April–May 1991
#12

Nonpoint Source EPA News-Notes

Commentary . . . Two Observations . . .

NPS Control Demands an Integrated, Holistic, Watershed Approach

The other day, while discussing *ISSUES AND STRATEGIES involved in dealing with NONPOINT SOURCE POLLUTION IN THE NINETIES,* Ernest Shea, Executive Vice President of the National Association of Conservation Districts, decried . . . *the "quick fix" piecemeal approach, often a characteristic of poorly designed NPS control programs,* as one of the major impediments impairing or blocking widespread adoption of NPS abatement efforts. In its place he observed that . . .

> *Successful NPS programs are holistic in nature and are based on an integrated watershed approach. Failure to develop this type of approach can result in simply transferring pollution to other mediums and expending limited resources without seeing significant improvements in water quality.*

We say that Shea's point is well taken.

SCS Chief Challenges Conservation Districts

SCS Chief William Richards told NACD's annual convention in Atlanta on February 6, that the direction of future farm legislation will depend on how well conservation districts and the USDA's Soil Conservation Service carry out the provisions of the 1985 and the 1990 farm bills.

He said:

> *Our roles are changing. The public, in both farm bills, sent a clear message—it will no longer subsidize practices that erode the soil or damage water quality.*
>
> *In some ways we are being tested. The public and the environmental community have given us their trust.*

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Chief Challenges Conservation Districts (continued)

Richards said conservation tillage was the most *economical, expedient, and practical method to get conservation on the land.*

> *It's every farmer's and landowner's duty—moral obligation—to use the best technology available in the production of crops to protect our soil and water resources. Conservation districts need to protect the system that feeds the technology that protects the family farm.*

In our view, Chief Richards points are also well taken and on target.

Notes from Headquarters

EPA Regional Administrators Meet to Discuss Nonpoint Sources of Water Pollution

On February 25, 1991, EPA's senior headquarters administrators met in an all-day seminar with the Agency's Regional Administrators to discuss nonpoint sources of water pollution and EPA's approach to these problems under section 319 of the Clean Water Act.

The meeting began with a slide-show presentation on the scope of the NPS problem and an overview of the types of best management practices or management measures available to control the problem. The presentation was made by Bob Wayland, the Director-designate of EPA's new Office of Wetlands, Oceans and Watersheds (OWOW).

Martha Prothro, Director, Office of Water Regulations and Standards, gave a brief status report on the 319 program including the new Coastal Nonpoint Source provisions of the Coastal Zone Reauthorization Act of 1990, and the pending Clean Water Act Reauthorization. She emphasized that we know of many solutions to NPS problems, we just need to implement them.

Julie Belage, Regional Administrator for EPA Region I, led a discussion about the problems encountered around Barnstable, Massachusetts, an urban watershed that has developed rapidly over the past 20 years. This extraordinary growth has created water quality problems which have been traced to septic systems in particular, illustrating the need to "get smart" regarding surface and ground water interfaces.

In the discussion that followed, it was brought out that EPA's role is to help define the water quality problems in specified geographic areas and to identify alternative land use solutions. It is the role of the state and local governments to make final land use control decisions.

Jim Scherer, Regional Administrator for Region VIII, led a discussion on the NPS problems of a western agricultural watershed—Otter Creek Watershed in Utah, where there are severe rangeland erosion problems due to overgrazing. The important role of federal agencies such as the Bureau of Land Management and the Forest Service in solving these problems was discussed. Scherer also described how an alliance between Boulder, Colorado's municipal wastewater treatment plant and private landowners helped place fencing along a stream near the facility. The publicly owned treatment works (POTW) was helping to pay for the NPS controls, effecting a point/nonpoint source trade. It was suggested that alliances be cultivated with water supply agencies, as well as POTWs, to implement NPS controls. The new drinking water regulations, which allow for a NPS watershed control approach in lieu of requiring filtration of drinking water, were cited.

EPA Administrator William E. Reilly commented on future directions of the NPS program, pointing out that the Administration supports increased funding for section 319 grants for FY 1992. He said that the emphasis on geographic focus (watershed), in the NPS program is good for obtaining public support and that it helps when addressing multi-media concerns. Reilly wants EPA to consider how the NPS program may be taken beyond the current grants and technical assistance framework.

Regional Administrators Discuss NPS Water Pollution (continued)

LaJuana Wilcher, Deputy Administrator for Water, also discussed the CWA reauthorization, stressing that NPS pollution will be a major focus. After the Administrator's presentation she asked for feedback and discussion from the Regional Administrators. It was suggested that EPA regions need to facilitate meetings between agricultural and water quality agencies, and that the agency should use its limited staff to build alliances and to leverage resources. Support was also voiced for a major NPS Forum to galvanize public opinion.

EPA's Office of Water is Reorganized

On April 8, after twelve months of planning, consultation, and review, EPA's Office of Water (OW) began operations under a major new reorganized structure. In a memorandum addressed to all Office of Water Employees, LaJuana S. Wilcher, EPA Assistant Administrator for Water, reported these brief *Facts on the Reorganization*:

- integrates and balances program functions better across OW;
- consolidates and strengthens our science/technology support;
- focuses clearly on ecological risks; and
- improves our ability to target geographic areas and ecosystems.
- OW moves from two staff offices and seven program offices to one staff office and four program offices;
- The reorganization reduces the number of division-level organizations from 21 to 13, and branch-level organizations from 46 to 41.
- Consolidation of Office-level management positions is offset by increases in sub-branch-level supervisory positions, with the net effect of shifting supervisory responsibilities to the working level, closer to OW's customers and clients.
- Every OW employee retains his or her position and promotion potential in the reorganization.

Ms. Wilcher made these comments in her reorganization memorandum:

> *Most people, within and without OW, view this reorganization very positively, as I do. We need to change and adapt to new problems, roles, and priorities at the federal, state and local levels of government. We need to look closely at our challenges for the 90's, what we do, and how we operate. We need to make sure we're doing the right things and that we're doing them right . . . in a way that meets the needs of our clients and customers. Our new structure will give us the tools to do that.*

The new program office alignment, its components, and the previous organizational configuration, in general, is as follows:

OFFICE OF WASTEWATER ENFORCEMENT AND COMPLIANCE (OWEC)

Municipal Support Division
Enforcement Division
Permits Division

Previously:
Office of Municipal Pollution Control
Office of Water Enforcement and Permits

OFFICE OF SCIENCE AND TECHNOLOGY (OST)

Engineering and Analysis Division
Health and Ecological Criteria Division
Standards and Applied Science Division

Previously:
Office of Water Regulations and Standards (OWRS)
(Exception see below)

OFFICE OF WETLANDS, OCEANS AND WATERSHEDS (OWOW)

Oceans and Coastal Protection Division
Wetlands Division
Assessment and Watershed Protection Division

Previously:
Office of Marine and Estuary Protection
Office of Wetland Protection
Assessment and Watershed Protection Division (from OWRS)

Office of Water Reorganized (continued)

OFFICE OF GROUND WATER AND DRINKING WATER (OGWDW)

Ground Water Protection Division
Enforcement & Program Implementation Division
Drinking Water Standards Division
Technical Support Division (Cincinnati)

Previously:
Office of Ground Water Protection
Office of Drinking Water

Management of nonpoint sources of water pollution (the implementation of section 319 of the CWA) is assigned to the Assessment and Watershed Protection Division, which is now a part of the new Office of Wetlands, Oceans and Watersheds. Robert H. Wayland III, Director of OWOW, made this observation concerning the reorganization and the creation of the Office of Wetlands, Oceans and Watersheds:

> *The establishment of OWOW follows the findings and recommendations of the Report of the Science Advisory Board to the Administrator. EPA's major programs affecting the natural environment, the protection of fragile ecosystems, and the prevention of habitat destruction, are water quality-action based, and are largely consolidated within OWOW. This means that we can provide stronger emphasis and better focus through the environmentally strategic application of these highly related programs. We are looking forward to meeting the challenges and opportunities the reorganization brings.*

OWOW is organized and staffed as follows:

OFFICE OF WETLANDS, OCEANS AND WATERSHEDS

Office Director	Robert H. Wayland III
Deputy Office Director	David G. Davis
Policy and Communications Staff	Louise P. Wise
Budget & Program Management Staff	Elizabeth Craig
Assessment and Watershed Protection Division	
Director	Geoffrey H. Grubbs
Deputy Director	Carl F. Myers
Monitoring Branch	Elizabeth Jester
Watershed Branch	Bruce Newton (Acting)
Nonpoint Source Control Branch	Dov Weitman
Oceans and Coastal Protection Division	
Director	Marion Mlay
Deputy Director	Craig Vogt
Marine Ecological Assessment Branch	Karen Klima
Marine Permits and Monitoring Branch	John Lishman
Coastal Protection Branch	Mary Lou Soscia (Acting)
Estuarine Management Branch	Mark D. Curran
Wetlands Division	
Director	John W. Meagher
Deputy Director	Suzanne E. Schwartz
Wetlands Strategies and State Programs Branch	Glenn Eugster (Acting)
Wetlands and Aquatic Resources Regulatory Branch	Greg Peck (Acting)

Some Observations and a Report on the Newly Issued Guidance for Water Quality-based Decisions: The TMDL Process

EPA has issued a landmark guidance document on the TMDL process. In her transmittal memorandum, Martha G. Prothro, Director of EPA's Office of Water Regulations and Standards, stated that

> *This document is intended to help state and federal program managers understand and implement the programmatic and technical aspects of total maximum daily loads (TMDLs) and associated requirements of section 303(d) of the Clean Water Act.*

This important EPA Guidance provides a step-by-step explanation of the TMDL process and its place in point source and nonpoint source water quality management. The TMDL process includes identifying and ranking water quality-limited waters still needing controls, developing and implementing TMDLs, and follow-up monitoring where necessary to determine control effectiveness.

According to Bruce Newton, Chief of EPA's Watershed Branch,

> *Section 303(d) has been part of the CWA since 1972 but EPA and the states have not vigorously implemented all portions of the provision. It is apparent that the water quality problems now facing us will be best solved by establishing a rational, integrated approach to watershed protection and fully implementing 303(d) will help us move in that direction.*

Water Quality-based Decisions: The TMDL Process (continued)

Effective, vigorously enforced TMDL programs are seen by many as key tools for implementing state nonpoint source control programs. As the TMDL Guidance states at the outset of Chapter 1, in reference to pollution sources and in-stream water quality conditions . . .

> *The TMDL establishes the allowable loadings or other quantifiable parameters for a waterbody and thereby provides the basis for states to establish water quality-based controls. These controls should provide the pollution reduction necessary for a waterbody to meet water quality standards.*

Water Quality Standards (WQS) are a fundamental requirement of the Clean Water Act and are used to measure the success or failure of a state's water quality management program. WQS are set by each state.[1] They include:

- the designated uses of a waterbody or segment to be achieved and protected.
- criteria that define conditions needed to support a designated use. Criteria are expressed as constituent concentrations, physical conditions, ecological attributes, or narrative statements.
- antidegradation provisions wherein water quality and existing in-stream water uses are maintained and protected.

The guidance also states that

> *The development and implementation of the TMDL establishes the link between water quality standards, assessment, and water quality-based control actions.*

Water quality-based control actions are applied to *water quality limited waters (or segments),* which is the term used in the Water Quality Management Planning and Management regulation to describe any state waters that do not meet applicable state water quality standards and/or are not expected to meet standards even after the implementation of technology-based control measures.

The Guidance outlines a five step, continuous process, in developing and applying the Water Quality-based Approach:

1. Identification of Water Quality-limited Waters
   - Assess conditions
   - Identify nonattainment and threatened waterbodies
2. Priority Ranking and Targeting
   - Integrate priority ranking with other water quality planning and management activities
   - Use priority ranking to target waterbodies for TMDLs
3. Development of TMDLs
   - Apply watershed approach where applicable
   - Establish schedule for phased approach, if necessary
   - Complete TMDL development
4. Implementation of Control Actions
   - Update water quality management plan
   - Issue water quality-based permits
   - Implement nonpoint source controls (section 319 management plans)
5. Assessment of Water Quality-based Control Actions
   - Monitor point/nonpoint sources
   - Audit NPS controls for effectiveness
   - Evaluate attainment of water quality standards

Each step in the process leads to the next step, with step 1 following the effectiveness assessment of step 5 (i.e., the process begins again.)

1 *For a full discussion of WQS, see the Water Quality Standards Regulation, 40 CFR 131, November 8, 1983. Also see the Water Quality Planning and Management Regulation, 40 CFR 130, January 11, 1985, which sets forth the basic TMDL process in water quality management.*

The TMDL Guidance (continued)

The TMDL Guidance is particularly sensitive to the role to be played by NPS control, calling for a holistic approach . . . *from the perspective of in-stream conditions.* It points out . . . *The TMDL process is a rational method for weighing the competing pollution concerns and developing an integrated pollution reduction strategy for point and nonpoint sources.*

Under Step Four: Implementation of Control Action, the Guidance states that . . . *the NPDES permitting process is used to limit effluent from point sources,* but in the case of nonpoint sources . . .

> *both State and local laws may authorize the implementation of nonpoint source controls such as the installation of Best Management Practices (BMPs). Section 319 State management programs can be a useful tool to implement nonpoint source control measures and ensure improved water quality. Many BMPs, however, may be implemented even where regulatory programs do not exist. In such cases, a State needs to document the coordination which may be necessary among state and local agencies, landowners, operators, and managers and then evaluate BMP implementation, maintenance, and overall effectiveness to ensure that load allocations are achieved.*

The TMDL Guidance points out that

> *As required by the Clean Water Act, states are to identify and report to EPA their water quality-limited waters . . . The identified waters should include those impaired due to point and non-point sources and may include threatened good quality waters. EPA is establishing with this guidance that states should submit to EPA, in conjunction with the 305(b) water quality assessment reports, in April of 1992, the list of water quality-limited waters that still require TMDLs.*

The linkage between this Guidance language and the nonpoint source provisions of the CWA in section 319, is clear. Section 319(a)(1) requires states to prepare a nonpoint assessment report which . . .

> *identifies those navigable waters within the state which, without additional action to control nonpoint sources of pollution, cannot reasonably be expected to attain or maintain applicable water quality standards or the goals and requirements of this Act.*

By definition, the State's NPS Assessment Report would include all NPS impacted or threatened waters on its *list of water quality-limited waters still requiring TMDLs* (emphasis added– ed.) as called for by the TMDL Guidance.

It is becoming increasingly clear that many water quality control measures, developed as a result of the technology-based approach to controlling point sources of pollution, will not be sufficient or applicable to nonpoint source control. Therefore, EPA is establishing with this Guidance that the Water Quality-based approach and establishment of the TMDL process can provide the basis for implementing NPS control measures through state and local legal authorities.

Further, as articulated in the policy statement incorporated in the TMDL Guidance:

> *Historically, the . . . pollution control program has focused on reducing the load of chemical contaminants (e.g. nutrients, biochemical oxygen demand, metals) to waterbodies. EPA has defined the terms load, loading capacity, and load allocation . . . so that wasteload allocations can be calculated. Chemical contaminant problems will continue to constitute a major portion of pollution control efforts . . . However, it is becoming increasingly apparent that in some situations water quality standards—particularly designated uses and biocriteria—can only be attained if non-chemical factors such as hydrology, channel morphology, and habitat are also addressed. EPA recognizes that it is appropriate to use the TMDL process to establish control measures for quantifiable non-chemical parameters that are preventing the attainment of water quality standards...*

This part of the Guidance describes several concerns that are on the cutting edge of NPS operations today. This new TMDL Guidance should be useful to states as they think through some of these NPS issues and the alternative measures to be applied.

[Copies of EPA 440/4-91-001, Guidance for Water Quality-based Decisions: The TMDL Process, can be obtained by writing to the appropriate Regional Nonpoint Source Coordinator (names and addresses were included in the last issue of NPS NEWS-NOTES (#11). Or, write to Watershed Branch, Assessment and Watershed Protection Division (WH-553), U.S. EPA, 401 M Street, SW, Washington D.C. 20460.]

Notes from the States and Localities

Virginia Seeks to Improve Water Quality in Abandoned Coal Mine Areas Through Use of NPS Demonstration Funds and Remining CWA Amendments

Although detailed inventories are not as yet completed, it is apparent that in the seven county, coal-mining, southwestern corner of Virginia, abandoned coal mines amount to some 71,000 acres of land. (*Abandoned coal mines are those on which there has been no mining activity since 1977, the date of passage of the Surface Mining Control and Reclamation Act of 1977.)*

Fees collected on current active coal mining provide funds for the reclamation of abandoned mine lands (AML)—35 cents per ton for surface mined coal and 15 cents per ton for underground mined coal. Virginia's Division of Mined Land Reclamation (DMLR) of the Department of Mines, Minerals and Energy (DMME), has estimated that at current funding rates, it will take the state 55 years to reclaim just the priority 1 and 2 AMLs in southwestern Virginia, without taking any action on priority 3 lands. *(Priority classifications have been set by the Department of Interior, Office of Surface Mining Reclamation and Enforcement (OSMRE).*

Priorities 1 and 2 apply to those areas which present either an extreme danger to or adversely affect "public health, safety, general welfare and property." Priority 3 sites cover land, water resources, and the environment adversely affected by coal mining activities.

Virginia's Division of Soil and Water Conservation (DSWC), the Nonpoint Source Management Program lead agency, has determined to combine forces with DMLR to fully explore the utilization of amendments to the Clean Water Act enacted in 1987 (section 301(p)), to encourage the remining of previously mined coal lands. Priority 3 AMLs, with water quality problems, are the target lands for this combined strategy. The private sector will be invited to join in the Water Quality Improvement Partnership. The state will rely on the economic incentives to remine Priority 3 AMLs to interest coal operators and, in the process to improve water quality in areas with current serious pollution problems.

Section 301(p) provides that while State Water Quality Standards would continue to be maintained, state regulatory agencies could, on a case-by-case basis, modify NPDES permit conditions which set forth the prescribed technology-based effluent limits on pH, iron, and manganese for any preexisting discharges from a remining area if the " . . . remining operation will result in the potential for improved water quality from the remining operation . . ."

To receive remining incentives through the application of the new 301(p) provisions, coal operators must show that the proposed coal remining operation has the potential to achieve improved water quality. Experience has shown that most remining operations in Virginia's coalfields should result in improved water quality after the site is re-graded, acid-forming materials have been covered, and vegetation has been established.

The present status of the project, intended to demonstrate the practical feasibility and workability of section 301(p) to achieve improved water quality, is:

- Virginia's DMLR, utilizing section 319(h) funds, has developed an inventory process which identifies abandoned mined lands having the feasibility to be remined and the potential to improve water quality.
- DMLR is facilitating a pilot project demonstrating the NPS water quality benefits of remining. They are using section 319h funds to identify a feasible project site and conduct the preremining water quality monitoring. The results of the water quality monitoring will be offered as an incentive for private industry to remine. This saves the contractor time and money while establishing the water treatment requirements for the operator in advance.
- DMLR is developing information on other incentives to encourage remining throughout the entire coal region.

This is currently an active undertaking between the state of Virginia and Region III. As further developments occur, *NEWS-NOTES* will report.

[For further information contact: Stu Wilson, NPS Program Coordinator, Virginia Division of Soil and Water Conservation, 203 Governor Street, Suite 206, Richmond, VA 23219-2094. Phone: (804) 786-2064. Or contact: Conrad Spangler at DMLR, (703) 523-8178.]

In Rhode Island, State Water Quality Certification Under CWA Section 401, Gives State Chance to Review Project Proposals for Compliance with Broad State WQ Regulations

Section 401 of the Clean Water Act (CWA) has been around as long as the Water Pollution Control Act Amendments of 1972, almost 20 years. It provides for a state to certify (i.e., make a Water Quality Certification – WQC) that proposed project developments requiring a federal permit (under 404 of the CWA) or license (under the jurisdiction of the Federal Energy Regulatory Commission – FERC), will meet applicable state water quality laws and regulations regarding discharges into waters of the state.

Rhode Island's rather original application of the WQC process involves such contemporary issues as antidegradation, wetlands protection, and nonpoint source management. In its view, State Water Quality Certification is only as strong as the state's regulations on water pollution control and the state's administration of its own permitting program. Accordingly, the Rhode Island definition of waters of the state includes wetlands; section 7.2 of the state water quality regulations (WQRegs) prevents further degradation of state waters that do not meet stipulated criteria; and section 17, the body of regulations referred to as the state's anti-degradation policy, protects the water quality necessary to support existing uses of a water body (drinking, swimming, fishing, wildlife habitat, etc.), defines Outstanding National Resource Waters (ONRW) and prevents further degradation of ONRWs.

The state reports that WQC can be issued with limited or extensive stipulations to be incorporated into final permits, or WQC can be withheld, preventing permit issuance. Over the past three years, nonpoint source concerns have caused the state to withhold WQC on a number of projects, thus forcing extensive re-design or permit denial. *NEWS-NOTES* has been provided with two illustrations of how Rhode Island goes about its WQC assignment.

Mishnock River

The Rhode Island Department of Transportation (RI DOT) proposed a highway upgrading project which, among other things, would address severe drainage problems but increase stormwater discharges to a hardwood swamp along Mishnock River and the South Branch of the Pawtuxet River. The project was referred to the Division of Water Resources because of water quality concerns.

During the investigation it was found that the Mishnock Swamp is a "unique" wetland according to the state's freshwater wetland regulations. This status allowed a connection to be drawn between the ecological significance of the "unique" designation and the definition of Outstanding National Resource Waters under the water quality regulations.

The anti-degradation portion of the water quality regulations prohibits the degradation of ONRWs beyond existing conditions. Because the proposal would have increased the amount of stormwater (and associated pollutants) discharged to Mishnock Swamp, and was contrary to anti-degradation regulations, WQC was withheld for this part of the project.

The proposed stormwater discharge increase to the South Branch of the Pawtuxet River posed a slightly different problem. Rhode Island's Water Quality Inventory Report, prepared under section 305(b) of the CWA, listed this waterbody as noncompliant for several metals and organic pollutants. Increased stormwater discharges would promote further degradation, an action specifically prohibited by Section 7.2 of the state's WQRegs. The requested WQC was withheld and, as a consequence, the state's freshwater permit was denied.

Through a series of informative meetings, the Rhode Island Department of Environmental Management (DEM) conveyed its concerns about the highway project to RI DOT.The project has come back with innovative design changes, including construction of a detention basin, in order to meet the burden of no further degradation. The revised project is currently under review and has a much brighter outlook than its predecessor.

Market Street Commercial Plaza

A second project involved filling and altering nearly eight acres of wooded swamp to construct four commercial buildings, associated parking, and stormwater management facilities. WQC was withheld and the wetland permit denied because the project would cause undesirable impacts, including the loss of existing uses and the degradation of a "unique" wetland.

A conflict arose, however, between the anti-degradation regulations that ensure water quality sufficient to maintain existing uses, and the fact that wetland and water filling eliminate those very uses in the impacted area. In order to properly evaluate the proposed wetland fill, the Rhode Island Division of Water Resources relied heavily on EPA's guidance materials. The EPA documents, *401 Certification and Wetlands* and *Questions and Answers on: Antidegradation* provided insights that were invaluable for resolving this dilemma.

Questions and Answers admitted that while Congress intended to allow some wetland fills when it passed section 404 of the CWA, potential impacts caused by filling needed to be carefully weighed.

It then refers the investigators to the 404(b) Guidelines to determine whether a project would create significant adverse impacts. The first test, according to the 404(b) Guidelines is to determine whether or not a project is water dependent. The Division of Water Resources found that neither the commercial plaza nor the stormwater impoundment (both of which were proposed for inside the wetland boundary) were water dependent projects. The WQC was subsequently withheld and the freshwater permit denied.

Susan C. Adamowicz, a Principal Natural Resource Specialist with Rhode Island's Division of Water Resources in the Department of Environmental Management, was very helpful to the *NEWS-NOTES* staff in putting this report together. She summed up her own experiences concerning state use of the CWA section 401 WQC process, as follows:

> *Coordination of the state's permitting agencies with the Division of Water Resources has provided a comprehensive tool for addressing a wide variety of water quality concerns. The state's anti-degradation regulations and rules prohibiting the further degradation of waters not meeting state water quality criteria create a two-edged sword for tackling unusual discharges into state waters. Water Quality Certification could be one of the best agents for addressing some of the pressing issues of the 90s.*

[For more information contact: Susan C. Adamowicz, Division of Water Resources. Dept. of Environmental Management, State of Rhode Island, 291 Promenade Street, Providence, RI 02908-5767. Phone: (401) 277-3961.)]

[For copies of the 401 Certification and Wetlands guidance, write to: Office of Wetlands Protection (A-104F), U.S. EPA, 401 M Street SW, Washington DC 20460. For copies of Questions and Answers on: Antidegradation write to Criteria and Standards Division (WH-585), U.S. EPA, address as above.]

Wisconsin Has Had a Priority Watershed Program in Operation for More than a Decade Now; Eleven New Watersheds Named this Spring

Since it was created by the state legislature in 1978, Wisconsin's Nonpoint Source Water Pollution Abatement Program, more popularly known as the "Priority Watershed Program," has been evolving and growing. In many respects it served as a model for the Clean Water Act nonpoint source control provisions and continues to be recognized as outstanding by other states.

Wisconsin's Department of Natural Resources (WDNR) administers the program with cooperation from the state's Department of Agriculture, Trade and Consumer Protection (WDATCP). It is implemented by local governments—counties, cities and villages—with assistance from other federal, state, and local agencies. State funding is provided for local staff to help plan, promote, and implement the projects.

The WDNR began the program with five watershed projects. It has expanded to 51 watersheds covering approximately 30% of the watersheds in the state identified as needing nonpoint source control. Three priority lake projects, a new project that focuses on groundwater, and six completed or nearly completed projects are included in the total.

Eleven new priority watershed projects were selected and announced as getting underway this spring in urban and rural areas of the state. One project was designated by the State Legislature, the others were selected by WDNR.

There are several key components to the program:

- Watersheds—hydrologic units—are the foci rather than political units or random sites. This approach gets at the source of water quality problems (pollution prevention) and allows for systematic monitoring of improvements.
- Only "priority" watersheds are targeted for selection. Priority is given to watersheds with the most severe water quality problems and potential for improvements through nonpoint source controls. Priority is also given to the protection of high quality lakes, streams, and groundwater where the threat of degradation exists.
- Detailed watershed plans are necessary to most efficiently and effectively guide implementation.
- Cost-share agreements between DNR and landowners cover the best management practices needed to control all categories of nonpoint source pollution affecting water quality.
- A state and local partnership is established to jointly develop plans and carry out implementation.

Key to the unique nature of the Wisconsin program is the voluntary cooperation of landowners working with local staff. The landowner is a steward of the land. The government provides financial assistance to the landowner so society can share in the protection of a public resource.

The process starts with the selection of a watershed project and acceptance of project designation by the county or counties within the watershed. Land conservation departments, similar in many respects to the soil and water conservation districts in other states, are consulted and agree to cooperate during the process. Once the designation is finalized, WDNR, WDATCP, counties, and others prepare the watershed plan which addresses nonpoint sources of pollution in the watershed and prescribes the *best management practices (BMPs)* to eliminate or reduce the pollution.

Citizen participation plays an important role in the program. Wisconsin administrative code directs that citizen advisory committees be formed to participate in each priority watershed project. Citizen advisory committees provide input during the watershed selection process and throughout the planning phase (two years).

Landowners and communities receive grants to help share the cost of installing BMPs and other pollution control practices. Projects last eight to ten years, with conservation practices continuing for up to ten years after the projects end. State costs administered through WDNR have been provided out of general revenue, appropriated annually.

Several new innovative BMPs are now included in the program including nutrient and pesticide management, agricultural sediment basins, shoreline buffers, wetland restoration and animal lot relocation. Stormwater management is a growing urban focus.

In addition, a streambank easement program that is providing $1 million annually to acquire easements along streambank sites not currently degraded by agricultural or urban runoff is in place. Thus, the high quality of the upper reaches of some streams can be protected while the Priority Watershed Program addresses pollution abatement in the lower reaches.

Wisconsin's Priority Watershed Program (continued)

A recent Legislative Council Study Committee recommended adding a regulatory component to the Priority Watershed Program and has otherwise addressed nonpoint problems, including additional revenue generating alternatives. (*NEWS-NOTES* will report on this legislative initiative as it develops.)

[For more information contact: Jim Baumann, Wisconsin Department of Natural Resources, PO Box 7921, Madison, WI 53707. Phone: (608) 266-9277, or Carol Holden, NPS Education Coordinator, (same address). Phone (608) 266-0140.]

THE GULF OF MAINE PROGRAM . . . A Cooperative Initiative by Three States and Two Canadian Provinces

In response to evidence of declining environmental quality, the Governors of Maine, Massachusetts, and New Hampshire in the United States, and the Premiers of Nova Scotia and New Brunswick in Canada, signed an *Agreement on Conservation of the Marine Environment of the Gulf of Maine* in December 1989. The Agreement created the *Gulf of Maine Council on the Marine Environment*, the new machinery for cooperative environmental management of the Gulf of Maine, and has resulted in the development of the Gulf of Maine Program.

Under existing law, both Canadian Provinces have active environmental programs, as do the three states. Maine, Massachusetts, and New Hampshire each has an approved Coastal Zone Management Program prepared according to provisions of the Coastal Zone Management Act administered by NOAA of the U.S. Department of Commerce. Each also has a nonpoint source management program in response to section 319 of the Clean Water Act (administered by the U.S. EPA), and undoubtedly coastal NPS Management Programs will be prepared under the recently enacted Coastal Zone Reauthorization Act. Furthermore, Maine's Casco Bay and Massachusetts Bay and Cape Cod Bay in Massachusetts are currently funded by EPA under The National Estuary Program, section 320 of the CWA. It is interesting to note that Canada has embarked on the development of an Atlantic Provinces estuary program that is comparable to the U.S. National Estuary Program.

However, there is no federal program, U.S. or Canadian, that requires, much less financially assists, the development and administration of broad, international, environmental management programs for areas as large and environmentally complex as the Gulf of Maine. Therefore, in response to locally recognized needs for action to protect their shared environment, the Gulf of Maine states and Provinces have initiated their own cooperative management program.

The Need For Local Environmental Management

The Gulf of Maine is a semi-enclosed sea that is separated from the North Atlantic by Cape Cod to the southwest, Georges Bank offshore, and the Bay of Fundy to the northeast. It has long been considered a source of great biological wealth, and many people live on its bounty. The integrity of the Gulf ecosystem is increasingly threatened, however, by the rapid coastal development and changing land uses that are occurring all around it.

Recent scientific studies indicate that the Gulf is suffering from the effects of both point and nonpoint pollution. A steady stream of pesticides, pathogens, nutrients, petroleum hydrocarbons, and trace metals enters it daily, and because the Gulf of Maine is "downwind" from the industrial midwestern states and Canadian provinces, it is also affected by the deposition of a variety of airborne pollutants.

Sediments in the deep offshore basins of the Gulf now contain low but unnatural concentrations of toxins. Fish samples collected by state, provincial, and federal agencies exhibit liver lesions and fin rot, among other signs of environmental stress. Once infrequent toxic algae blooms are much more common, distinguished from year to year only by their magnitude and their impact on marine organisms.

The Gulf of Maine Program

The 1989 *Marine Environment Agreement* established the *Gulf of Maine Council on the Marine Environment* which consists of the following lead agencies:

- **MAINE**—State Planning Office; Department of Environmental Protection.
- **MASSACHUSETTS**—Office of Environmental Affairs.
- **NEW BRUNSWICK**—Department of the Environment; Department of Fisheries and Aquaculture.
- **NEW HAMPSHIRE**—Office of State Planning; Department of Environmental Services.
- **NOVA SCOTIA**—Department of the Environment; Department of Fisheries.

This initiative is a cooperative effort between these state and provincial governments to protect the ecological integrity of the Gulf ecosystem. It includes development of a comprehensive environmental monitoring program, a ten-year action plan for coordinated Gulf management, and a significant educational component to raise public awareness of Gulf resources through publications, workshops, and conferences.

The Environmental Quality Monitoring Program provides information on the status, trends, and sources of risks to human health and to the marine environment of the Gulf of Maine. It also provides appropriate and timely information for environmental and resource managers that will allow both efficient and effective resource management and evaluation.

Public review of the first draft of *The Gulf of Maine Action Plan* just ended on February 15 of this year. Revisions should be finished by the end of April, and the Gulf Council would like to have it approved sometime in June. This first draft was introduced with these comments regarding priorities:

> *The Action Plan is intended to be a pragmatic plan, one that reflects the goals of public and private entities in the region. This version of the Action Plan is a draft. Through public review of the document, a clear indication of regional priorities should emerge. Comments from environmental organizations, marine interest groups, industry, recreational users, and the general public should emphasize those issues of specific actions that they consider high priority. These comments will influence the Council on the Marine Environment's selection of priority actions from the Plan to be undertaken as part of their own three-year priority plan.*
>
> *Thus, it is important to remember while reading the draft Action Plan that identification of priority objectives and actions is dependent on active public review of this document. As the issues of importance to the public become clearer, so too will the priorities of the Gulf Action Plan.*

In general, the Action Plan is designed to protect and improve the environmental health of the Gulf ecosystem, and to minimize risks to public health from Gulf waters and resources. To this end, broad goals were presented within the five issue areas as follows:

- **Coastal and Marine Pollution**—reduce existing and prevent future environmental degradation of the Gulf of Maine ecosystem.
- **Monitoring and Research**—(see above).
- **Wildlife, Fish, and Habitat Protection**—foster an ecosystem approach to protection and sustainable development of Gulf of Maine natural resources.
- **Protection of Public Health**—minimize public health risks from use of Gulf of Maine natural resources.
- **Public Education and Participation**—cultivate a sense of stewardship among the citizens of the Gulf and enable them to make responsible decisions regarding Gulf of Maine resource use.

The Gulf of Maine Program (continued)

Nonpoint Source Provisions

Nonpoint source pollution is specifically addressed under Coastal and Marine Pollution, and although some additional work will probably need to be done to ensure full compliance with the NPS requirements of the Coastal Zone Act Reauthorization Amendments of 1990, the Gulf of Maine Program provides a head start for each of the states. The following actions with respect to NPS management are currently mandated by the Action Plan:

- identify the sources of nonpoint source pollution to the Gulf and their respective contribution of contaminants; contaminant reduction targets should be set at levels necessary to protect the Gulf ecosystem,
- evaluate current nonpoint source pollution control programs and recommend regional improvements,
- convene regional workshops to review successful methods and programs for the control of nonpoint source pollution,
- assure that municipal projects developed with incentive grants result in products that are transferrable to other areas in the region,
- include BMPs in highway design standards in order to contain road runoff and develop requirements for those BMPs on federal roads under state and provincial management,
- develop regulations that control runoff rates on developed land other than highways in order to reduce pollutant loadings to the Gulf contained in river or groundwater inputs.

Although this interstate/international effort to manage, study, and protect the Gulf of Maine is only just beginning, it seems to be a positive, well-planned, and integrated approach.

[For more information contact: David Keeley, Director, Maine Coastal Program, Maine State Planning Office, Augusta, Maine 04333, Phone: (207)289-3261, FAX/(207)289-5756]

In California Low Interest Loans Available for NPS Control Through Ag Drainage Water Management Loan Fund

In 1986, California voters approved the Water Conservation and Water Quality Bond Law of 1986. This statute created the Agricultural Drainage Water Management Loan Program (ADLP) and authorized $75 million in low-interest loans to local agencies to implement drainage improvement projects. The ADLP is administered in the Nonpoint Source Section of the State Water Resources Control Board (State Board).

The maximum loan under the ADLP is $20 million with a maximum term of 20 years. The interest rate is set at one-half the rate of the most recent sale of state general obligation bonds. The current rate for new ADLP loans is 3.2%.

Projects funded under the ADLP fall into one of five categories:

1. **Treatment**—removal of harmful constituents in drainage water to make it suitable for discharge or reuse.
2. **Containment**—control of drainage water using primarily nonstructural alternatives or management techniques to avoid adverse environmental impacts.
3. **Disposal**—discharge of drainage water without treatment such as deepwell injection of evaporation ponds,
4. **Groundwater cleanup**—Wellhead treatment for removal of salinity, nitrate, pesticides, or other contaminants caused by agricultural drainage.
5. **Feasibility studies**—studies of projects potentially eligible for funding in any category or investigations of drainage problems without fixed solutions.

California Low Interest Loans Available (continued)

To date, the State Board has committed $46.4 million for twelve projects. Projects will be submitted for State Board approval on a first-come, first-served basis until the remaining funds are fully committed.

[For more information contact: Walt Shannon, Program Manager, ADLP, State Water Resources Control Board, PO Box 94244-2130, Sacramento, CA 94233-2130. Phone: (916) 322-0844.]

What's New on the Nonpoint Source BBS?

How to Access the NPS Computer Bulletin Board System (BBS)

To access the NPS BBS, you will need a PC or terminal, telecommunications software (such as CrossTalk or ProComm), a modem (1200 or 2400 baud), and a phone line that will handle modem communications.

The NPS BBS phone number is: 301/589-0205

The telecommunication parameters are: no parity, 8 bits, and 1 stop-bit (N-8-1).

When you first access the BBS, you will be asked to register and create a password. Write this password down as you will need to use it every time you access the BBS.

For further assistance in accessing the NPS BBS refer to your computer and modem user's manuals, and/or write to *NPS NEWS-NOTES* and ask for a copy of the NPS/BBS Users' Manual—you can use THE COUPON in the back of this issue to make this request. We regret that the phone number, previously listed in *NEWS-NOTES* for this purpose, is not operational.

Clean Lakes Bibliography Now Available on NPS BBS

The NPS Information Exchange BBS offers access to a useful and timely source of water quality information—the Clean Lakes Clearinghouse Bibliographic Database.

What is the Clean Lakes Clearinghouse?

The Clean Lakes Clearinghouse is an information resource on lake restoration, protection, and management. The Clearinghouse was initiated by the EPA Clean Lakes Program to provide technical information to EPA and federal personnel, state and local lake managers and associations, and researchers.

What Does the Clean Lakes Bibliography Offer?

The Clean Lakes Bibliography provides a searchable listing of citations and abstracts on over 2,600 documents pertaining to water quality in lakes, including extensive listings on topics such as:

- Lake ecology
- Lake problems, such as nutrients, acidification, and toxic substances
- Lake management and protection
- In-lake restoration techniques
- Watershed management
- Point/nonpoint sources of pollution
- Water quality assessment
- Modeling

The Clean Lakes Bibliography contains information on documents written between 1979 and the present. Included are abstracts and citations of technical materials and information from journal articles, Clean Lakes Program reports, NALMS conference proceedings, and government documents.

Clean Lakes Bibliography (continued)

Approximately 700 new references will be added each year. Information on how to procure each document is also provided with its citation.

How Do I Access the Clean Lakes Bibliography?

You can access the Clean Lakes Bibliography via the NPS Information Exchange BBS. (See highlighted box.)

> Once you are at the Main Board prompt of the NPS BBS, type **open 1** and press Return.
> *(59 min. left) Main Board Command? open 1*
>
> Wait for a few seconds . . .
> *Loading LAKES, please wait . . .*
> *Please wait—loading Clean Lakes Database . . .*
>
> . . . and you will be presented with the Clean Lakes Bibliography database menu:
>
> *WELCOME TO THE CLEAN LAKES DATABASE*
>
> *CHOOSE A SEARCH OPTION*
> *1. SEARCH FOR WORD IN TITLE*
> *2. SEARCH FOR SUBJECT*
> *3. SEARCH FOR AUTHOR*
> *4. SEARCH FOR REGION OR STATE*
> *5. SEARCH ON MORE THAN 1 VARIABLE AT A TIME*
> *6. EXIT THE PROGRAM*
>
> ENTER A NUMBER (1-6) AND PRESS RETURN:
> You may then select the search option you wish.

What are the Other Services of the Clean Lakes Clearinghouse?

In addition to maintaining the Clean Lakes Bibliography, the Clean Lakes Clearinghouse responds to requests for information on specific lake topics, and occasionally, provides specialized bibliographies on selected "hot topics."

You can contact the Clean Lakes Clearinghouse by:

Entering a Message on the NPS Information Exchange BBS to "Clean Lakes."

Or call their user support number: (202) 382-7111. You may also write to them at: U.S. EPA, Clean Lakes Program, (WH-553), Washington, DC 20460

Chesapeake Bay NPS Evaluation Panel Report

The full text of the Chesapeake Bay Nonpoint Source Evaluation Panel (as reported in *NEWS-NOTES* Issue #10, January-February) is now available on the NPS/BBS. You may access the BBS (see page 14) and read the text or download it to your computer for reproduction at your convenience.

Agricultural News

Minnesota's Approach to Feedlot Pollution Control

> ***Editor's Note:*** Under 40 CFR 122.23, a federal NPDES permit is required for *concentrated animal feeding operations* (feedlots) with over 1,000 animal unit capacity operations. As states have been certified to take over and operate the NPDES program, they have treated the 1,000 animal unit threshold in different ways. *NEWS-NOTES* will, from time to time, report on some of the ways that states are regulating concentrated animal feeding operations. This first report deals with the State of Minnesota.

Minnesota's Feedlot Pollution Control (continued)

The Minnesota Feedlot Permit Program grew out of the realization that livestock and poultry wastes can and do create significant pollution problems if not managed properly and, in fact, predates the Clean Water Act and its NPDES program.

Minnesota requires a permit to operate a feedlot for more than 10 animal units. The Program was first established in 1971 and its rules were revised in 1974 and 1979. They currently mandate that "No animal feedlot or manure storage area shall be constructed, located, or operated so as to create a potential pollution hazard unless a certificate of compliance or an agency permit has been issued." The rules require the owner of an animal feedlot to obtain a permit when any of the following conditions exist:

a. a new animal feedlot is proposed;

b. a change in operation of an animal feedlot is proposed;

c. ownership of an existing animal feedlot is changed;

d. a National Pollutant Discharge Elimination System Permit is required under state or federal rules and regulations;

e. an inspection by the Minnesota Pollution Control Agency staff or a county feedlot pollution control officer determines that the animal feedlot creates or maintains a potential pollution hazard. (Inspections are conducted only in response to citizen complaints.)

A survey done in 1978 by the Minnesota Soil and Water Conservation Board estimated that there were approximately 90,000 feedlots in Minnesota that fall under the feedlot rule and that as many as 14,000 of these feedlots were creating a potential pollution hazard. Approximately 15,000 permit applications have been processed since the program began.

In situations where a pollution hazard has been found, but the owner is unwilling to remediate the problem, enforcement action can be taken. The first enforcement tool used is the Notice of Violation, which is a certified document detailing what rules have been violated. Where this does not resolve the issue, a Stipulation Agreement is sought. This is an out-of-court settlement which usually includes financial penalties. Where a stipulation agreement cannot be reached, the MPCA can and has gone to court to successfully enforce the feedlot rules.

The MPCA Feedlot Permit Program cannot and has not solved all of the feedlot-related pollution hazards in Minnesota overnight, but it has proven to be a valuable tool, together with the state and federal cost-share program in systematically reducing feedlot- associated pollution problems.

[For more information contact: Dave Nelson, Minnesota Pollution Control Agency, 520 Lafayette Road, Saint Paul, MN 55155. Phone: (612) 296-9274.]

National Farm Management Awards

Three farm management companies received Farm Management Conservation Awards at the 45th Annual Convention of the National Association of Conservation Districts (NACD) in Atlanta, February 3-7, in recognition of their accomplishments in soil and water conservation . The awards were cosponsored by the American Society of Farm Managers, NACD, and Pioneer Hi-Bred International, Inc.

■ **First Place Winner**—*Council Bluffs Savings Bank* of Council Bluffs, Iowa, was honored for working with 182 farms, covering more than 48,000 acres in Iowa, Minnesota, and Missouri. Clients are constructing terraces and diversions, applying conservation tillage, planting trees and using a tree plow to prune hedge rows. In addition, a Canada goose nesting habitat, 74 acres of wetlands, and wildlife food plots have been created.

National Farm Management Awards (continued)

■ **Second Place Winner**—*Elliot State Bank* of Jacksonville, Illinois, was recognized for implementing conservation practices on 20,000 acres. Wildlife food plots were established on farms, including property leased to the Nature Conservancy for prairie chicken propagation. A strong cooperative relationship exists between the local conservation districts and state and federal agencies. For example, early infrared photography work completed by the bank was used by the USDA Soil Conservation Service to obtain a grant to reduce flooding and erosion.

■ **Third Place Winner**—*F&W Agriservices* of Albany, Georgia, was awarded for improving soil and water resources by applying contour grass strips, no-till farming, and quail management systems and inspecting irrigation wells on 73,000 acres of farms and plantations. Four of the company's farms received outstanding conservation awards during the past year. The company also holds farm chemical safety training for farm employees.

■ Additionally, **The 1990 Earth Team Award,** cosponsored by NACD and SCS, and presented annually to the conservation district with an outstanding volunteer program, was given to the *Spokane County Conservation District* of Spokane, Washington in recognition of its work using many people of diverse backgrounds. Office volunteers completed data entry and cartography mapping. High school students helped rehabilitate a creek. An environmental education committee created hands-on programs for students and assisted with recycling projects, reforestation, and wildlife plantings.

Notes on NPS Technology

A Method for Tracing On-Site Effluent from Failing Septic Systems

Linda Hofstad, R.S, of the Thurston County Health Department (Olympia, Washington) has written to tell us about conducting local sanitary surveys to detect failing on-site septic systems, which are sources of nonpoint pollution and water quality degradation. Once failing systems are identified, efforts can focus on repair options. She reported:

> *While conducting surveys we interview the homeowner and walk over the site. We place fluorescein dye in the system to identify failing systems. It's great stuff . . . as long as you take certain precautions: use gloves when handling, don't sneeze when pouring, flush toilet first before pouring (to make certain it flushes). Use tablet or liquid form. When the surfacing sewage is a direct shot from the source to the surface, it's quite impressive and difficult to hide the evidence.*
>
> *But what happens when the dye doesn't surface immediately or for the next half hour? How long do you wait around to see the evidence? When and how often do you come back and check on it? Do you rely on the home owner to let you know when and if it surfaces?*

Answers to these questions lie in the application of a method to "capture" the dye *whenever* it appears, as described in The *Water Tracer's Cookbook* by Tom Aley and Mickey Fletcher[1]. The procedure uses screen packets of activated charcoal placed (and left) in the path of the suspected effluent. Hofstad commented

> *This method for capturing dye is relatively simple and inexpensive. The analysis is easy and can be done in the field. This has been successful for us in verifying failing systems which have long been suspect, though previous dye results were negative.*

1 *Aley, Tom and Mickey Fletcher, The Water Tracers Cookbook. Ozark Underground Laboratory, Protem, MO 65733, July 1976. Mr. Aley has indicated that he will mail single copies to interested persons. Send requests to the above address.*

Failing On-site Septic Systems (continued)

The method requires several prepared charcoal packets to be placed securely in the suspected path(s) of the surfacing effluent—a bulkhead drain, drainage pipe, or wherever. Care must be taken so that the packets do not come in contact with any dye. Even ordinary dust can yield a detectable level; therefore, one team member places the packets and another conducts the dye test. Care must also be taken when collecting the packets so that packets from one location only are placed in their own clearly labeled and sealed plastic bag.

A distinct advantage of the method is that charcoal packets can be retrieved at intervals and/or left in place for weeks before running the confirmation test. The test involves rinsing the charcoal packet with water to remove debris and emptying the contents into a glass container. A 5% solution of potassium hydroxide in 70% isopropyl alcohol is poured in to cover the charcoal. A strong positive result can be seen within seconds when the charcoal releases the dye and turns the solution a characteristic, green color.

> *In one instance the dye didn't surface for five days. Under previous circumstances we would not have been there to "see" it. Using this method we were able to confirm a long-suspected failure which is located within a hundred feet of commercial shellfish beds,* Hofstad said.
>
> *We are excited about this procedure as an additional tool in locating sources of nonpoint pollution,* she concluded.

[Our correspondent writes: If you would like a copy of the procedure, please send a self-addressed stamped envelope to: THURSTON COUNTY ENVIRONMENTAL HEALTH DEPARTMENT, Attn: Linda Hofstad, 2000 Lakeridge Drive SW, Olympia, WA 98502.]

TVA Develops Software for Water Quality Research

TVA engineers have developed a computer model of reservoir quality. Named BETTER, for Box Exchange Transport Temperature and Ecology of a Reservoir, the model simulates reservoir conditions to aid analysis of complex water quality patterns. The model mathematically combines reservoir geometry, weather conditions, and the quantity and quality of water going into the reservoir to predict flow patterns, temperature, dissolved oxygen levels, and other water quality patterns.

The model is an effective tool for helping researchers and water managers understand reservoirs and to develop strategies to improve water quality, said Donald Anderson, an environmental engineer in TVA's Water Resources Division. It has been used extensively in TVA studies including the recently completed Lake Improvement Plan.

The BETTER model is available at no cost to reservoir scientists and managers. About two hundred copies have been distributed throughout the United States and in five foreign countries. Additional requests are received almost daily, Anderson said. The BETTER model was recently adapted for use with personal computers.

The development of the BETTER model is a fine example of the benefits TVA provides from our regional investment in water resources, said Billy Bond, Vice President, River Basin Operations.

[For more information on the BETTER model contact: Gil Francis, Media Relations, TVA, 400 West Summit Hill Drive, Knoxville, TN 37902. Phone: (615) 632-8031.]

Iowa State Geological Survey Focuses on Environmental Concerns

In his introduction to the 1990 issue of *Iowa Geology*, Donald L. Koch, the Iowa State Geologist and Chief of the Geological Survey Bureau, noted that geological investigations and environmental issues were closely linked, enabling . . . *more informed decisions by resource managers and planners.* He reported:

> *Geology and hydrology are inseparable from many of the important issues facing Iowa today. The state's success in addressing these multi-faceted concerns was recognized by the National Association of State Energy Officials at their August meeting . . . where their highest honor, the National Energy Program Award was conferred on Iowa for its efforts to resolve environmental problems through attention to the relationships that exist between environmental protection, energy resources, and a sound economy. The adoption of new agricultural management practices demonstrating that farm chemicals can be used more efficiently has direct implications for energy conservation, groundwater and surface-water protection, and economic profitability.*

Environmentally and water quality oriented articles in the 1990 geological report include, among others:

- **Geographic Information Systems: Johnson County Study**—Information on soils, crops, wetlands, and conservation programs . . . a unique demonstration involving satellite images and computer analysis.
- **Groundwater Vulnerability**—Underground water resources vary in their susceptibility to contamination originating on the land surface.
- **Iowa's Peatlands**—Protecting unique fen habitats involves increasing knowledge of the groundwater sources feeding them.
- **Rural Water Wells: Statewide Sampling**—Analyses of drinking water from private wells in rural areas focus attention on contamination levels of nitrate, pesticides, and bacteria.
- **Water Quality Project: Upper Bluegrass Watershed**—Groundwater monitoring begins to assess the benefits of more efficient use of ag-chemicals on cropland.

[For more information contact: Donald L. Koch, State Geologist, Geological Survey Bureau, 123 North Capitol Street, Iowa City, Iowa, 52242. Phone: (309) 335-1575.]

EPA Region IV/TVA Sponsor TMDL Workshop

EPA Region IV and the Tennessee Valley Authority (TVA) jointly sponsored a workshop on TMDLs on February 25-28, 1991, at the TVA Engineering Lab, outside of Knoxville, Tennessee.

The TMDL (Total Maximum Daily Load) process as contained in section 303(d) of the Clean Water Act (CWA) is the method to make water quality-based decisions when uniform technology-based controls are not sufficient to achieve state water quality standards (WQS). Under 303(d), states are to establish a priority ranking for their *water quality-limited waters*, and in accordance with the priority ranking, implement additional pollution control measures to ensure compliance with state water quality standards. (This process is described more fully in *NPS NEWS-NOTES*, issue #8, October 1990. See also the article on the issuance of EPA's new TMDL Guidance in this issue.)

Participants included representatives from TVA, Alabama, Florida, Kentucky, Mississippi, North and South Carolina, Tennessee, and Virginia, and EPA personnel from Region IV and Headquarters, as well as Regions III, VI, and X. Altogether, about 50 individuals participated.

Region IV and TVA Sponsor TMDL Workshop (continued)

Jim Greenfield of EPA Region IV was moderator/facilitator for the three-day workshop. Ralph Brooks, Director of TVA's Water Resources group, and Ray Cunningham, Director of Region IV Water Management Division, made opening remarks. Brooks announced a higher level of commitment by TVA to address water quality concerns by stating that a new water quality initiative had been implemented, moving water quality up the list of formal priorities within the overall management of TVA's water resources.

Presentations included a description of the TMDL process by Jim Greenfield of Region IV. Region X's and North Carolina's basin approaches to TMDL's and watershed management were also described.

Other speakers discussed developments in the "tools" used for the TMDL process.

Participants also received field training, forming small groups to do a "stream-walk" and habitat evaluation.

These groups also conducted a hypothetical case study analysis. The purpose of this exercise was to enable workshop participants to apply the TMDL methods, tools, and programs that were discussed in the workshop, in an integrated fashion.

The following issues/needs/suggestions were identified at the workshop:

- **The authority to control NPS.** In general, participants felt the TMDL process was useful for identifying nonpoint sources but that implementing of NPS control measures remains a big problem. "Tools" presented at the workshop focused primarily on assessment and calculating needed controls, not on how to implement potential solutions.

- **Upper management commitment.** Participants considered the TMDL process a "valid" approach to watershed management, but felt that upper level management in states needed to be brought onboard.

- **Communicating the basin approach.** A great deal of interest was expressed in having North Carolina's approach communicated to other states (e.g. by videotape). This approach was seen as a viable way to integrate state water quality management activities while remaining flexible to prioritize activities and negotiate schedules with permittees.

- **Getting the public involved.** The states recognize the importance of public involvement, but their efforts to involve the public vary significantly. States would like more information on how to get the public "on their side." TVA public education materials generated a lot of interest.

- **EPA needs to involve other federal agencies** in implementing the TMDL process. States were especially looking for more USDA commitment as well as the cooperation of all other federal agencies.

- **Resources and assistance needed.** Many states do not have resources and technical capabilities to expand their TMDL program. This fact seemed to be what generated interest in the North Carolina approach, which is reasonable and flexible, and incorporates long-range planning. Assistance is needed for states to "market" the TMDL process, provide 304(l)-type resources or establish grant conditions to get the job done, and facilitate follow-up workshops for training in the TMDL approach, the use of appropriate technical tools, and how to implement potential solutions.

[For further information contact: Beverly Ethridge, NPS Coordinator, EPA Region IV, 345 Courtland Street, NE, Atlanta, GA 30365. Phone: (404) 347-5242. Or contact: Watershed Branch, Assessment and Watershed Protection Division (WH-553) U.S. EPA, 401 M Street, SW, Washington DC 20460.]

Datebook

This DATEBOOK has been assembled with the cooperation of our readers and *Conservation Impact*, newsletter of the Conservation Technology Information Center (1220 Potter Drive, Room 170, West Lafayette, IN 47906-1334). If there is a meeting or event that you would like placed in the DATEBOOK, contact the NPS NEWS-NOTES editors. Due to an irregular printing schedule, notices should be in our hands at least two months in advance of a meeting or event, to ensure timely publication.

1991 Meetings and Events

May

2-3 *National Financing Symposium*, McGraw-Hill Auditorium, New York, NY. Sponsored by America's Clean Water Foundation; co-sponsored by the Association of State and Interstate Water Pollution Control Administrators, U.S. EPA. Symposium examines the dilemma of "Increasing Environmental Infrastructure Needs in the Face of Declining Governmental Funding Support." Leading experts present options for securing financial capital. Contact: Roberta Savage, America's Clean Water Foundation, 444 N. Capitol St., NW, Suite 330, Washington DC 20001, (202) 624-7833. FAX (202) 624-7788.

9-10 *Restoring the Chesapeake: Volunteers and Government, Partners in Environmental Monitoring.* Holiday Inn, Solomons, MD. Sponsored by the Tidewater Administration, Maryland Department of Natural Resources and Chesapeake Bay Trust. This regional workshop promotes the working relationship between volunteers and government. Contact: Amanda, Alliance for the Chesapeake Bay, Inc., 6600 York Road, Suite 100, Baltimore, MD 21212, (301) 377-6270.

15-17 *Enhancing the States' Lake Management Programs: Monitoring and Lake Impact Assessment*, Chicago, IL. Contact: Bob Kirschner, Northeast Illinois Planning Commission, Natural Resources Department, 400 W. Madison, Room 200, Chicago, IL 60606, (312) 454-0400.

28-31 *Third Annual National Coastal Programs Conference: "Uncommon Solutions to Common Problems."* San Diego, CA. Annual conference of EPA's National Estuary Programs and Near Coastal Waters Programs. Presentations and discussions on innovative ideas for addressing problems common to coastal programs. Contact: Karen Helm, American Management Systems, Inc. 1777 N. Kent St., 7th Floor, Arlington, VA 22209, (703) 841-6212.

June

10 *Guidelines for the Use of Created and Natural Wetlands in Controlling Rural Nonpoint Source Pollution.* Stouffer Concourse Hotel, Arlington, VA. Sponsored by the U.S. EPA. Presentations will address, among other things, the status of NPS pollution in the U.S., regulations and policies affecting use of natural and created wetlands to control NPS, design of wetlands for NPS control, comparative water quality functions of created, restored, and natural wetlands. Contact: Debra Casey, Technical Resources Incorporated, 3202 Tower Oaks Blvd., Suite 200, Rockville, MD 20852, (301) 770-3153.

10-12 *Regional Lake Management Conference: "A Lake is a Reflection of its Watershed."* Airport Hilton, Des Moines, IA. Sponsored by NALMS; co-sponsored by U.S. EPA Region VII, the U.S. Fish and Wildlife Service, and Iowa State University. Educational, technical and policy/planning sessions. Technical workshop on Lake Water Quality Assessment and Modeling held June 11-12. For program information contact: Donna Sefton, EPA Region VII, Kansas City, KS 66101, (913) 551-7500. For registration and exhibit information contact: Steve Jones, Iowa State University, Ames, IA 50011, (515) 294-3957.

10-14 *Design of Water Quality Monitoring Networks - Short Course*, Colorado State University, Fort Collins, CO. Includes detailed procedures for designing a water quality monitoring system, including sampling frequency, measurement techniques, data storage formats, data storage and retrieval methods, and sampling locations. The course fee of U.S.$850 includes tuition, all class materials, WQSTATII and users manual plus certain meals and refreshment breaks. Contact: Janet Lee Montera, Department of Civil Engineering, Colorado State University, Fort Collins, CO 80523, (303) 491-7425. FAX (303) 491-7727.

17 *First Annual Cultivation Workshop & Demonstration*, demonstrating first cultivation of soybeans and ridging of corn. The Thompson Farm, Boone, Iowa. Contact: Thompson Field Days, c/o Skip Kauffman, Rodale Institute, 222 Main St., Emmaus, PA 18098, (215) 683-6383. Or contact the Thompson Farm, Rt. 2, Box 132, Boone, IA 50036, (515) 432-1560.

June

18-19 Seminar on *Remedial Approaches for Sites with Contaminated Sediments.* Hyatt Regency, Peachtree Center, Atlanta, GA, (404) 577-1234. Sponsored by EPA's Center for Environmental Research Information. Contact: Barbara Morris, Conference Coordinator, EA Technology Group, PO Box 296, Dept EPA-06, Knoxville, TN 37901, (615) 688-0998; FAX (615) 688-0999. Hotel cut-off date is May 18.

19-22 *History of Agriculture and The Environment, A Symposium.* National Archives Building, Washington DC. Sponsored by the Agricultural History Society, the American Society for Environmental History, and agencies of the U.S. Department of Agriculture. This interdisciplinary symposium addresses the history of agriculture and the environment. Contact: Douglas Helms, National Historian, Soil Conservation Service, P.O. Box 2890, Washington DC 20013, (202) 447-3766.

20-21 Seminar on *Remedial Approaches for Sites with Contaminated Sediments.* Wyndham Franklin Plaza, Philadelphia, PA, (215) 448-2000. Contact: Barbara Morris - see June 18-19 for details. Hotel cut-off date is May 20.

20-22 *Network Globally - Act Locally,* Washington Dulles Ramada Renaissance Hotel, Washington DC. Sponsored by the Alliance for Environmental Education, the Tennessee Valley Authority, and the U.S. EPA. For corporate leaders, environmentalists, teachers and students, government leaders, and individuals who care about the environment. Contact: Alliance for Environmental Education, 10751 Ambassador Drive, Suite 201, Manassas, VA 22110, (703) 631-1651. FAX (703) 631-1651. Conference registration $150 w/discounts for early registration. Phone Dulles Ramada Renaissance (703) 478-2900, for hotel reservations at special conference rates. Cut-off date June 16. Discount air fares offered by United Air Lines. Call Ambassador Square Travel at 1-800-447-3900 for details. Conference registration is limited to 500 participants.

July

8-12 *Coastal and Ocean Management, The Seventh Symposium,* Hyatt Hotel, Long Beach, CA. Sponsored by The Coastal Zone Foundation, The American Shore and Beach Preservation Association, U.S. NOAA, Port of Long Beach, American Society of Civil Engineers. Themes include Coastal and Marine Policy, Institutional Relations; Global Environment; Public Participation, Information, and Access; Environment and Information; Development and Resource Management; and International Issues. Contact: Coastal Zone 91, Orville Magoon / Gail Oakley, PO Box 279, 21000 Butts Canyon Road, Middletown, CA 95461, (707) 987-0114.

10-11 Seminar on *Remedial Approaches for Sites with Contaminated Sediments.* The Westin-St. Francis, San Francisco, CA, (415) 774-0135. Contact: Barbara Morris - see June 18-19 for details. Hotel cut-off date is June 9.

30-31 Seminar on *Remedial Approaches for Sites with Contaminated Sediments.* The Palmer House, Chicago, IL, (312) 726-7777. Contact: Barbara Morris - see June 18-19 for details. Hotel cut-off is June 29.

August

1-2 Seminar on *Remedial Approaches for Sites with Contaminated Sediments.* Allis Plaza, Kansas, MO, (816) 421-6800. Contact: Barbara Morris – see June 18-19 for details. Hotel cut-off is July 9.

September

5-6 *Eighth Annual Fall Field Days.* Demonstrations on rotational grazing, walk-through fly trap, raising your own cover crop, 7-year cash-grain rotation, farrow-to-finish hogs without antibiotics. The Thompson Farm, Boone, Iowa. Contact: Thompson Field Days, C/O Skip Kauffman, Rodale Institute, 222 Main St., Emmaus, PA 18098, (215) 683-6383. Or contact the Thompson Farm, Rt. 2, Box 132, Boone, IA 50036, (515) 432-1560.

11-12 *The Sixth Annual Ground Water Protection Seminar,* San Antonio Convention Center, TX. Sponsored by the Texas Water Commission. Will educate attendees about protecting groundwater supplies from contaminants that may adversely affect public health. Topics include wellhead protection, NPS contamination, local emergency spill response, and groundwater protection strategy. Contact: Texas Water Commission, Ground Water Section, PO Box 13087, Austin, TX 78711, (512) 371-6319.

11-13 *Water Systems Modernization Symposium for STORET, BIOS, ODES.* Sheraton Park Central, Dallas, TX. Sponsored by EPA, Office of Information Resources Management. Contact: Irv Weiss, U.S. EPA, ORIM PM-218B, 401 M St. SW, Washington DC, 20460, (202) 382-2324. Email EPA 3754. OR Sanday Gehring/Ken Green, ViGYAN, Inc., 5203 Leesburg Pile, Suite 900, Falls Church, VA 22041, (703) 931-1100. FAX (703) 820-4332.

17-19 *3rd Annual EPA Tri-Regional NPS Conference.* Sponsored by the NPS Coordinators, EPA Regions III, IV & VI for the States in those Regions. Host: Region III. As arrangements are firmed up DATEBOOK will report.

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