Agriculture (USDA) Hydrologic Unit project. The

watershed initiative is receiving accelerated financial and technical assistance under the USDA Water Quality Initiative, as well as funding and support from EPA's nonpoint source management program under Clean Water Act (CWA) Section 319 and the ground water program under CWA Section 106, the Pennsylvania Department of Environmental Resources and U.S. Geological Survey. Contact Fred Suffian, U.S. EPA Region III, (215) 597-3425.

■ TOMKI RIVER

For eleven years, a collaborative effort of local landowners, county, state and federal agencies have been working to restore the Tomki River watershed in Mendocino County, California. This 40,000-acre watershed, with its tributary to the Eel River, is primarily privately owned upland forest and rangeland, and faces problems common to the streams and rivers of the north coast of California.

PROBLEMS:

Watershed instability and water quality problems in the area are caused by sediment from historic logging, grazing, and road building practices. In 1981, the Mendocino County Resource Conservation District received a 208 Water Quality Planning Grant to conduct an erosion inventory as part of its watershed planning effort. This inventory documented that Tomki Creek receives 21,000 cubic yards of sediment each year. According to watershed planners, this is enough sediment to cover the city block on which the Mendocino County Courthouse sits with sediment fourteen feet deep. Heavy loads of sediment have impaired the area's cold water fishery, by smothering spawning and rearing

habitat, and resulted in serious economic loss.

PARTNERS:

State Water Resources Control Board/
California Regional Water Quality
Control Board—North Coast Region
Mendocino County Resource
Conservation District
U.S. Soil Conservation Service
U.S. Environmental Protection Agency
Local citizens
Local governments
Landowner associations

ACTIONS:

Since 1983, many of the players listed above have implemented the Tomki Creek Watershed Plan. The plan called for basic watershed restoration, and many projects over the years have focused on implementation of erosion control practices. Primary emphasis has been put on bioengineering practices that integrate rock and wooden structures with living plants to slow the water velocity and permit revegetation.

Support for these projects has come from federal grants for nonpoint source pollution control, state fish and game restorations funds, agricultural conservation programs, and private landowners. Contact Jovita Pajarillo, U.S. EPA Region IX, (415) 744-2011.



NEWS BITS

EPA and ASWIPCA to Develop State Watershed Protection Framework

EPA's Office of Wetlands, Oceans and Watersheds and Office of Wastewater Enforcement and Compliance have awarded a cooperative agreement to The Association of State and Interstate Water Pollution Control Administrators (ASIWPCA) to assist in developing a model framework for the watershed protection approach. State and interstate experiences with watershed approaches will be evaluated prior to developing the model. The model framework will then be piloted in interested states and refined further as needed. An initial meeting with those states already engaged in watershed approaches is scheduled for mid-August. Contact Sandy Germann, (202) 260-6418.

AMSA Advocates Watershed Protection

From July 21-23, the Association of Metropolitan Sewerage Agencies (AMSA) held a conference entitled "Comprehensive Watershed Management - Moving from Promising Strategies to Successful Realities." At the conference, AMSA unveiled proposed legislation that would:

- Require states to select watersheds every five years for targeted action;
- Establish Watershed Commissions in each of those watersheds;
- Establish a timeline for characterizing the watersheds and for developing comprehensive plans; and
- Establish "minimum standards of operation" for point and nonpoint sources within the selected watersheds.

For more information contact Paula Dannenfeldt at AMSA, (202) 833-2672.

1992 Geography Awareness Week Focuses on Water

This year's theme for the National Geographic Society's (NGS) Annual Geography Awareness Week, to be held in November, is *Geography: Reflections on Water*. In preparation for this event, NGS developed a Teacher's Handbook and held a training workshop in July that was attended by 2 teachers from every state in the nation. EPA staff contributed to and reviewed the handbook, and EPA's Assistant Administrator for Water Lajuana Wilcher spoke at the workshop. NGS's focus on water will increase awareness of water issues and encourage active participation in protecting water resources. Contact Janet Pawlukiewicz, (202) 260-9194.

Groundwater Guidance Issued

The draft *National Guidance for Comprehensive State Ground Water Protection Programs* is now available from EPA's Ground Water Protection Division. The guidance is aimed at assisting the states to develop comprehensive, cross-program methods of protecting ground water resources. Such comprehensive programs can play a major role in identifying ground water resources in need of protection within watersheds. The Agency is conducting an outreach effort with other Federal agencies, the states, and others to obtain comments on the draft guidance during July and August. Contact Roy Simon, (202) 260-7077.

OWOW Publication List Available

An annotated list that provides ordering information on both general and technical OWOW publications is now available. To obtain a copy of the *OWOW Publications List* call Anne Robertson at (202) 260-9112. As always, documents related to wetlands can be obtained through the Wetlands Hotline, 1-800-832-7828.

National Meeting Held to Advance Point/Nonpoint Source Trading Initiative

More than 125 representatives from Federal, state, and local governments, industry, agriculture, municipalities, and environmental groups met in Durham, North Carolina, April 27-28, to discuss the feasibility of point/nonpoint source trading as one tool for better, more cost-effective water quality control. The intent of such trading is to spread the cost burden among all pollutant sources but to require greater reductions from those who can more easily and cost-effectively decrease their pollutant loads.

The meeting began with examples of trading activities currently underway. Presentations followed that dealt with barriers and opportunities for trading activities. Attendees divided into six workgroups and discussed, selected and addressed what their members considered to be the most difficult issues facing the concept of trading. The overall conclusion was that point/nonpoint trading is a good idea that should be pursued despite the serious scientific and programmatic barriers that exist. EPA has committed to developing an Agency policy statement on point/nonpoint source trading which should be available this summer. Contact Don Brady, (202) 260-5368.

Management Plan for Buzzards Bay Signed

EPA Administrator Bill Reilly presented the signed Buzzards Bay Comprehensive Conservation Management Plan (CCMP) approval letters to the Buzzards Bay staff at a meeting in Boston on April 20. In addition to the Buzzards Bay Project staff, the meeting was attended by Julie Belaga, EPA Region I Administrator, and Jeff Benoit, Director of Massachusetts Coastal Zone Management Program. Buzzards Bay, located between Cape Cod and the southern coast of mainland Massa-

chusetts, is the second National Estuary Program (NEP) to complete its CCMP. Puget Sound, located off the coast of Washington, was the first to complete its CCMP which was signed in the Fall of 1991.

The CCMP identifies three priority problems for Buzzards Bay. These are pathogens associated with the improper treatment or disposal of human wastes and the subsequent health risks and closures of shellfish beds; excessive nutrient inputs to the bay and their potential for degrading water quality and causing loss of habitat; and contamination of fish, shellfish, and lobsters by toxic substances. Development of this CCMP has resulted in some major accomplishments including creation and adoption of the country's first zoning overlay protection district specifically intended to limit nitrogen entering marine waters; creation of the Buzzards Bay Action Committee to exchange innovative approaches and strategies among 13 municipalities and develop regional solutions (this is the first regional organization of its type in Buzzards Bay); and incorporation of enforceable CCMP elements into the Massachusetts Coastal Zone Management Program, thus ensuring long-term commitment to implementation from state agencies. Contact: Margherita Pryor, (202) 260-9176.

Numerous Nominations to the NEP Received

The NEP's growing popularity is evident by the large response to the solicitation for nominations of new estuaries to the program. With only three openings in the program, ten complete nomination packages were received by the April 20th deadline. Complete nomination packages arrived from Morro Bay, CA; Mobile Bay, AL; Tillamook Bay, OR; Corpus Christi Bay, TX; Maryland Coastal Bays; Gulf of Maine; Barnegat Bay, NJ; Savannah River, SC and GA; Lower St. John's

River, FL; and San Juan Harbor, PR. EPA staff are busy conducting the preliminary review of all nominations which is scheduled to be completed by July 31. The Administrator is scheduled to announce in September which nominations will be accepted to fill the three NEP openings. Contact Mark Curran, (202) 260-8483.

Agenda 21 Signed at UNCED

The signing of Agenda 21 was one of the major highlights at the United Nations Conference on Environment and Development (UNCED) held in Rio de Janeiro, Brazil in June. As reported in the last edition of *Watershed Events*, Agenda 21 can best be described as a worldwide strategic plan for environmental protection, and includes chapters on both freshwater and marine

resources. The plan calls for "dynamic, interactive, iterative, and multisectoral approaches" to water resource management and in many sections promotes a watershed approach.

EPA and U.S. Army Corps of Engineers Hold Workshop on Multi-Objective River Basin /Watershed Planning and Management

The Corps of Engineers (COE) Institute for Water Resources and EPA's Office of Wetlands, Oceans and Watersheds sponsored a two-day workshop, June 24-25, on multi-objective river basin/watershed planning and management. Participants, from COE, EPA, and other public and private organizations, were asked to share experiences and identify opportunities to improve interaction between local and state govern-

ment with Federal agencies involved in watershed issues. Key follow-up actions that EPA and the COE have agreed to undertake are:

- Review multi-objective planning techniques, data and information sources, and training activities.
- Document Federal/non-Federal and public/private interactions in watershed planning and management.
- Periodically disseminate research results and identify research and policy study needs through appropriate forums. (See announcement on WATERSHED '93--A National Conference on Watershed Planning and Management.)

For more information, contact Glenn Eugster (202) 260-6045.

WATERSHED '93

—A National Conference on Watershed Management—

When	March 21-24, 1993
Where	The Radisson Plaza Hotel at Mark Center (Alexandria, VA)
Who Should Attend	Anyone involved in watershed planning and management—government officials at all levels, representatives of the environmental, recreational, industrial, agricultural, and business communities— theorists and practitioners. Expected attendance—500-600 people.

WATERSHED '93 will address many of the thorny questions associated with watershed planning and management:

- Is watershed-based planning and management a key to meeting a wide range of needs and ensuring sustainable development?
- What current and future uses of watershed resources do we need to protect?
- What are the problems we face? What can be done? How?
- What does current research tell us? What are our needs?
- What technical solutions exist or are under development?
- How do we bridge the limitations we face—laws, boundaries, specific missions?
- Who can help and how can we get them involved?
- How can we reconcile differences? Balance competitive demands?
- How do we budget and pay for solutions?
- How can we measure our success?

If you find yourself asking any of these questions, or if you have answers to some of these questions, you should participate in WATERSHED '93. For more information about WATERSHED '93, contact Jennifer Paugh at the Terrene Institute, (202) 833-8317.

Watershed Events is intended to update interested parties on the development and use of watershed protection approaches.

Watershed protection approaches are integrated and holistic. That is, they 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 a comprehensive manner.

To place your name on the mailing list, contact:

Janet Pawlukiewicz

Office of Wetlands, Oceans and Watersheds

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